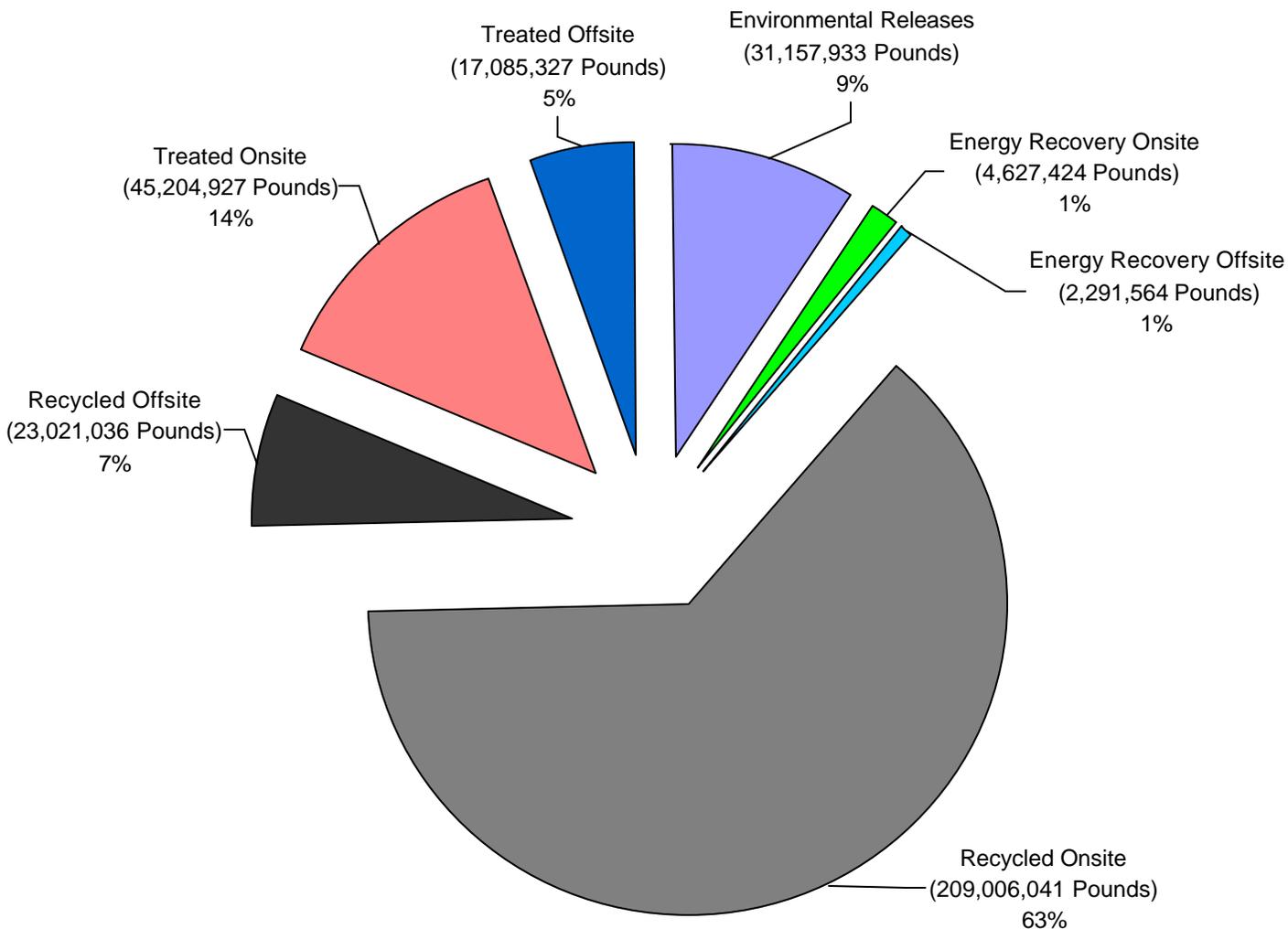


# 1999 Right-To-Know Chemical Information Report

## State of Minnesota

A Summary of Toxic Release Inventory and Pollution Prevention Reports



**Total Pounds : 332,394,252**



## Table of Contents

	<u>Page</u>
Table of Contents.....	1
Preface.....	3
User’s Guide to the <i>1999 Right-to-Know Chemical Information Report</i> .....	5
I. Introduction.....	7
II. Chair’s Report: A Summary of the <i>1999 Right-to-Know Chemical Information Report</i> .....	15
III. Summary of Chemical Information Reported Under SARA Title III.....	17
Figure 1: Number of Facilities reporting under SARA Title III, Section 313.....	17
Figure 2: Total Releases and Transfers by Medium (Sections 5 & 6 of Form R).....	18
Figure 3: Environmental Releases and Chemical Management (Section 8, Form R) .....	19
Figure 4: Facilities filing Toxic Release Inventory Reports by County.....	20
Figure 5: Facilities filing Chemical Storage Reports by County .....	21
IV. Overview of the Toxic Chemical Release Inventory (TRI).....	23
Attachment 1: Top 20 Facilities Ranked by Chemicals Released.....	29
Attachment 2: Top 20 Facilities Ranked by Total Chemicals Managed.....	31
Attachment 3: Statewide Listing of Facilities Reporting Releases, Transfers and Total Chemicals Managed.....	35
Attachment 4: Statewide Listing of Facilities Reporting Under State TRI Expansion .....	97
Attachment 5: Number of Facilities by County Reporting Releases and Transfers.....	99
Attachment 6: Facilities Filing a Certification Statement (Alternate Threshold Option).....	101
Attachment 7: Facilities That Reported in 1998 but are Not Subject to Reporting in 1999.....	111
Attachment 8: “Core” Set of Reported Chemicals (1988-1999).....	113
Figure 6: “Core” Set of Reported Chemicals (1988-1999) – Fugitive Air .....	127
Figure 7: “Core” Set of Reported Chemicals (1988-1999) – Stack Air .....	127
Figure 8: “Core” Set of Reported Chemicals (1988-1999) – Water .....	127
Figure 9: “Core” Set of Reported Chemicals (1988-1999) – Land .....	128
Figure 10: “Core” Set of Reported Chemicals (1988-1999) – POTW.....	128
Figure 11: “Core” Set of Reported Chemicals (1988-1999) – Off-site Transfers (Disposal and Treatment Only).....	128
Attachment 9: EPA State Fact Sheets (1998 Reporting Year).....	129
V. Overview of the Pollution Prevention Progress Reports .....	133

Statewide Listing of Facilities Reporting Under Minnesota Pollution Prevention Act .....	137
Facilities That Reported in 1998 but are Not Subject to Reporting in 1999.....	557
VI. Minnesota Indexing System.....	559
A. Chemicals Ranked From Largest to Smallest Air Releases.....	563
B. Air Toxics Indexing System.....	567
VII. Common Uses of Toxic Chemicals and Their Potential Hazard.....	569
Appendix A: Section 313 Chemical List .....	577
Appendix B: Glossary of Terms .....	622

## Preface

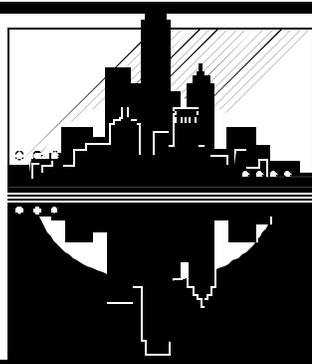
This report, covering calendar year 1999, is the annual summary of chemical management reports submitted by facilities in the State of Minnesota.

The Minnesota Emergency Response Commission prepared this report to enhance accessibility to the data and provide citizen awareness about toxic chemicals in their communities. The Commission hopes that emergency planners and responders, health and environmental agencies, citizens, and business and industry can all benefit from this information.

For additional information about the chemicals reported under the "Emergency Planning and Community Right-to-Know Act," contact the Minnesota Emergency Response Commission at (651) 297-7372 or visit our website at [www.erc.state.mn.us](http://www.erc.state.mn.us). In addition, contact the U.S. Environmental Protection Agency Title III Hotline at 1-800-535-0202 or visit their website at [www.epa.gov/tri](http://www.epa.gov/tri).

**Minnesota  
Emergency  
Response  
Commission**

**Hazardous Materials**  
*You Have a Right  
to Know!*



444 Cedar Street, Suite 223, Saint Paul, MN 55101  
(651)297-7372  
TDD: (651)296-6555



## **User's Guide to the 1999 Right-to-Know Chemical Information Report**

### *What is this report about?*

This report summarizes chemical management activities for 395 of the largest manufacturing and select non-manufacturing facilities in Minnesota. Chemical management includes:

- \* Chemicals released into the environment
- \* Chemicals used for energy recovery, both at the facility and off-site
- \* Chemicals recycled, both on and off-site
- \* Chemicals treated, both on and off-site

In addition, summary information on pollution prevention activities for the above mentioned facilities includes:

- \* Numeric/non-numeric objectives established for each chemical
- \* Processes and source reduction activities for each chemical
- \* Date(s) of implementation of source reduction activities
- \* Barriers to meeting numeric/non-numeric objectives

### *How can I use this report?*

If you are interested in summary or graphic information, please see pages 15 to 21.

For information about the Commission and SARA Title III, see pages 7 to 27.

For information on your community, turn to pages 35-97 and search for your county (the counties are listed alphabetically in the left hand column). After you find your county, search for your city. All reporting facilities for a city are listed alphabetically by name.

For a ranking of facilities by pounds of chemicals managed, see pages 31-33.

For a ranking of facilities by environmental releases, see pages 29-30.

For a state-wide ranking of chemical air releases in pounds, see pages 563-565.

For a state-wide ranking of air releases by hazard potential, see pages 567-568.

For an overview and explanation of the “core” set of chemicals reported from 1988-1999 see pages 113-128.

For EPA state fact sheets, see pages 129-132.

For information on pollution prevention activities at facilities, see pages 137 to 551.

*Is this information new?*

No, the Toxic Release Inventory has been included in annual TRI reports since 1988 and the Pollution Prevention Progress Reports since 1995.

*Who wrote this report?*

All of the information in this report is collected by the Minnesota Emergency Response Commission (ERC) under the facility reporting requirements of SARA Title III, Section 313, and under the requirements of the Minnesota Toxic Pollution Prevention Act.

*Why is this report important?*

1. **It gives a facility a reason to look at its operations:** Each facility that completes the reporting process has the opportunity to compare this year's chemical management processes to previous year's. The facility may be able to determine if they have a chance to prevent pollution and reduce waste.
2. **It gives a community a reason to discuss chemical issues:** The information alerts citizens and facilities to chemical management activities in their communities and provides a forum to discuss chemicals and their risks.

*Can this report tell me if I'm being harmed by chemicals?*

No, this report is an annual summary of chemical management. Chemical risk depends on the toxicity of a chemical, the amount of a chemical to which you are exposed, and the length of the exposure. An annual summary cannot be used to determine chemical risk.

*Does this report catalogue all toxic chemical management in the state?*

No, this report only contains information on 395 facilities. These facilities are from select industrial classifications, have more than ten employees and use more than 10,000 pounds of a reported chemical each year.

*How were the reporting facilities selected?*

The federal law designated the facilities. Minnesota slightly expanded state reporting requirements in 1993.

*Who should I contact if I want more information on a particular facility?*

We recommend that you call our office (ERC) at 651-297-7372. We can provide information on chemical storage, management, releases and transfers, and pollution prevention. In addition, we can provide the names of contact persons at a facility.

## **I. Introduction**

### **A. SARA Title III**

On October 17, 1986, the federal "Superfund Amendments and Reauthorization Act (SARA)," was enacted into law. This law, commonly referred to as SARA Title III, or the "Emergency Planning and Community Right-to-Know Act," is designed to help communities deal safely and effectively with the numerous hazardous chemicals used in our society. The law includes a number of requirements on business and government intended to improve emergency planning for hazardous chemicals in their community. Although Title III has a number of provisions, the law has the following primary objectives.

- \* Identify the storage, use, and release of chemicals in communities.
- \* Foster communication between facilities that handle hazardous chemicals and their local communities.
- \* Expand emergency planning for hazardous chemical incidents.
- \* Enhance emergency response capabilities for hazardous chemical incidents.

An integral part of Title III is the requirement that local governments prepare an emergency plan. Under the law, this plan must identify the sources of the hazard, the community's susceptibility to damages should a hazardous chemical release occur, and the probability of damage taking place in a community. The emergency plan must also assess the preparedness and response capabilities of the community and describe the personnel, equipment, and procedures to be used in case of a hazardous chemical release. In Minnesota, the required Title III information is incorporated in the community's all-hazard emergency operations plan.

To enable communities to focus on chemicals and facilities of immediate concern, the U.S. Environmental Protection Agency has compiled a list of 360 "extremely" hazardous chemicals. Some common chemicals on this list are chlorine, ammonia, sulfuric acid, nitric acid, formaldehyde, hydroquinone, and many agricultural insecticides. Any facility (business, farm, public institution, municipality, individual, etc.) that stores any extremely hazardous chemical beyond a threshold amount must contact the Emergency Response Commission and cooperate in the planning process. A list of these facilities is sent to counties and municipalities and is available for public inspection. Emergency plans focus on these facilities and on the routes likely to be used for the transportation of extremely hazardous chemicals.

Under the community right-to-know reporting requirements of Title III, facilities may be required to identify what hazardous chemicals are present on-site and in some cases what toxic chemicals are released into the environment. Facilities must submit inventories of the hazardous chemicals stored above specified amounts to the Emergency Response Commission and local fire departments. Facilities also submit annual reports on the types, quantities, and location of hazardous chemicals. This information provides a basis for emergency planning and response and is accessible to the public.

Section 313 of the law deals with toxic chemical release reporting. Facilities which manufacture, process,

or use certain toxic chemicals in excess of a specified amount, must submit annual reports on the amounts of toxic chemicals released into the air, water, and land or transferred off-site. This is the only multi-media data now being collected on toxic chemical releases and transfers. This toxic chemical release information is the focus of this report.

## **B. Minnesota Emergency Response Commission and Regional Review Committees**

Title III is unique in that its effective implementation depends on the involvement of local and state government, business and industry, broadcast and news media, community groups, and citizens. The federal law requires each state to set up an Emergency Response Commission. The Commission was established in Minnesota Statutes through the enactment of the Minnesota Emergency Planning and Community Right-to-Know Act in July, 1989.

The Emergency Response Commission is a 22 member organization which includes representatives of fire, law enforcement, medical services, emergency management, business and industry, labor, community groups, elected officials, and four state agencies (see attachment 1). The Office of the Emergency Response Commission is part of the Minnesota Department of Public Safety, Division of Emergency Management. A broad perspective is crucial to the oversight role of the Commission, because information available under Title III involves a number of environmental and public safety programs.

Among the Commission's duties are to:

- \* Coordinate the Title III emergency planning process within the state.
- \* Appoint Regional Review Committees and Local Emergency Planning Committees for assuring the preparation of effective emergency plans.
- \* Provide information about particular chemicals or facilities necessary for the planning activities of political subdivisions.
- \* Establish procedures for receiving and processing public requests for information collected under Title III.

Within the state, the Commission has created seven Regional Review Committees to review and evaluate the Title III emergency planning information prepared by political subdivisions within each of their districts (see attachment 2). A Regional Review Committee has nine members representing emergency response organizations, facilities regulated under the law, and the public.

## **Attachment 1: Membership of the Minnesota Emergency Response Commission**

### **Member**

Paul Aasen

Don Anderson

David Augustin

David Benforado

Robert Einweck

E. Roscoe Evavold

Robert Ferderer

Stephen Lee

Paul Liemandt

Terry Mitchell

Craig Sallstrom

David Senjem

Dennis Sershen

Ray Stordahl

John Wallace

### **Representing**

Department of Public Safety

Emergency Managers

Emergency Medical Services

Public

Department of Health

Business and Industry

Community Groups

Pollution Control Agency

Department of Agriculture

Wastewater Treatment Operators

Small Business

Business and Industry

Business and Industry

Public

Professional Firefighters

**Attachment 2: Membership of the Minnesota Regional Review Committees**

**DISTRICT 1 (SE)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
Alfred Holtan	Wabasha	Wabasha
Ruth Small	Rochester	Olmsted
Michael Shulman	Rochester	Olmsted

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
Gary Fried	Red Wing	Goodhue
Duane Sprick	Lake City	Wabasha
Troy Gies	St. Peter	Nicollet

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Richard Schultz*	Plainview	Wabasha
Raymond A. Truelson**	Owatonna	Steele
Glen Seresse	Rochester	Olmsted

**DISTRICT 2 (NE)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
Richard (Rik) Jordan	Duluth	St. Louis
Norbert Norman*	Duluth	St. Louis

Robert Wilhelm

Deer River

Itasca

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
Tim Catlin	Aitkin	Aitkin
Stephen Durst	Duluth	St. Louis
Eugene Mannelin**	Deer River	Itasca

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Curtis Anderson	Esko	Carlton
Daniel Menor	Duluth	St. Louis
Steven Starkovich	Mt. Iron	St. Louis

**DISTRICT 3 (NW)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
John (Jack) Murray**	Detroit Lakes	Becker
Richard Marsolek	Bemidji	Beltrami
Donald Jorstad	Thief River Falls	Pennington

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
William Rabe	Bemidji	Beltrami
Martin Soeth	Moorhead	Clay
Gracia Nelson *	Roseau	Roseau

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Gregory Peterson	Baudette	Lake of the Woods
David Kirkeby	Thief River Falls	Pennington
Vacant		

**DISTRICT 4 (WC)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
Duane Grandy	Sauk Rapids	Benton
Gerald Mahon	St. Cloud	Stearns
Linda Peck	St. Cloud	Stearns

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
Norbert Weirens	St. Cloud	Stearns
Dennis Stark	Alexandria	Douglas
James Neal**	Morris	Stevens

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Jennifer Sweney	St. Paul	Ramsey
James Holthaus*	St. Cloud	Sherburne
Stephen Danielson	Campbell	Wilkin

**DISTRICT 5 (SW)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
---------------	-------------	---------------

John Baerg  
David Benson  
Glen Ward\*\*

St. James  
Bigelow  
Windom

Watowan  
Nobles  
Cottonwood

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
DeAnna Shaikoski	Fairmont	Martin
Brad Emmans	Hutchinson	McLeod
Harlan Nepp*	Pipestone	Pipestone

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Janet Hagen	Redwood Falls	Redwood
Joseph Schaffer	Fairmont	Martin
Vacant		

**DISTRICT 6 (Metro East)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
James Bukowski	St. Paul	Ramsey
Paula Karjalahi	Elk River	Anoka
Lowell Ludford	St. Anthony	Hennepin

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
William Boler	Hastings	Dakota
Donato Bataglia	St. Paul	Ramsey

Pamela Hart	St. Paul	Ramsey
-------------	----------	--------

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
Bud Berry*	Maplewood	Ramsey
Doug Marsh	St. Paul	Ramsey
JD Payne, Jr.**	Hampton	Dakota

**DISTRICT 7 (Metro West)**

**Public (Elected Official, Media, Community)**

<u>Member</u>	<u>City</u>	<u>County</u>
Tim Turnbull	Medina	Hennepin
Tim Wilmes	Golden Valley	Hennepin
Mark Nagel	Anoka	Anoka

**Responder (Law Enforcement, Firefighting, Civil Defense, First Aid, Health, Local Environmental, Hospital, and Transportation)**

<u>Member</u>	<u>City</u>	<u>County</u>
Kurt Kramer*	Robbinsdale	Hennepin
Scott Harr	Chanhassen	Hennepin
Richard Turner	Minneapolis	Hennepin

**Facility Owner or Operator**

<u>Member</u>	<u>City</u>	<u>County</u>
David Carlson	Minneapolis	Hennepin
David Brickley**	Maple Plain	Hennepin
Vacant		

\*Chairperson

\*\* Vice-Chairperson

## II. Chair's Report: A Summary of the 1999 Right-to-Know Chemical Information Report

Since 1987, manufacturing facilities that have 10 or more full-time employees and using quantities of listed chemicals above specified thresholds, have been required to file annual Toxic Release Inventory (TRI) reports on routine and accidental releases into the environment and on chemical management activities. This information is submitted on an annual basis to both the Minnesota Emergency Response Commission (ERC) and the U.S. Environmental Protection Agency (EPA) using the EPA Form R.

The Minnesota Legislature required additional facilities in 14 non-manufacturing sectors to begin reporting in 1994. In addition, the U.S. Environmental Protection Agency finalized a rule adding seven industry groups to the list of facilities subject to the TRI reporting requirements. Facilities in these groups began reporting in 1998.

The 1990 Minnesota Legislature passed the Minnesota Toxic Pollution Prevention Act. The Act requires each TRI facility reporting toxic chemical releases and transfers on EPA Form R to develop a toxic pollution prevention plan. The plan is used by facilities to establish goals for reducing or eliminating releases and transfers of these chemicals. In addition, these facilities must submit annual progress reports to the ERC.

The ERC maintains a Toxic Release Inventory and pollution prevention database. Information from the database is available to the public and is used to compile this report.

The following is a summary of Toxic Release Inventory and pollution prevention progress report information reported to the ERC for calendar year 1999:

In 1999, 395 facilities reported releases of 31.1 million pounds to the environment, while the total amount of chemicals managed was 332.4 million pounds. This compares to 424 facilities reporting 32.1 million pounds of environmental releases in 1998 with 303.5 million pounds of chemicals being managed. In 1997, 402 facilities reported 20.8 million pounds of environmental releases and 266.7 million pounds of chemicals managed (Figures 1 & 3). For the 1999 reporting year, 128 facilities have made use of the "Alternate Threshold Option". This allows facilities to submit a Certification Statement instead of the EPA Form R for those chemicals with minimal amounts of releases, transfers, and/or total chemicals managed.

Based on the ranking in Part IV, Attachment 1, the top twenty facilities account for approximately 61% of total environmental releases. Based on the ranking in Part IV, Attachment 2, the top twenty facilities account for 84% of total chemicals managed.

The chemicals most commonly managed were Lead, Methanol, Methyl Ethyl Ketone, Toluene, Copper and Xylene. The chemicals most commonly released to the environment were Barium Compounds, Styrene, Ammonia, Toluene, n-Hexane, and Methanol.

353 facilities filed 973 Pollution Prevention Progress Reports for 1999. Each Progress Report represents a pollution prevention objective for a chemical. Of the reports filed, 41% established a numerical objective and 58% established non-numeric objectives. 51% of the Progress Reports indicated the objectives have been met and 49%

of the reports indicated the objectives have not been met or it was not possible to determine if the objectives have been met. The most commonly listed barriers to pollution prevention were; concerns that product quality may decline as a result of source reduction, technical limitations of the production process, and that pollution prevention was previously implemented, therefore, additional reduction does not appear to be technically feasible.

The top three chemicals in terms of total pounds of air releases were Styrene, Toluene, and n-Hexane. The top three chemicals in terms of hazard potential were Lead, Copper, and Chromium.

Many TRI facilities continue to make progress in reducing chemical releases and overall usage of toxic chemicals. These reductions are reflected in this report on an annual basis. These results truly indicate that significant corporate efforts in proactive environmental excellence and leadership are occurring in Minnesota.

Through environmental awareness, positive corporate environmental citizenship, technology sharing, and partnerships with regulatory agencies, Minnesota is moving toward turn of the century standards that will set a benchmark for the rest of the nation to follow.

Minnesota companies on the cutting edge of technology have realized the vision that reducing pollution in our air, soil, and water not only provides economic opportunities, but secures an environment that will benefit and be enjoyed by our children and future generations.

It is only through data collection like the TRI and pollution prevention reports that measurable results can be attained. When this data is combined with air toxics indexing information and potential health effects, then we know where we have been, where we are, and where we need to go to make Minnesota a better place.

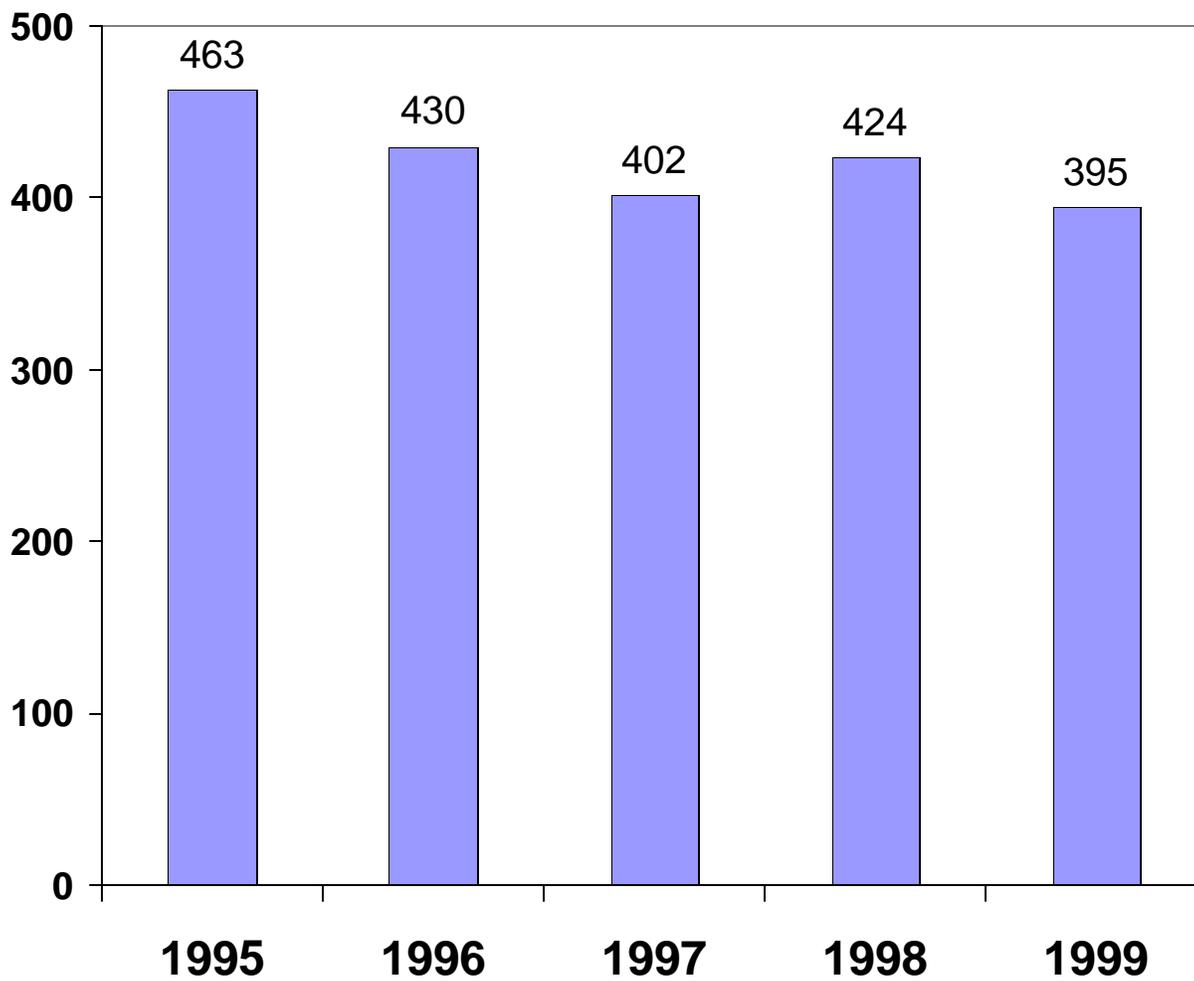
As we progress into the new millennium, the Minnesota Emergency Response Commission will accelerate its' leadership role to build a stronger and more efficient partnership with business, the general public and existing regulatory agencies. Protecting and improving the quality of our environment is the responsibility of everyone that lives and works in the great State of Minnesota. By working together, we can and will make our communities a safer and better place to live, work, and grow!

Respectfully submitted to the citizens of Minnesota on behalf of the Minnesota Emergency Response Commission,

Dennis J. Sershen, CHMM  
Chair

### III. Summary of Chemical Information Reported Under SARA Title III

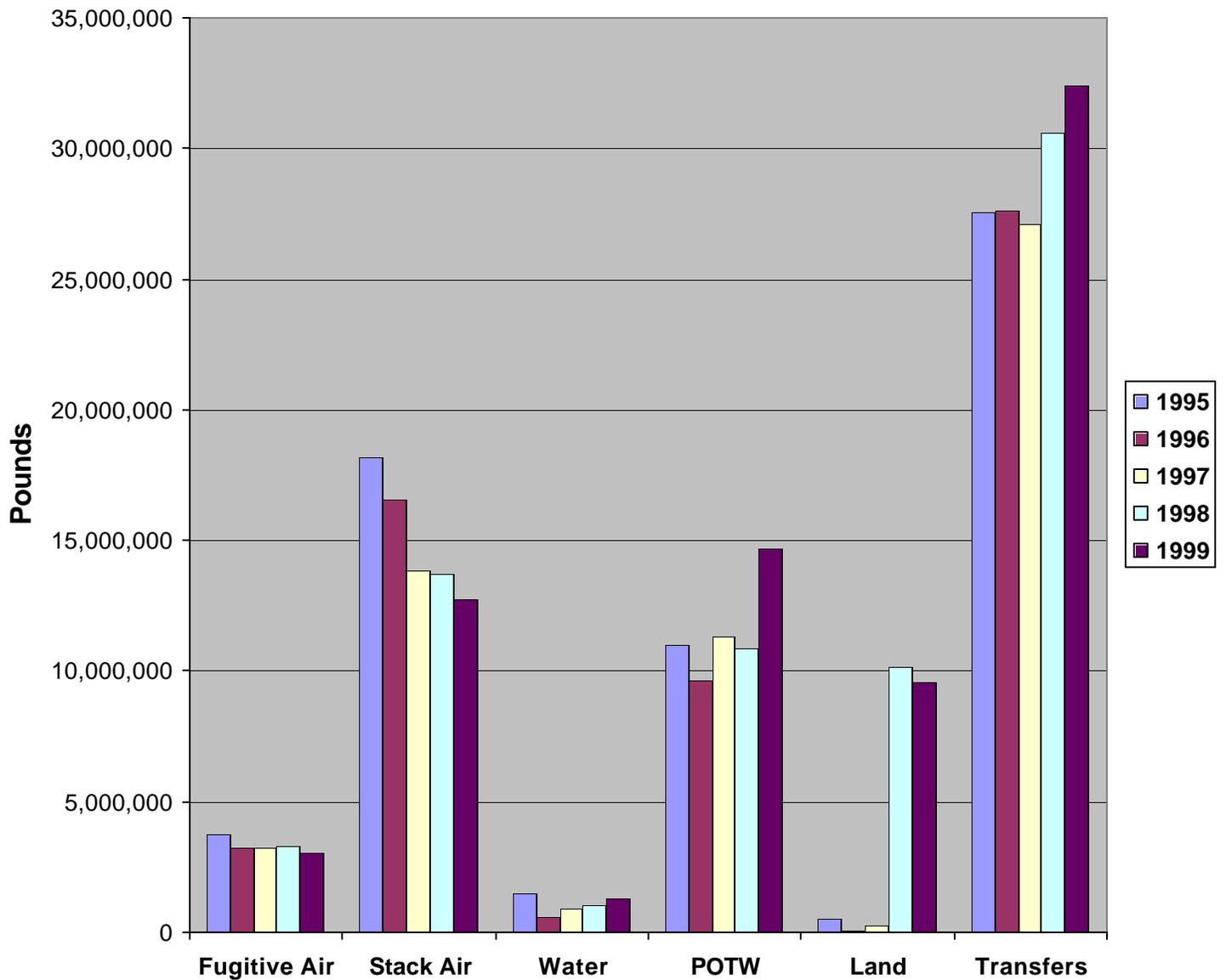
Figure 1: Number of Facilities reporting under SARA Title III, Section 313



1999 Right-To-Know Chemical Information Report

Minnesota Emergency Response Commission

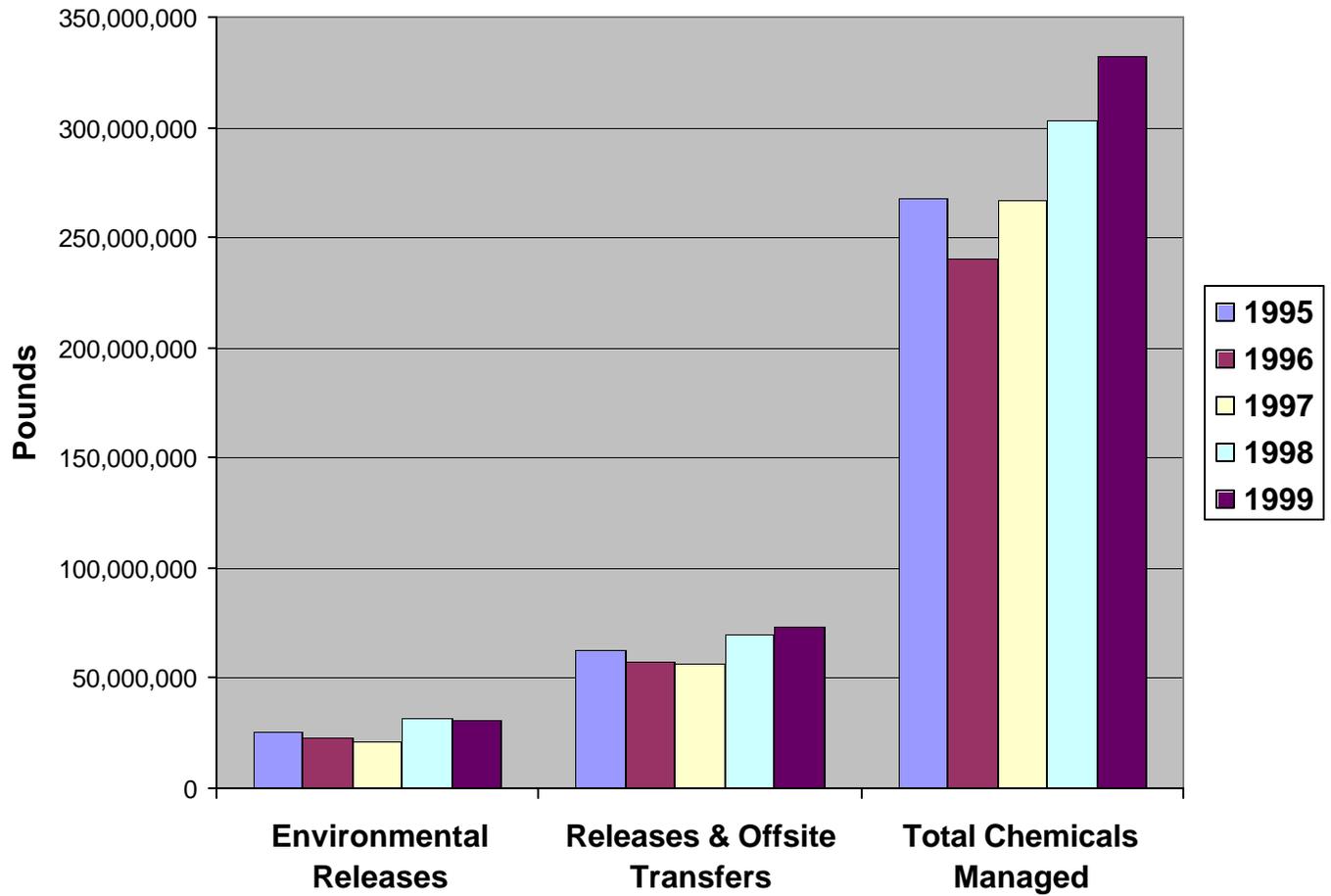
**Figure 2: Total Releases and Transfers by Medium (Sections 5 & 6 of Form R)**



**1999 Right-To-Know Chemical Information Report**

Minnesota Emergency Response Commission

**Figure 3: Environmental Releases and Chemical Management (Section 8, Form R)**

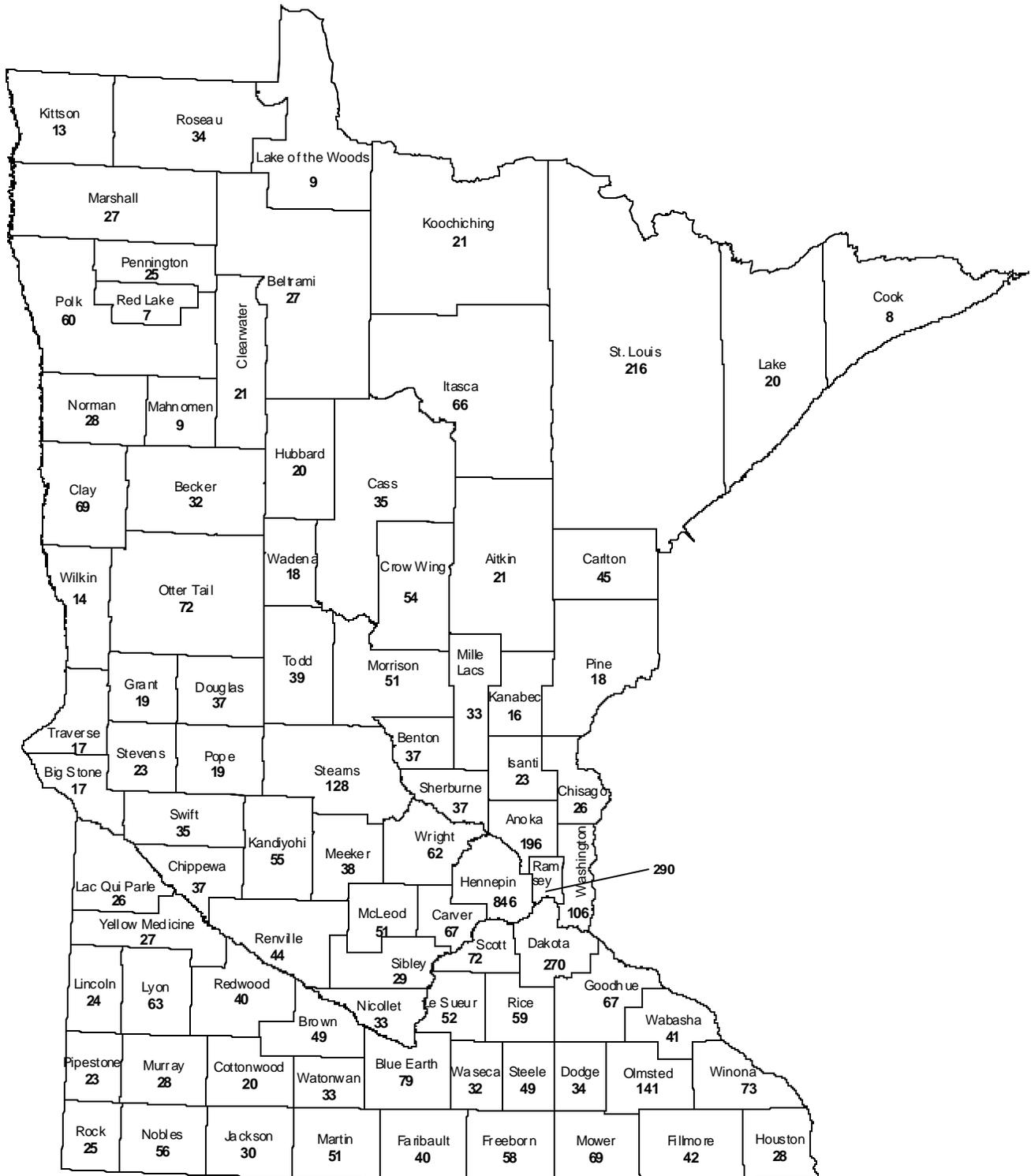


**1999 Right-To-Know Chemical Information Report**

Minnesota Emergency Response Commission



Figure 5: Facilities Filing Chemical Storage Reports by County



1998 Right-To-Know Chemical Information Report

Minnesota Emergency Response Commission



#### **IV. Overview: The Toxic Chemical Release Inventory (TRI)**

The annual Toxic Chemical Release Inventory (TRI) contains the amounts of toxic chemicals reported by facilities as being released into the environment, transferred off-site for treatment, recycling, energy recovery, and disposal, and managed on-site at the facility. Section 313 of Title III requires these annual reports for over 600 chemicals. The TRI data in this summary covers submittals for 1999. Reports from manufacturing facilities are submitted to both the Emergency Response Commission and the U.S. Environmental Protection Agency using the EPA Form R. Facilities included in the Minnesota TRI expansion are only required to submit the Form R to the Commission.

The data reported is not necessarily derived from actual monitoring or measurements, but may be estimated from engineering calculations, material balance calculations, or published emission factors. The following sections describe the reporting and facilities required to report.

- \* Section 5 of the Form R is used to report releases to air, land, and water.
- \* Section 6 is used to report transfers to Publicly Owned Treatment Works and other off-site treatment, recycling, energy recovery, and disposal locations. In reporting years prior to 1991, the amount of a chemical sent off-site for recycling or energy recovery did not have to be reported on the Form R.
- \* Section 7 of the Form R is used to report on-site waste treatment methods and efficiency, on-site energy recovery processes, and on-site recycling processes.
- \* Section 8 of the Form R includes the amount of a toxic chemical released, recycled, treated, and used for energy recovery at the facility, and the amount sent to off-site locations.

The summary figures in this report contain information from Sections 5, 6 and 8 of the Form R. The facility listings in this report contain information from Section 8 only.

##### **A. Facilities Covered**

A plant, factory, or other facility must report to EPA and ERC under Section 313 if it meets the following requirements:

- 1) if it conducts manufacturing operations (that is, if it is included in the following Standard Industrial Classification (SIC) codes 20 through 39);

20XX Food and Kindred Products  
21XX Tobacco Manufacturers  
22XX Textile Mill Products  
23XX Apparel and other Textile Products  
24XX Lumber and Wood Products  
25XX Furniture and Fixtures  
26XX Paper and Allied Products

- 27XX Printing and Publishing
- 28XX Chemicals and Allied Products
- 29XX Petroleum Refining
- 30XX Rubber and Miscellaneous Plastic Products
- 31XX Leather and Leather Products
- 32XX Stone, Clay, and Glass Products
- 33XX Primary Metal Industries
- 34XX Fabricated Metal Products
- 35XX Industrial, Commercial Machinery and Computers
- 36XX Electronic Equipment and Components
- 37XX Transportation Equipment
- 38XX Instruments and Related Products
- 39XX Miscellaneous Manufacturing Industries

The U.S. Environmental Protection Agency (EPA) finalized a rule adding seven industry groups to the list of facilities subject to the TRI reporting requirements. Facilities in the following SIC Codes, which meet the employee and chemical usage criteria, and are not eligible for specific exemptions available under the federal Act, must report chemical releases and transfers to the EPA and ERC. Reports from these facilities were first received by July 1, 1999, covering releases and transfers for the 1998 reporting year:

<u>SIC Code</u>	<u>Industry</u>
10 (except 1011, 1081, and 1094)	Metal mining
12 (except 1241)	Coal mining
4911, 4931 and 4939 (each limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce)	Electric utilities
4953 (limited to facilities regulated under subtitle C of RCRA)	Commercial hazardous waste treatment
5169	Chemical and allied products-wholesale
5171	Petroleum bulk terminals and plants-wholesale
7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis)	Solvent recovery services

- 2) if, in addition, it has 10 or more full-time equivalent employees; and
- 3) if, in addition to the above, it manufactures, imports, processes, or in any other way uses any of the toxic chemicals listed on pages 577 to 591 in amounts greater than the "threshold" quantities. Threshold quantities have been established at 25,000 pounds or

10,000 pounds per chemical per year, depending on how the chemical is used at the facility.

## **B. State TRI Expansion**

The 1993 Minnesota Legislature amended the Minnesota Emergency Planning and Community Right-to-Know Act to expand the toxic chemical release reporting requirements. Facilities in the following SIC Codes, which meet the employee and chemical usage criteria, and are not eligible for specific exemptions available under the federal Act, must report chemical releases and transfers to the Emergency Response Commission. Reports for the expanded group of facilities were first received by July 1, 1994, covering releases and transfers for the 1993 reporting year:

<u>SIC Code</u>	<u>Industry</u>
10	Metal Mining
40	Rail Transport
45	Air Transport
49	Utilities
5161/5169	Chemical and Allied Products
5162	Basic Shapes
806	Hospitals
807	Medical and Dental Laboratories
822	Colleges and Universities
7384	Photo Finishing
7389	Solvent Recovery Facilities only
8734	Testing Laboratories
9223	Correctional Institutions

Section 313 of the Act was written primarily for the manufacturing sector. In order to effectively implement the new legislation, the Emergency Response Commission had to make certain interpretations of the federal Act as it applied to the Minnesota expansion. For example, the Commission has not received any reports from SIC Codes 807 and 8734 because of the exemption of these types of laboratories under the federal Act.

The legislation does have some differences when compared to the federal Act as follows:

- \* The state Act does not apply to substances that are associated with or incidental to the combustion of fossil fuels or other fuels for the generation of electricity or the production of steam.
- \* A person may petition the Commission to exempt all facilities included in one of the 14 Standard Industrial Classifications listed above, or a sub-class within one of the listed classifications, from the reporting requirements. Commission Item 93-3 defines the process by which a petition will be evaluated and acted upon.

The Commission received a petition from SIC Code 1011 (Iron Ore Mining) requesting an exemption from Toxic Release Inventory reporting. Commission staff recognized that the mining

techniques practiced by the Minnesota facilities within SIC 1011 do not meet the reporting requirements as established in the federal Act. The Commission accepted the petition based on the recommendation from Commission staff. Based on the Commission's findings, EPA did not include SIC Code 1011 in the federal TRI expansion.

A facility meeting all of the reporting requirements under the Minnesota expansion, but reporting no releases or transfers, may submit a written certification to the Commission exempting itself from the reporting requirements.

### **C. Limits on Application of TRI Data**

The TRI data does provide important information about the industrial sources of environmental releases of toxic chemicals. However, users of the TRI data should understand the limitations of the data. The TRI data covers only a portion of toxic chemical emissions, and the amounts reported are estimated with unknown accuracy.

Toxic chemicals are generated from a variety of sources, including manufacturing and non-manufacturing processes, agricultural and urban uses of chemicals, use and disposal of consumer products, and mobile sources such as automobiles. The TRI does not require facilities to measure or otherwise verify the data they submit. Thus, much of the quantitative data reported were estimated.

The TRI data has useful applications. The Minnesota Pollution Control Agency can cross-check the TRI data with environmental discharge permits and hazardous waste disclosure reports. The data can also provide additional information in prioritizing environmental regulatory efforts. Again, it is important to realize that a release of a TRI toxic chemical does not indicate a violation of federal, state, or local environmental laws.

Another application is to use the data to promote pollution prevention and waste reduction. The data can assist in targeting technical assistance toward facilities that have the most significant emissions and promote transfer of prevention technology among industries. In addition, the Section 313 data provides a baseline measurement to assess future reductions.

Finally, the data can be used as a risk screening tool to delineate "hot spot" areas where additional health assessments may be necessary.

### **D. Exposure and Risk**

The 31 million pounds of chemical releases directly to the air, water, and land and the 332 million pounds of chemicals managed in 1999 are not necessarily an indicator of human and environmental exposure to these chemicals. Several factors determine the impact of releases and transfers on public health and the environment. A chemical risk involves the toxicity of a substance and the exposure to it.

In all cases, more information than the TRI can provide is needed to assess potential exposure and risk concerns. The magnitude, duration, and frequency of exposure to a toxic chemical is necessary to assess the human response to the exposure. The TRI data are in amounts or volumes of annual emissions. These

numbers do not address the quantities emitted per day or whether releases are continuous or intermittent. Therefore, the TRI can only indicate toxic chemicals that may be of concern and which require further attention and analysis.

For additional information about toxic chemicals reported under the TRI, and Pollution Prevention Progress Reports, contact the Minnesota Emergency Response Commission at (651) 297-7372.

#### **E. Minnesota Toxic Pollution Prevention Act**

The 1990 Minnesota Legislature passed the Minnesota Toxic Pollution Prevention Act. The legislation includes these major features:

1. Establishes state policy encouraging the prevention of toxic pollution.
2. Provides technical assistance to help companies prevent toxic pollution by expanding the responsibilities and staff of the Minnesota Technical Assistance Program (MnTAP).
3. Provides matching grants to help companies study or demonstrate the feasibility of applying specific technologies and methods to prevent pollution.
4. Requires each facility reporting toxic chemical releases to develop a toxic pollution prevention plan establishing goals for reducing or eliminating these releases. In addition, these facilities must submit annual progress reports to the Minnesota Emergency Response Commission. Information from these progress reports is included in this report starting on page 137.

While citizens throughout the nation have a right to know what chemicals are stored and released from a facility, Minnesota citizens also have a right to know what steps facilities are taking to reduce or eliminate the release of toxic pollutants.

For more information on the Minnesota Toxic Pollution Prevention Act, contact the Office of Environmental Assistance at (651) 296-3417. For more information on the progress reports, contact the Minnesota Emergency Response Commission at 651-297-7372.

#### **F. Public Access to TRI Data**

The Toxic Release Inventory is updated annually. TRI reports filed for 1987-1999 are available from a number of sources. The Minnesota Emergency Response Commission will make data and reports from individual facilities in Minnesota available at its office located at: 444 Cedar Street, Suite 223, St. Paul, MN 55101. For TRI information covering all fifty states, please contact the U.S. Environmental Protection Agency through its "Emergency Planning and Community Right-to-Know Hotline" at 1-800-535-0202.

For additional information about the law or its reporting requirements, please contact the Minnesota Emergency Response Commission at 651-297-7372 or visit our website at [www.erc.state.mn.us](http://www.erc.state.mn.us) or the EPA Title III Hotline at 1-800-535-0202 or visit their website at [www.epa.gov/tri](http://www.epa.gov/tri).



**Top 20 Facilities Ranked By Total Chemicals Released  
(Section 8.1) for Calendar Year  
Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"**

**State of Minnesota  
1999  
Department of Public Safety  
Emergency Response Commission**

County	ERC ID	Facility	(Amount in Pounds)						Total Chemicals Managed	
			Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)		Treated Off -site (8.7)
Sherburne	710090001	NSP - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN 55308	<b><u>6,213,900</u></b>	0	0	0	0	478,770	0	6,692,670
Itasca	310680001	BOSWELL ENERGY CENTER - MN POWER 1200 NW 3RD ST COHASSET, MN 55721	<b><u>1,711,000</u></b>	0	0	0	0	118,000	0	1,829,000
Ramsey	620700334	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55165	<b><u>1,450,566</u></b>	0	0	0	0	0	0	1,450,566
Dakota	191450005	KOCH PETROLEUM GROUP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN 55077	<b><u>1,364,332</u></b>	0	0	137,338	73,187	2,758,151	482	4,333,490
Washington	820300001	3M COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN 55016	<b><u>953,813</u></b>	32,277	457,754	0	876,580	15,587,788	26,819	17,935,031
Sherburne	710090018	BECKER RDF ASH LANDFILL 13999 INDUSTRIAL BLVD BECKER, MN 55308	<b><u>869,050</u></b>	0	0	0	0	0	0	869,050
Stearns	732300008	FRIGIDAIRE HOME PRODUCTS-FREEZERS 701 N 33RD AVE ST. CLOUD, MN 56303	<b><u>751,000</u></b>	0	0	0	55,000	0	6,000	812,000
Washington	820150005	NSP - A.S. KING 1103 KING PLANT RD BAYPORT, MN 55003	<b><u>747,000</u></b>	0	0	0	0	103,000	0	850,000
Ramsey	620700020	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN 55116	<b><u>744,000</u></b>	0	220	0	893,000	460,800	19,300	2,117,320
McLeod	430550003	MINNESOTA MINING & MFG. - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN 553509431	<b><u>652,803</u></b>	0	237,494	16,390,000	330,000	3,471,000	1,701,090	22,782,387

**Top 20 Facilities Ranked By Total Chemicals Released  
(Section 8.1) for Calendar Year  
Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"**

**State of Minnesota  
1999  
Department of Public Safety  
Emergency Response Commission**

County	ERC ID	Facility	(Amount in Pounds)						Total Chemicals Managed	
			Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)		Treated Off -site (8.7)
Koochiching	360100001	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN 56649	<b><u>610,430</u></b>	710,000	0	0	0	9,060,100	0	10,380,530
Blue Earth	071000005	CENEX HARVEST STATES 2020 S RIVERFRONT DR MANKATO, MN 560023247	<b><u>540,200</u></b>	0	0	0	19,000	12,400	600	572,200
Ramsey	620700045	3M COMPANY 900 BUSH AVE ST. PAUL, MN 551441000	<b><u>426,972</u></b>	228,993	363	0	5,482	2,093,929	120,596	2,876,335
Morrison	491200003	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DRV LITTLE FALLS, MN 563451100	<b><u>410,441</u></b>	0	4,350	0	0	0	0	414,791
Hennepin	271350064	NSP - RIVERSIDE PLANT 3100 MARSHALL ST NE MINNEAPOLIS, MN 55418	<b><u>385,500</u></b>	0	0	0	0	72,000	0	457,500
Steele	740700127	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST OWATONNA, MN 55060	<b><u>375,000</u></b>	0	0	0	0	0	0	375,000
Polk	600750002	AMERICAN CRYSTAL SUGAR CO. BUSINESS HWY 2 E EAST GRAND FORKS, MN 56721	<b><u>366,000</u></b>	0	0	0	0	50,000	0	416,000
Dakota	190250016	GOPHER RESOURCE CORP. 3385 S HWY 149 EAGAN, MN 55121	<b><u>356,000</u></b>	0	0	185,210,000	0	0	0	185,566,000
Pipestone	590750003	US MARINE/BAYLINER 918 SIOUX DRV PIPESTONE, MN 56164	<b><u>355,439</u></b>	0	0	0	0	0	0	355,439
Dakota	190800011	CROWN CORK & SEAL CO. 8215 220TH ST W LAKEVILLE, MN 55044	<b><u>330,280</u></b>	0	0	0	0	19,000	0	349,280

**Top 20 Facilities Ranked By Total Chemicals Managed  
(Sections 8.1-8.7) for Calendar Year 1999**

Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

**State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in Pounds)**

County	ERC ID	Facility	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Chemicals Managed
Dakota	190250016	GOPHER RESOURCE CORP. 3385 S HWY 149 EAGAN, MN 55121	356,000	0	0	185,210,000	0	0	0	<u>185,566,000</u>
McLeod	430550003	MINNESOTA MINING & MFG. - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN 553509431	652,803	0	237,494	16,390,000	330,000	3,471,000	1,701,090	<u>22,782,387</u>
Washington	820300001	3M COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN 55016	953,813	32,277	457,754	0	876,580	15,587,78	26,819	<u>17,935,031</u>
Koochiching	360100001	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN 56649	610,430	710,000	0	0	0	9,060,100	0	<u>10,380,530</u>
Carlton	090400003	POTLATCH CORP. 2201 AVE B CLOQUET, MN 55720	318,357	2,451,288	0	0	0	0	7,128,049	<u>9,897,694</u>
Sherburne	710090001	NSP - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN 55308	6,213,900	0	0	0	0	478,770	0	<u>6,692,670</u>
Ramsey	620600023	U.S. FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN 55113	15,371	0	0	4,305,598	1,064,362	58,000	14,596	<u>5,457,927</u>
Ramsey	620700051	NORTH STAR STEEL-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55119	131,769	0	0	104,544	4,753,515	0	0	<u>4,989,828</u>
Dakota	191450005	KOCH PETROLEUM GROUP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN 55077	1,364,332	0	0	137,338	73,187	2,758,151	482	<u>4,333,490</u>

**Top 20 Facilities Ranked By Total Chemicals Managed  
(Sections 8.1-8.7) for Calendar Year 1999**

Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

**State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in Pounds)**

County	ERC ID	Facility	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Chemicals Managed
Ramsey	620700045	3M COMPANY 900 BUSH AVE ST. PAUL, MN 551441000	426,972	228,993	363	0	5,482	2,093,929	120,596	<u>2,876,335</u>
Ramsey	620700020	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN 55116	744,000	0	220	0	893,000	460,800	19,300	<u>2,117,320</u>
Hennepin	270600002	FILMTEC CORP. 7200 OHMS LANE EDINA, MN 55439	11,205	0	0	0	0	0	2,089,472	<u>2,100,677</u>
Rice	660600002	SHELDAHL, INC. - EAST FACILITY 805 HWY 3 N NORTHFIELD, MN 55057	74,303	0	134,225	0	761,260	1,085,109	35,471	<u>2,090,368</u>
Olmsted	550950007	INTERNATIONAL BUSINESS MACHINES CORP. 3605 HWY 52 N ROCHESTER, MN 55901	104,179	0	0	0	103,400	800,000	846,070	<u>1,853,649</u>
Itasca	310680001	BOSWELL ENERGY CENTER - MN POWER 1200 NW 3RD ST COHASSET, MN 55721	1,711,000	0	0	0	0	118,000	0	<u>1,829,000</u>
Ramsey	620950030	WATER GREMLIN CO. 1610 WHITAKER AVE WHITE BEAR LAKE, MN 55110	134,001	0	0	21,400	1,602,600	0	860	<u>1,758,861</u>
Ramsey	620700334	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55165	1,450,566	0	0	0	0	0	0	<u>1,450,566</u>
Ramsey	620700047	MIXON, INC. 2286 CAPP RD ST. PAUL, MN 55114	112	0	0	0	1,151,653	0	0	<u>1,151,765</u>

**Top 20 Facilities Ranked By Total Chemicals Managed  
(Sections 8.1-8.7) for Calendar Year 1999**

Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

**State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in Pounds)**

County	ERC ID	Facility	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Hennepin	271350092	PIONEER METAL FINISHING 1717 W RIVER RD N MINNEAPOLIS, MN 55411	6,141	0	0	0	0	567,974	566,166	<b><u>1,140,281</u></b>
Meeker	471000001	FIRST DISTRICT ASSN. 216 W COMMERCIAL ST LITCHFIELD, MN 55355	25	0	0	0	0	569,080	560,853	<b><u>1,129,958</u></b>



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Anoka County, City of ANOKA -- FEDERAL CARTRIDGE COMPANY --900 EHLEN DRV --ERCID -- 020050004</u>								
Lead Compounds	1,900	0	0	0	43,000	0	0	44,900
Copper Compounds	8,100	0	0	0	3,700	0	0	11,800
Ethylene Glycol	30	0	0	0	0	0	368,940	368,970
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	24,869	24,869
Barium Compounds	1,490	0	0	0	250	0	0	1,740
<b>Totals</b>	<b>11,520</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,950</b>	<b>0</b>	<b>393,809</b>	<b>452,279</b>
<u>Anoka County, City of ANOKA -- HOFFMAN ENCLOSURES INC. - MAIN PLANT --2100 HOFFMAN WAY --ERCID -- 020050053</u>								
N-butyl Alcohol	10,411	10,371	4	0	0	0	0	20,786
Methyl Ethyl Ketone	2,297	0	13,055	5,010	0	0	0	20,362
Toluene	6,467	1,862	16,034	6,155	0	0	0	30,518
Glycol Ethers	15,134	14,847	361	0	0	0	896	31,238
Xylene (mixed isomers)	14,057	11,168	321	0	0	0	0	25,546
<b>Totals</b>	<b>48,366</b>	<b>38,248</b>	<b>29,775</b>	<b>11,165</b>	<b>0</b>	<b>0</b>	<b>896</b>	<b>128,450</b>
<u>Anoka County, City of ANOKA -- IMI CORNELIUS INC. --ONE CORNELIUS PLACE --ERCID -- 020050003</u>								
Copper	5	0	0	0	24,000	0	0	24,005
Trichloroethylene	8,400	0	0	0	0	0	4,000	12,400
Manganese	30	0	0	0	8,200	0	0	8,230
Nickel	45	0	0	0	41,400	0	0	41,445
Nitric Acid	30	0	0	0	0	33,700	0	33,730
Chromium	83	0	0	0	91,800	0	0	91,883
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	45,000	45,000
<b>Totals</b>	<b>8,593</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>165,400</b>	<b>33,700</b>	<b>49,000</b>	<b>256,693</b>
<u>Anoka County, City of ANOKA -- LUND INDUSTRIES INC --911 LUND BLVD --ERCID -- 020050050</u>								
Styrene	129,191	0	1,004	0	0	0	0	130,195
<b>Totals</b>	<b>129,191</b>	<b>0</b>	<b>1,004</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>130,195</b>
<u>Anoka County, City of ANOKA -- MATE PRECISION TOOLING COMPANY --1295 LUND BLVD. --ERCID -- 020050058</u>								
Chromium	0	0	0	0	36,688	0	0	36,688
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36,688</b>	<b>0</b>	<b>0</b>	<b>36,688</b>
<u>Anoka County, City of ANOKA -- MENTOR MINNESOTA OPERATIONS --800 LUND BLVD --ERCID -- 020050055</u>								
Toluene	10,217	0	212	0	0	0	0	10,429

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>10,217</b>	<b>0</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,429</b>
<u>Anoka County, City of ANOKA -- PROFESSIONAL PLATING --2625 9TH AVE N --ERCID -- 020050005</u>								
Nitric Acid	0	0	0	0	0	27,300	0	27,300
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	26,900	26,900
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27,300</b>	<b>26,900</b>	<b>54,200</b>
<u>ANOKA County, City of BLAINE -- PARKER MOBIL CYLINDER DIV.-MPLS. --1532 93RD LANE NE --ERCID -- 020200071</u>								
Nickel	25	0	0	0	34,500	0	0	34,525
Chromium	26	0	0	0	35,000	0	0	35,026
Copper	6	0	0	0	7,910	0	0	7,916
<b>Totals</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77,410</b>	<b>0</b>	<b>0</b>	<b>77,467</b>
<u>Anoka County, City of BLAINE -- RMS COMPANY --8600 EVERGREEN BLVD --ERCID -- 020200067</u>								
Chromium	0	0	0	0	10,351	0	0	10,351
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,351</b>	<b>0</b>	<b>0</b>	<b>10,351</b>
<u>Anoka County, City of BLAINE -- SAFETY-KLEEN SYSTEMS, INC --9261 ISANTI ST NE --ERCID -- 020200027</u>								
Ethylene Glycol	10	0	0	0	206,944	0	0	206,954
<b>Totals</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>206,944</b>	<b>0</b>	<b>0</b>	<b>206,954</b>
<u>Anoka County, City of CIRCLE PINES -- PLASTI DIP INTERNATIONAL --3760 FLOWERFIELD RD --ERCID -- 020200005</u>								
N-hexane	2,586	0	0	0	0	0	0	2,586
Methyl Ethyl Ketone	2,298	0	0	0	0	0	0	2,298
Xylene (mixed isomers)	719	0	0	0	0	0	0	719
Toluene	3,720	0	0	0	0	0	0	3,720
<b>Totals</b>	<b>9,323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,323</b>
<u>Anoka County, City of COLUMBIA HEIGHTS -- INVEST CAST, INC. --716 39TH AVE NE --ERCID -- 020400013</u>								
Copper	6,839	0	0	13,961	2,815	0	0	23,615
Chromium	17,214	0	0	44,230	7,065	0	0	68,509
Nickel	13,385	0	0	34,510	5,513	0	0	53,408
<b>Totals</b>	<b>37,438</b>	<b>0</b>	<b>0</b>	<b>92,701</b>	<b>15,393</b>	<b>0</b>	<b>0</b>	<b>145,532</b>
<u>Anoka County, City of COON RAPIDS -- STERIS - ISOMEDIX SERVICES --380 90TH AVE NW --ERCID -- 020500004</u>								
Ethylene Oxide	5,706	0	0	0	0	82,336	0	88,042
<b>Totals</b>	<b>5,706</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>82,336</b>	<b>0</b>	<b>88,042</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Anoka County, City of FRIDLEY -- CARTER-DAY INTERNATIONAL INC. --494 NORTHCO DRIVE NE --ERCID -- 020550075</u>								
Chromium	2	0	0	0	7,162	0	0	7,164
<b>Totals</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,162</b>	<b>0</b>	<b>0</b>	<b>7,164</b>
<u>Anoka County, City of FRIDLEY -- DUGAS BOWERS PLATING COMPANY --7965 MAIN ST NE --ERCID -- 020550070</u>								
Cyanide Compounds	0	0	0	0	0	12,694	73	12,767
Zinc Compounds	84	0	0	0	15,806	65,864	0	81,754
Nitric Acid	0	0	0	0	0	10,214	0	10,214
<b>Totals</b>	<b>84</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,806</b>	<b>88,772</b>	<b>73</b>	<b>104,735</b>
<u>Anoka County, City of FRIDLEY -- ECO FINISHING COMPANY --5100 INDUSTRIAL BLVD --ERCID -- 020550069</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	33,690	33,690
Nickel Compounds	480	0	0	0	1,030	0	0	1,510
Nitric Acid	0	0	0	0	0	33,690	0	33,690
Cyanide Compounds	0	0	0	0	0	3,467	5	3,472
Zinc Compounds	255	0	0	0	19,324	0	0	19,579
<b>Totals</b>	<b>735</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20,354</b>	<b>37,157</b>	<b>33,695</b>	<b>91,941</b>
<u>Anoka County, City of FRIDLEY -- KURT MANUFACTURING CO. --5280 MAIN ST NE --ERCID -- 020550071</u>								
Nitric Acid	0	0	0	0	0	5,236	35,682	40,918
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,236</b>	<b>35,682</b>	<b>40,918</b>
<u>Anoka County, City of FRIDLEY -- KURT MANUFACTURING DIE CAST --7585 HWY 65 --ERCID -- 020550014</u>								
Aluminum (fume or dust)	25,163	0	0	0	0	0	0	25,163
Copper	888	0	0	86,533	15,371	0	0	102,792
<b>Totals</b>	<b>26,051</b>	<b>0</b>	<b>0</b>	<b>86,533</b>	<b>15,371</b>	<b>0</b>	<b>0</b>	<b>127,955</b>
<u>Anoka County, City of FRIDLEY -- KWIK-FILE, LLC --490 NORTHCO DR NE --ERCID -- 020550066</u>								
N-butyl Alcohol	11,061	0	1,232	0	0	0	0	12,293
<b>Totals</b>	<b>11,061</b>	<b>0</b>	<b>1,232</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,293</b>
<u>Anoka County, City of FRIDLEY -- LARSEN'S MFG. CO. --7421 COMMERCE LANE NE --ERCID -- 020550053</u>								
Trichloroethylene	16,506	0	0	0	666	0	0	17,172
<b>Totals</b>	<b>16,506</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>666</b>	<b>0</b>	<b>0</b>	<b>17,172</b>
<u>Anoka County, City of FRIDLEY -- MINNCAST, INC. --200 NE SOUTH COMMERCE CIRCLE --ERCID -- 020550056</u>								
Manganese	650	0	0	0	450	0	0	1,100
Chromium	950	0	0	0	390	0	0	1,340





Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Blue Earth County, City of MANKATO -- MGA GRAPHICS, INC. --215 MAXFIELD ST --ERCID -- 071000010</u>								
Nitric Acid	165	0	0	0	0	13,971	0	14,136
<b>Totals</b>	<b>165</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,971</b>	<b>0</b>	<b>14,136</b>
<u>Blue Earth County, City of MANKATO -- MIDWEST ELECTRIC PRODUCTS --HWY 22 N --ERCID -- 071000011</u>								
Copper	36	0	0	0	182,000	0	0	182,036
<b>Totals</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>182,000</b>	<b>0</b>	<b>0</b>	<b>182,036</b>
<u>Blue Earth County, City of MANKATO -- THE DOTSON COMPANY, INC. --200 W ROCK ST --ERCID -- 071000082</u>								
Manganese	2,814	0	0	0	37,357	0	0	40,171
Copper	938	0	0	0	12,452	0	0	13,390
Nickel	1,878	0	0	0	24,905	0	0	26,783
<b>Totals</b>	<b>5,630</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74,714</b>	<b>0</b>	<b>0</b>	<b>80,344</b>
<u>Brown County, City of NEW ULM -- 3M - ELECTRICAL PRODUCTS DIVISION --1700 NORTH MINNESOTA STREET -- ERCID --</u>								
Diisocyanates	0	0	0	0	0	0	500	500
Zinc Compounds	8,700	0	0	0	13,000	0	0	21,700
Antimony Compounds	1,100	0	0	5,300	10,000	0	0	16,400
Lead Compounds	2,600	0	0	6,700	12,000	0	0	21,300
Decabromodiphenyl Oxide	0	0	0	0	4,300	0	200	4,500
Chromium Compounds	2,400	0	0	9,200	1,700	0	0	13,300
1,1-dichloro-1-fluoroethane	5,600	0	0	0	3,900	0	3,700	13,200
Copper Compounds	570	0	0	0	540,000	0	0	540,570
<b>Totals</b>	<b>20,970</b>	<b>0</b>	<b>0</b>	<b>21,200</b>	<b>584,900</b>	<b>0</b>	<b>4,400</b>	<b>631,470</b>
<u>Brown County, City of SPRINGFIELD -- COLEMAN POWERMATE COMPRESSORS --118 W ROCK ST --ERCID -- 081050012</u>								
Xylene (mixed isomers)	38,695	0	252	0	588	0	0	39,535
<b>Totals</b>	<b>38,695</b>	<b>0</b>	<b>252</b>	<b>0</b>	<b>588</b>	<b>0</b>	<b>0</b>	<b>39,535</b>
<u>Carlton County, City of CARLTON -- CHEMSTAR PRODUCTS CO. --131 SOUTH AVE --ERCID -- 090350002</u>								
Propylene Oxide	750	0	0	0	0	0	0	750
<b>Totals</b>	<b>750</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>750</b>
<u>Carlton County, City of CLOQUET -- POTLATCH CORP. --2201 AVE B --ERCID -- 090400003</u>								
Methanol	108,368	2,177,773	0	0	0	0	7,114,328	9,400,469
Formic Acid	5	0	0	0	0	0	800	805
Phenol	229	143	0	0	0	0	1,275	1,647

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Manganese Compounds	66,589	0	0	0	0	0	0	66,589
Barium Compounds	43,256	0	0	0	0	0	0	43,256
Chlorine	514	0	0	0	0	0	0	514
Hydrochloric Acid (aerosol forms only)	28,945	0	0	0	0	0	0	28,945
Chlorine Dioxide	12,763	0	0	0	0	0	0	12,763
Ammonia	46,423	110,513	0	0	0	0	3,149	160,085
Acetaldehyde	11,265	18,449	0	0	0	0	7,775	37,489
Catechol	0	144,410	0	0	0	0	722	145,132
<b>Totals</b>	<b>318,357</b>	<b>2,451,288</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,128,049</b>	<b>9,897,694</b>
<u>Carlton County, City of CLOQUET -- USG INTERIORS, INC. --35 ARCH ST --ERCID -- 090400005</u>								
Formaldehyde	14,080	0	0	0	0	0	0	14,080
Vinyl Acetate	2,147	0	0	0	0	0	0	2,147
<b>Totals</b>	<b>16,227</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16,227</b>
<u>Carver County, City of BONGARDS -- BONGARDS' CREAMERIES --13200 CO RD 51 --ERCID -- 100100001</u>								
Ammonia	360	0	0	16,100	0	0	0	16,460
Nitrate Compounds (water dissociable)	3,000	0	0	0	0	429,000	0	432,000
Nitric Acid	560	0	0	0	0	432,000	0	432,560
<b>Totals</b>	<b>3,920</b>	<b>0</b>	<b>0</b>	<b>16,100</b>	<b>0</b>	<b>861,000</b>	<b>0</b>	<b>881,020</b>
<u>Carver County, City of CHANHASSEN -- ROBERTS AUTOMATIC PRODUCTS --880 LAKE DRV --ERCID -- 100300009</u>								
Dichloromethane	11,748	0	0	3,500	0	0	0	15,248
<b>Totals</b>	<b>11,748</b>	<b>0</b>	<b>0</b>	<b>3,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,248</b>
<u>Carver County, City of CHANHASSEN -- ROSEMOUNT, INC. --8200 MARKET BLVD --ERCID -- 100300008</u>								
Nickel	0	0	0	0	47,499	0	0	47,499
Chromium	0	0	0	0	49,254	0	0	49,254
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>96,753</b>	<b>0</b>	<b>0</b>	<b>96,753</b>
<u>Carver County, City of CHASKA-- LAKE REGION MFG. CO. --340 LAKE HAZELTINE DR --ERCID -- 100350017</u>								
Cyclohexane	29,900	0	2,794	0	0	0	0	32,694
<b>Totals</b>	<b>29,900</b>	<b>0</b>	<b>2,794</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32,694</b>
<u>Carver County, City of CHASKA-- LIFECORE BIOMEDICAL, INC. --3515 LYMANBLVD --ERCID -- 100350038</u>								
Methanol	100	0	60,988	0	0	0	0	61,088
<b>Totals</b>	<b>100</b>	<b>0</b>	<b>60,988</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>61,088</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Carver County, City of CHASKA-- MAMMOTH INCORPORATED --101 W 82ND ST --ERCID -- 100350041</u>								
Xylene (mixed isomers)	16,416	0	1,011	0	0	0	0	17,427
<b>Totals</b>	<b>16,416</b>	<b>0</b>	<b>1,011</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17,427</b>
<u>Carver County, City of CHASKA-- MCLAUGHLIN GORMLEY KING CO. --4001 PEAVEY RD --ERCID -- 100350008</u>								
Dichloromethane	23,375	0	0	0	35,852	0	0	59,227
Methanol	3,356	0	0	0	0	0	0	3,356
<b>Totals</b>	<b>26,731</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,852</b>	<b>0</b>	<b>0</b>	<b>62,583</b>
<u>Carver County, City of CHASKA-- QUALI TECH, INC. (DIVISION 1) --318 LAKE HAZELTINE DRV --ERCID -- 100350031</u>								
Manganese Compounds	393	0	0	9,859	0	0	0	10,252
Zinc Compounds	824	0	0	31,528	0	0	0	32,352
Copper Compounds	24	0	0	5,425	0	0	0	5,449
<b>Totals</b>	<b>1,241</b>	<b>0</b>	<b>0</b>	<b>46,812</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>48,053</b>
<u>Carver County, City of CHASKA-- SUPER RADIATOR COILS --104 PEAVEY ROAD --ERCID -- 100350047</u>								
Chromium	3	0	0	0	10,734	0	0	10,737
Tetrachloroethylene	40,421	0	28,600	0	0	0	0	69,021
Nickel	2	0	0	0	8,049	0	0	8,051
Copper	45	0	0	0	138,395	0	0	138,440
<b>Totals</b>	<b>40,471</b>	<b>0</b>	<b>28,600</b>	<b>0</b>	<b>157,178</b>	<b>0</b>	<b>0</b>	<b>226,249</b>
<u>Carver County, City of WACONIA -- MANUS PRODUCTS INC --866 INDUSTRIAL BLVD WEST --ERCID -- 101000019</u>								
Xylene (mixed isomers)	3,370	0	0	0	0	0	0	3,370
<b>Totals</b>	<b>3,370</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,370</b>
<u>Carver County, City of WACONIA -- MEDALLION KITCHENS OF MN --180 INDUSTRIAL BLVD --ERCID -- 101000008</u>								
Glycol Ethers	10,459	0	769	0	0	0	5	11,233
Ethylbenzene	8,611	0	762	0	0	0	5	9,378
Xylene (mixed isomers)	42,103	0	3,093	0	0	0	5	45,201
Toluene	15,872	0	1,161	0	0	0	5	17,038
<b>Totals</b>	<b>77,045</b>	<b>0</b>	<b>5,785</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>82,850</b>
<u>Carver County, City of WACONIA -- PRO-TECH, INC. --902 S PINE, INDUSTRIAL PARK --ERCID -- 101000001</u>								
Copper Compounds	2	0	0	0	24,531	0	0	24,533
<b>Totals</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24,531</b>	<b>0</b>	<b>0</b>	<b>24,533</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Cass County, City of BACKUS -- EVELAND'S INC. --HWY 371 N --ERCID -- 110100004</u>								
Styrene	6,725	0	0	0	0	0	0	6,725
<b>Totals</b>	<b>6,725</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,725</b>
<u>Chisago County, City of WYOMING -- SUNRISE FIBERGLASS --26467 FALLBROOK AVE --ERCID -- 131050003</u>								
Styrene	30,031	0	0	0	0	0	0	30,031
<b>Totals</b>	<b>30,031</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30,031</b>
<u>Clay County, City of MOORHEAD -- AMERICAN CRYSTAL SUGAR CO. - MOORHEAD --2500 N 11TH ST --ERCID -- 141450014</u>								
Ammonia	188,600	0	0	0	0	19,600	0	208,200
Hydrochloric Acid (aerosol forms only)	500	0	0	0	0	207,627	0	208,127
<b>Totals</b>	<b>189,100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>227,227</b>	<b>0</b>	<b>416,327</b>
<u>Clay County, City of MOORHEAD -- AMOCO OIL CO. --1101 SE MAIN AVE --ERCID -- 141450005</u>								
1,2,4-trimethylbenzene	10	0	0	75	0	4,045	0	4,130
Ethylbenzene	10	0	0	20	0	3,310	1	3,341
N-hexane	450	0	0	30	0	9,355	0	9,835
Toluene	320	0	0	210	0	27,610	15	28,155
Benzene	300	0	0	40	0	9,535	1	9,876
Xylene (mixed isomers)	120	0	0	15	0	16,490	1	16,626
<b>Totals</b>	<b>1,210</b>	<b>0</b>	<b>0</b>	<b>390</b>	<b>0</b>	<b>70,345</b>	<b>18</b>	<b>71,963</b>
<u>Crow Wing County, City of BRAINERD -- ACROMETAL --210 NE 10TH AVE --ERCID -- 180150007</u>								
Phenol	368	0	0	378	0	0	0	746
<b>Totals</b>	<b>368</b>	<b>0</b>	<b>0</b>	<b>378</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>746</b>
<u>Crow Wing County, City of BRAINERD -- LARCO, INC. --1902 13TH ST SE --ERCID -- 180150008</u>								
Di(2-ethylhexyl) Phthalate	2,995	0	0	0	0	0	218	3,213
<b>Totals</b>	<b>2,995</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>218</b>	<b>3,213</b>
<u>Crow Wing County, City of BRAINERD -- NORTH STAR PLATING CO. --2110 S 10TH ST --ERCID -- 180150001</u>								
Nickel	54	0	0	0	12,305	0	0	12,359
<b>Totals</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,305</b>	<b>0</b>	<b>0</b>	<b>12,359</b>
<u>Crow Wing County, City of DEERWOOD -- PARKER HANNIFIN CORP. --325 FRONT ST --ERCID -- 180540001</u>								
Lead	2	0	0	0	10,725	0	0	10,727
Manganese	2	0	0	0	53,625	0	0	53,627
<b>Totals</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,350</b>	<b>0</b>	<b>0</b>	<b>64,354</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Crow Wing County, City of DEERWOOD -- TRUS JOIST MACMILLAN --CO RD 102 --ERCID -- 180540008</u>								
Diisocyanates	4,410	37,140	0	0	0	0	0	41,550
<b>Totals</b>	<b>4,410</b>	<b>37,140</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>41,550</b>
<u>Dakota County, City of BURNSVILLE -- NSP - BLACK DOG PLANT --1400 E BLACK DOG RD --ERCID -- 190060002</u>								
Barium Compounds	180,000	0	0	0	0	0	0	180,000
Hydrogen Fluoride	17,000	0	0	0	0	17,000	0	34,000
Hydrochloric Acid (aerosol forms only)	5,500	0	0	0	0	22,000	0	27,500
<b>Totals</b>	<b>202,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39,000</b>	<b>0</b>	<b>241,500</b>
<u>Dakota County, City of BURNSVILLE -- PRINCESS MARBLE COMPANY --14255 SOUTHCROSS DR --ERCID -- 190060075</u>								
Styrene	16,700	0	0	0	0	0	0	16,700
<b>Totals</b>	<b>16,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16,700</b>
<u>Dakota County, City of EAGAN -- BO-DECOR METAL FINISHING INC --3350 MIKE COLLINS DR --ERCID -- 190250104</u>								
Nickel	24	0	0	0	12,000	0	0	12,024
<b>Totals</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,000</b>	<b>0</b>	<b>0</b>	<b>12,024</b>
<u>dakota County, City of EAGAN -- FINISHING EQUIPMENT, INC. --3640 KENNEBEC DRIVE --ERCID -- 190250111</u>								
Trichloroethylene	5,900	0	0	0	0	0	0	5,900
Dichloromethane	4,400	0	0	0	0	0	0	4,400
<b>Totals</b>	<b>10,300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,300</b>
<u>Dakota County, City of EAGAN -- GOPHER RESOURCE CORP. --3385 S HWY 149 --ERCID -- 190250016</u>								
Lead	270,000	0	0	180,000,000	0	0	0	180,270,000
Antimony	22,000	0	0	3,950,000	0	0	0	3,972,000
Arsenic	13,000	0	0	900,000	0	0	0	913,000
Copper	51,000	0	0	360,000	0	0	0	411,000
<b>Totals</b>	<b>356,000</b>	<b>0</b>	<b>0</b>	<b>185,210,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>185,566,000</b>
<u>Dakota County, City of EAGAN -- KIK MINNESOTA --990 APOLLO RD --ERCID -- 190250015</u>								
Methanol	246	0	0	0	0	0	605	851
<b>Totals</b>	<b>246</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>605</b>	<b>851</b>
<u>Dakota County, City of EAGAN -- WATER HEATER INNOVATIONS, INC. --3107 SIBLEY MEMORIAL HWY --ERCID -- 190250027</u>								
Styrene	11,732	0	186	0	0	0	0	11,918
<b>Totals</b>	<b>11,732</b>	<b>0</b>	<b>186</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11,918</b>



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Phenol	690	0	0	170	2	110,000	0	110,862
Propylene	22,000	0	0	0	0	400,000	0	422,000
Selenium Compounds	2,400	0	0	3,600	20	0	0	6,020
Toluene	84,000	0	0	43,000	350	56,000	52	183,402
Nitrate Compounds (water dissociable)	830,000	0	0	0	0	0	0	830,000
Cumene	150	0	0	28	2	1	43	224
Benzene	10,000	0	0	5,400	630	59,000	94	75,124
Polycyclic Aromatic Compounds	180	0	0	0	0	0	0	180
N-hexane	100,000	0	0	12,000	0	38,000	0	150,000
Chlorine	2,500	0	0	0	0	0	0	2,500
Carbonyl Sulfide	620	0	0	0	0	360,000	0	360,620
1,2,4-trimethylbenzene	5,600	0	0	3,800	10	170	38	9,618
Ammonia	17,000	0	0	0	0	23,000	17	40,017
Anthracene	57	0	0	0	0	0	0	57
Barium Compounds	2,100	0	0	5,300	12	0	0	7,412
Zinc Compounds	9,000	0	0	0	51,000	0	0	60,000
Tert-butyl Alcohol	97	0	0	0	0	0	0	97
<b>Totals</b>	<b>1,364,332</b>	<b>0</b>	<b>0</b>	<b>137,338</b>	<b>73,187</b>	<b>2,758,151</b>	<b>482</b>	<b>4,333,490</b>
<u>Dakota County, City of LAKEVILLE -- CHEMCENTRAL/MINNESOTA --21675 HAMBURG AVE --ERCID -- 190800001</u>								
Methyl Ethyl Ketone	460	0	320	0	0	0	0	780
Methanol	290	0	480	0	0	0	0	770
Toluene	440	0	960	0	0	0	0	1,400
Xylene (mixed isomers)	1,000	0	540	0	0	0	0	1,540
<b>Totals</b>	<b>2,190</b>	<b>0</b>	<b>2,300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,490</b>
<u>Dakota County, City of LAKEVILLE -- CROWN CORK &amp; SEAL CO. --8215 220TH ST W --ERCID -- 190800011</u>								
Glycol Ethers	150,000	0	0	0	0	0	0	150,000
Manganese Compounds	280	0	0	0	0	0	0	280
Hydrogen Fluoride	0	0	0	0	0	19,000	0	19,000
N-butyl Alcohol	180,000	0	0	0	0	0	0	180,000
<b>Totals</b>	<b>330,280</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,000</b>	<b>0</b>	<b>349,280</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Dakota County, City of MENDOTA HEIGHTS -- APPLIED COATING TECHNOLOGY, INC. --2411 PILOT KNOB RD --ERCID -- 191050001</u>								
Methyl Ethyl Ketone	28,000	0	3,000	18,000	6,200	0	0	55,200
Toluene	11,000	0	1,700	630	210	0	0	13,540
<b>Totals</b>	<b>39,000</b>	<b>0</b>	<b>4,700</b>	<b>18,630</b>	<b>6,410</b>	<b>0</b>	<b>0</b>	<b>68,740</b>
<u>Dakota County, City of ROSEMOUNT -- DPC INDUSTRIES, INC. --12800 PINE BEND TRAIL --ERCID -- 191450018</u>								
Chlorine	229	0	0	0	0	0	0	229
<b>Totals</b>	<b>229</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>229</b>
<u>Dakota County, City of ROSEMOUNT -- KOCH SULFUR PRODUCTS COMPANY --13155 COURTHOUSE BLVD --ERCID -- 191450006</u>								
Toluene	1,800	0	0	0	0	0	0	1,800
Benzene	490	0	0	0	0	0	0	490
Sulfuric Acid (aerosol forms only)	30,000	0	0	0	0	0	0	30,000
Xylene (mixed isomers)	1,700	0	0	0	0	0	0	1,700
N-hexane	1,200	0	0	0	0	0	0	1,200
<b>Totals</b>	<b>35,190</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,190</b>
<u>Dakota County, City of ROSEMOUNT -- SPECTRO ALLOYS CORP. --13220 DOYLE PATH --ERCID -- 191450009</u>								
Copper	3,051	0	0	0	0	0	0	3,051
Aluminum (fume or dust)	72,771	0	0	0	0	0	0	72,771
Nickel	115	0	0	0	0	0	0	115
Hydrochloric Acid (aerosol forms only)	1,572	0	0	0	0	77,444	0	79,016
Chlorine	25	0	0	0	0	0	0	25
<b>Totals</b>	<b>77,534</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77,444</b>	<b>0</b>	<b>154,978</b>
<u>Dakota County, City of ROSEMOUNT -- U OF MN - ROSEMOUNT RESEARCH CENTER --15325 BABCOCK AVE --ERCID -- 191450017</u>								
Ammonia	154,901	0	0	0	0	0	0	154,901
<b>Totals</b>	<b>154,901</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>154,901</b>
<u>DAKOTA County, City of ROSEMOUNT -- WASTEQUIP/RAYFO --15629 CLAYTON AVE E --ERCID -- 191450051</u>								
Toluene	20,652	0	0	0	0	0	0	20,652
Xylene (mixed isomers)	56,647	0	0	0	0	0	0	56,647
<b>Totals</b>	<b>77,299</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77,299</b>
<u>Dakota County, City of SOUTH ST. PAUL -- DAKOTA PREMIUM FOODS --425 S CONCORD ST --ERCID -- 191550019</u>								
Ammonia	10,816	0	0	0	0	0	975	11,791
<b>Totals</b>	<b>10,816</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>975</b>	<b>11,791</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Dakota County, City of SOUTH ST. PAUL -- TWIN CITY TANNING COMPANY, LLP --501 MALDEN ST --ERCID -- 191550005</u>								
Manganese Compounds	61,000	0	0	0	0	0	0	61,000
Chromium Compounds	5,862	0	0	9,644	0	0	0	15,506
Ammonia	17,960	0	0	0	0	0	53,880	71,840
<b>Totals</b>	<b>84,822</b>	<b>0</b>	<b>0</b>	<b>9,644</b>	<b>0</b>	<b>0</b>	<b>53,880</b>	<b>148,346</b>
<u>Dakota County, City of SOUTH ST. PAUL -- VAN HOVEN CO., INC. --505 HARDMAN AVE --ERCID -- 191550003</u>								
Chlorine	704	0	0	0	0	0	0	704
Ammonia	0	0	0	0	0	0	10,050	10,050
<b>Totals</b>	<b>704</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,050</b>	<b>10,754</b>
<u>Dakota County, City of SOUTH ST. PAUL -- WATEROUS CO. --125 HARDMAN AVE. S. --ERCID -- 191550013</u>								
Xylene (mixed isomers)	48,900	0	0	14,000	800	0	0	63,700
<b>Totals</b>	<b>48,900</b>	<b>0</b>	<b>0</b>	<b>14,000</b>	<b>800</b>	<b>0</b>	<b>0</b>	<b>63,700</b>
<u>Dodge County, City of DODGE CENTER -- MCNEILUS TRUCK &amp; MFG., INC. --HWY 14 E BOX 70 --ERCID -- 200300001</u>								
Nickel	1	0	0	0	54,000	0	0	54,001
N-butyl Alcohol	40,000	0	7,700	0	0	0	0	47,700
Zinc Compounds	50,000	0	0	0	0	0	0	50,000
Manganese	340	0	0	0	180,000	0	0	180,340
Methyl Ethyl Ketone	67,000	0	70,000	0	18,000	0	0	155,000
Toluene	8,500	0	4,400	0	0	0	0	12,900
Xylene (mixed isomers)	33,000	0	5,900	0	0	0	0	38,900
Methyl Isobutyl Ketone	34,000	0	5,900	0	0	0	0	39,900
<b>Totals</b>	<b>232,841</b>	<b>0</b>	<b>93,900</b>	<b>0</b>	<b>252,000</b>	<b>0</b>	<b>0</b>	<b>578,741</b>
<u>Douglas County, City of ALEXANDRIA -- 3M - ABRASIVES SYS. DIV. --2115 S BROADWAY --ERCID -- 210050001</u>								
Formaldehyde	11,000	0	0	0	0	0	600	11,600
Methyl Ethyl Ketone	8,000	0	0	0	0	0	3,600	11,600
Phenol	30,000	0	0	0	0	0	900	30,900
2-ethoxyethanol	13,000	0	0	0	0	0	700	13,700
<b>Totals</b>	<b>62,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,800</b>	<b>67,800</b>
<u>Douglas County, City of ALEXANDRIA -- DOUGLAS MACHINE --3404 IOWA ST --ERCID -- 210050019</u>								
Nitric Acid	27	0	0	0	0	17,010	0	17,037
Zinc Compounds	1,343	0	0	0	3,603	0	0	4,946

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>1,370</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,603</b>	<b>17,010</b>	<b>0</b>	<b>21,983</b>
<u>Douglas County, City of ALEXANDRIA -- NORTHERN FOOD AND DAIRY, INC --601 THIRD AVE W --ERCID -- 210050003</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	67,497	67,497
Nitric Acid	0	0	0	0	0	67,497	0	67,497
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>67,497</b>	<b>67,497</b>	<b>134,994</b>
<u>Faribault County, City of BLUE EARTH -- DARLING INTERNATIONAL INC. --9000 382ND AVENUE --ERCID -- 220100001</u>								
Chlorine	0	0	0	0	0	18,000	0	18,000
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18,000</b>	<b>0</b>	<b>18,000</b>
<u>Faribault County, City of ELMORE -- ELMORE TRUCK ACCESSORIES, INC. --107 E WILLIS --ERCID -- 220390003</u>								
Styrene	12,182	0	0	0	0	0	0	12,182
<b>Totals</b>	<b>12,182</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,182</b>
<u>Faribault County, City of WINNEBAGO -- CORN PLUS --711 6TH AVE SE --ERCID -- 221100019</u>								
Ammonia	1,045	0	0	0	0	0	0	1,045
<b>Totals</b>	<b>1,045</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,045</b>
<u>Fillmore County, City of CHATFIELD -- STRONGWELL - CHATFIELD DIVISION --1610 HWY 52 S --ERCID -- 230500002</u>								
Styrene	52,000	0	840	0	0	0	0	52,840
Methyl Ethyl Ketone	11,000	0	1,300	0	3,200	0	0	15,500
N-methyl-2-pyrrolidone	7,600	0	2,500	0	16,000	0	26	26,126
Decabromodiphenyl Oxide	930	0	930	0	0	0	0	1,860
Phenol	16,000	0	330	0	0	0	0	16,330
Antimony Compounds	380	0	0	0	0	0	0	380
<b>Totals</b>	<b>87,910</b>	<b>0</b>	<b>5,900</b>	<b>0</b>	<b>19,200</b>	<b>0</b>	<b>26</b>	<b>113,036</b>
<u>Freeborn County, City of ALBERT LEA -- ALBERT LEA ELECTROPLATING, INC. --808 12TH ST BOX 89 --ERCID -- 240050006</u>								
Zinc Compounds	260	0	0	0	8,900	0	0	9,160
Copper	40	0	0	0	100	0	0	140
<b>Totals</b>	<b>300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,000</b>	<b>0</b>	<b>0</b>	<b>9,300</b>
<u>Freeborn County, City of ALBERT LEA -- FARMLAND FOODS INC --1000 E MAIN ST --ERCID -- 240050050</u>								
Ammonia	3,918	0	0	0	0	0	0	3,918
<b>Totals</b>	<b>3,918</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,918</b>
<u>Freeborn County, City of ALBERT LEA -- PROGRESS CASTING GROUP - ALBERT LEA --1521 E HAWTHORNE --ERCID -- 240050044</u>								
Aluminum (fume or dust)	0	0	0	0	32,669	0	0	32,669



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Toluene	1,430	0	0	0	0	0	0	1,430
<b>Totals</b>	<b>1,930</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,930</b>
<u>Goodhue County, City of RED WING -- RED WING SHOES CO. - PLANT 1 --129 MAIN ST --ERCID -- 251100008</u>								
Toluene	15,373	0	1,888	0	0	0	0	17,261
<b>Totals</b>	<b>15,373</b>	<b>0</b>	<b>1,888</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17,261</b>
<u>Goodhue County, City of RED WING -- RED WING SHOES CO. - PLANT II --135 CANNON RIVER AVE --ERCID -- 251100001</u>								
Toluene	11,725	0	1,016	0	0	0	0	12,741
<b>Totals</b>	<b>11,725</b>	<b>0</b>	<b>1,016</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,741</b>
<u>Goodhue County, City of RED WING -- S.B. FOOT TANNING --805 BENCH ST --ERCID -- 251100002</u>								
Glycol Ethers	103,000	0	0	0	0	0	19,600	122,600
Formic Acid	10,200	0	0	0	0	0	2	10,202
Chromium Compounds	59,886	0	0	0	0	0	0	59,886
<b>Totals</b>	<b>173,086</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,602</b>	<b>192,688</b>
<u>Goodhue County, City of RED WING -- USG INTERIORS, INC. --27384 HWY 61 BLVD --ERCID -- 251100009</u>								
Carbonyl Sulfide	210,582	0	0	0	0	174,651	0	385,233
<b>Totals</b>	<b>210,582</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>174,651</b>	<b>0</b>	<b>385,233</b>
<u>Goodhue County, City of ZUMBROTA -- DAIRY FARMERS OF AMERICA --1313 NORTH STAR DRV --ERCID -- 251600002</u>								
Nitric Acid	0	0	0	0	0	106,445	0	106,445
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	106,445	106,445
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>106,445</b>	<b>106,445</b>	<b>212,890</b>
<u>Grant County, City of BARRETT -- TWF INDUSTRIES, INC. --HWY 55 --ERCID -- 260100004</u>								
Methyl Ethyl Ketone	14,464	0	62	0	1,177	0	0	15,703
<b>Totals</b>	<b>14,464</b>	<b>0</b>	<b>62</b>	<b>0</b>	<b>1,177</b>	<b>0</b>	<b>0</b>	<b>15,703</b>
<u>Hennepin County, City of BLOOMINGTON -- CENTURY MANUFACTURING CO. --9231 PENN AVE S --ERCID -- 270050112</u>								
Copper	0	0	0	0	5,500	0	0	5,500
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,500</b>	<b>0</b>	<b>0</b>	<b>5,500</b>
<u>Hennepin County, City of BLOOMINGTON -- CHEMREX INC. --333 W 86TH ST --ERCID -- 270050008</u>								
1,2,4-trimethylbenzene	5,890	0	5,560	22,900	0	0	0	34,350
Xylene (mixed isomers)	2,680	0	640	2,150	0	0	0	5,470
<b>Totals</b>	<b>8,570</b>	<b>0</b>	<b>6,200</b>	<b>25,050</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39,820</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of BLOOMINGTON -- CYPRESS SEMICONDUCTOR --2401 E 86TH ST --ERCID -- 270050010</u>								
Hydrogen Fluoride	10	0	0	0	0	10,104	0	10,114
<b>Totals</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,104</b>	<b>0</b>	<b>10,114</b>
<u>Hennepin County, City of BLOOMINGTON -- FLAME METALS, PLANT #3 --1900 W 98TH ST --ERCID -- 270050080</u>								
Tetrachloroethylene	20,500	0	0	0	3,600	0	0	24,100
<b>Totals</b>	<b>20,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,600</b>	<b>0</b>	<b>0</b>	<b>24,100</b>
<u>Hennepin County, City of BLOOMINGTON -- PRINTED CIRCUITS, INC. --1200 W 96TH ST --ERCID -- 270050007</u>								
Copper Compounds	24	0	0	0	4,700	0	0	4,724
<b>Totals</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,700</b>	<b>0</b>	<b>0</b>	<b>4,724</b>
<u>Hennepin County, City of BLOOMINGTON -- SEAGATE TECHNOLOGY, INC. --7801 COMPUTER AVE S --ERCID -- 270050005</u>								
Ethylene Glycol	0	0	19,856	0	0	0	9,514	29,370
N-methyl-2-pyrrolidone	0	0	0	0	444,619	0	38,525	483,144
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>19,856</b>	<b>0</b>	<b>444,619</b>	<b>0</b>	<b>48,039</b>	<b>512,514</b>
<u>Hennepin County, City of BLOOMINGTON -- THERMO KING CORP. --314 W 90TH ST --ERCID -- 270050009</u>								
Copper	5	0	0	0	7,600	0	0	7,605
<b>Totals</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,600</b>	<b>0</b>	<b>0</b>	<b>7,605</b>
<u>Hennepin County, City of BLOOMINGTON -- VTC, INC. D.B.A. POLARFAB --2800 E OLD SHAKOPEE RD --ERCID -- 270050011</u>								
N-methyl-2-pyrrolidone	13,477	0	35,319	0	2,721	0	3,370	54,887
Hydrogen Fluoride	792	0	0	0	0	14,906	151	15,849
<b>Totals</b>	<b>14,269</b>	<b>0</b>	<b>35,319</b>	<b>0</b>	<b>2,721</b>	<b>14,906</b>	<b>3,521</b>	<b>70,736</b>
<u>Hennepin County, City of BROOKLYN PARK -- MEDTRONIC INC., PERFUSION SYSTEMS --7611 NORTHLAND DRIVE --ERCID --</u>								
Diisocyanates	16,000	0	0	0	0	0	0	16,000
Toluene	29,000	0	130	2,200	0	0	0	31,330
<b>Totals</b>	<b>45,000</b>	<b>0</b>	<b>130</b>	<b>2,200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>47,330</b>
<u>Hennepin County, City of BROOKLYN PARK -- PEARL MANUFACTURING, INC. --9224 73RD AVE N --ERCID -- 270150003</u>								
Styrene	155,397	0	0	0	0	0	0	155,397
<b>Totals</b>	<b>155,397</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>155,397</b>
<u>Hennepin County, City of BROOKLYN PARK -- THOMAS ENGINEERING CO. --7024 NORTHLAND DRV --ERCID -- 270150033</u>								
Copper	15	0	0	0	484,124	0	0	484,139
Trichloroethylene	8,310	0	0	16,620	0	0	0	24,930
Chromium	12	0	0	0	52,916	0	0	52,928

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Nickel	1	0	0	0	26,457	0	0	26,458
<b>Totals</b>	<b>8,338</b>	<b>0</b>	<b>0</b>	<b>16,620</b>	<b>563,497</b>	<b>0</b>	<b>0</b>	<b>588,455</b>
<u>Hennepin County, City of EDEN PRAIRIE -- APPLIED COATING TECHNOLOGY, INC. --12150 TECHNOLOGY DRV --ERCID --</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	43,000	43,000
Nitric Acid	34	0	0	0	0	32,000	0	32,034
<b>Totals</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32,000</b>	<b>43,000</b>	<b>75,034</b>
<u>Hennepin County, City of EDEN PRAIRIE -- DOUGLAS CORPORATION --9650 VALLEYVIEW ROAD --ERCID -- 270560076</u>								
Glycol Ethers	11,600	0	0	0	0	0	0	11,600
Xylene (mixed isomers)	10,800	0	0	0	2,000	0	0	12,800
Toluene	33,600	0	0	0	2,000	0	0	35,600
Methyl Isobutyl Ketone	18,600	0	0	0	0	0	0	18,600
Methyl Ethyl Ketone	90,600	0	0	0	191,400	0	1,200	283,200
<b>Totals</b>	<b>165,200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>195,400</b>	<b>0</b>	<b>1,200</b>	<b>361,800</b>
<u>Hennepin County, City of EDEN PRAIRIE -- EATON CORP. - HYDRAULICS DIV. --15151 HWY 5 --ERCID -- 270560020</u>								
Manganese	135	0	0	0	22,805	0	0	22,940
Nickel	8	0	0	0	7,548	0	0	7,556
<b>Totals</b>	<b>143</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30,353</b>	<b>0</b>	<b>0</b>	<b>30,496</b>
<u>Hennepin County, City of EDEN PRAIRIE -- GUSTAFSON, INC. --7490 GOLDEN TRIANGLE DRIVE --ERCID -- 270560069</u>								
Chromium	7	0	0	0	7,856	0	0	7,863
<b>Totals</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,856</b>	<b>0</b>	<b>0</b>	<b>7,863</b>
<u>Hennepin County, City of EDINA -- FILMTEC CORP. --7200 OHMS LANE --ERCID -- 270600002</u>								
1,3-phenylenediamine	0	0	0	0	0	0	35,449	35,449
N,n-dimethylformamide	9,760	0	0	0	0	0	2,019,333	2,029,093
Methanol	1,445	0	0	0	0	0	34,690	36,135
<b>Totals</b>	<b>11,205</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,089,472</b>	<b>2,100,677</b>
<u>Hennepin County, City of GOLDEN VALLEY-- HONEYWELL --1985 DOUGLAS DRV N --ERCID -- 270700001</u>								
Chromium	357	0	0	225	9,188	0	0	9,770
Trichloroethylene	22,784	0	0	0	6,335	0	43	29,162
Methanol	3,654	0	4,317	0	0	0	0	7,971
Nickel	311	0	0	750	5,614	0	0	6,675
Lead	251	0	0	0	10,236	0	0	10,487

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Copper	403	0	0	5,250	323,847	0	0	329,500
<b>Totals</b>	<b>27,760</b>	<b>0</b>	<b>4,317</b>	<b>6,225</b>	<b>355,220</b>	<b>0</b>	<b>43</b>	<b>393,565</b>
<u>Hennepin County, City of GOLDEN VALLEY-- TENNANT CO. --701 N LILAC DRV --ERCID -- 270700010</u>								
Xylene (mixed isomers)	36,080	0	780	90	0	0	0	36,950
<b>Totals</b>	<b>36,080</b>	<b>0</b>	<b>780</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36,950</b>
<u>Hennepin County, City of HOPKINS -- HONEYWELL ADVANCED CIRCUITS --560 16TH AVE S --ERCID -- 270950001</u>								
Nitric Acid	320	0	0	0	0	85	176,158	176,563
Nickel Compounds	474	0	0	0	9,063	0	0	9,537
Copper	794	0	0	0	45,643	0	0	46,437
<b>Totals</b>	<b>1,588</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>54,706</b>	<b>85</b>	<b>176,158</b>	<b>232,537</b>
<u>Hennepin County, City of HOPKINS -- KANGAS ENAMELING --609 12TH AVE S --ERCID -- 270950044</u>								
Xylene (mixed isomers)	10,100	0	0	0	430	0	0	10,530
<b>Totals</b>	<b>10,100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>430</b>	<b>0</b>	<b>0</b>	<b>10,530</b>
<u>Hennepin County, City of MAPLE GROVE -- ANCHOR WALL SYSTEMS --9177 ZACHARY LANE --ERCID -- 271150035</u>								
Toluene	13,181	0	6,143	0	0	0	0	19,324
<b>Totals</b>	<b>13,181</b>	<b>0</b>	<b>6,143</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,324</b>
<u>Hennepin County, City of MAPLE GROVE -- HANSON SPANCRETE MIDWEST INC --10655 CO RD 81 --ERCID -- 271150036</u>								
Hydrochloric Acid (aerosol forms only)	0	0	0	73,994	0	73,994	0	147,988
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73,994</b>	<b>0</b>	<b>73,994</b>	<b>0</b>	<b>147,988</b>
<u>Hennepin County, City of MAPLE GROVE -- UNIVERSAL CIRCUITS, INC. --8860 ZACHARY LANE --ERCID -- 271150026</u>								
Copper	250	0	0	0	33,628	0	0	33,878
<b>Totals</b>	<b>250</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>33,628</b>	<b>0</b>	<b>0</b>	<b>33,878</b>
<u>Hennepin County, City of MAPLE GROVE -- UNIVERSAL PLASTICS, INC. --10751 89TH AVE N --ERCID -- 271150028</u>								
Styrene	3,012	0	0	0	0	0	0	3,012
<b>Totals</b>	<b>3,012</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,012</b>
<u>Hennepin County, City of MAPLE PLAIN -- ELECTROCHEMICALS, INC. --5630 PIONEER CREEK DR --ERCID -- 271200010</u>								
Glycol Ethers	76	0	1,260	0	0	0	373	1,709
Copper Compounds	488	0	0	0	1,527	0	0	2,015
Nitric Acid	1	0	0	0	0	186	856	1,043
N-methyl-2-pyrrolidone	179	0	460	0	0	0	198	837
<b>Totals</b>	<b>744</b>	<b>0</b>	<b>1,720</b>	<b>0</b>	<b>1,527</b>	<b>186</b>	<b>1,427</b>	<b>5,604</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of MINNEAPOLIS -- APPLIED COATING TECHNOLOGY, INC. --3225 COLUMBIA AVE NE --ERCID -- 271350104</u>								
Methyl Ethyl Ketone	22,000	0	5,000	0	6,600	0	0	33,600
Methyl Isobutyl Ketone	10,000	0	2,200	0	800	0	0	13,000
Glycol Ethers	11,000	0	330	0	0	0	1,300	12,630
Xylene (mixed isomers)	7,100	0	1,200	0	5,600	0	0	13,900
Toluene	10,000	0	1,400	0	11,000	0	0	22,400
<b>Totals</b>	<b>60,100</b>	<b>0</b>	<b>10,130</b>	<b>0</b>	<b>24,000</b>	<b>0</b>	<b>1,300</b>	<b>95,530</b>
<u>Hennepin County, City of MINNEAPOLIS -- BOKER'S, INC. --3104 SNELLING AVE S --ERCID -- 271350429</u>								
Chromium	35	0	0	0	27,310	0	0	27,345
Copper	88	0	0	0	75,191	0	0	75,279
<b>Totals</b>	<b>123</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>102,501</b>	<b>0</b>	<b>0</b>	<b>102,624</b>
<u>Hennepin County, City of MINNEAPOLIS -- DAVIS-FROST, INC. --1209 NE TYLER ST --ERCID -- 271350098</u>								
Toluene	761	0	25,830	0	0	0	0	26,591
Ethylbenzene	508	0	6,199	4,737	0	0	0	11,444
Xylene (mixed isomers)	2,267	0	34,440	21,578	0	0	0	58,285
Dicyclopentadiene	874	0	0	0	0	0	0	874
Glycol Ethers	942	0	0	0	0	0	0	942
<b>Totals</b>	<b>5,352</b>	<b>0</b>	<b>66,469</b>	<b>26,315</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>98,136</b>
<u>Hennepin County, City of MINNEAPOLIS -- DIAMOND VOGEL-NORTH, INC. --2020 N 2ND ST --ERCID -- 271350079</u>								
Xylene (mixed isomers)	8,913	0	79,186	0	0	0	0	88,099
Toluenediisocyanate (mixed isomers)	2,391	0	0	0	0	0	0	2,391
Toluene	1,311	0	15,011	0	0	0	0	16,322
<b>Totals</b>	<b>12,615</b>	<b>0</b>	<b>94,197</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>106,812</b>
<u>Hennepin County, City of MINNEAPOLIS -- DOUGLAS CORP. --620 12TH AVE S --ERCID -- 271350570</u>								
Methyl Ethyl Ketone	26,100	0	0	0	80,200	0	200	106,500
<b>Totals</b>	<b>26,100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80,200</b>	<b>0</b>	<b>200</b>	<b>106,500</b>
<u>Hennepin County, City of MINNEAPOLIS -- ELECTRIC MACHINERY --800 CENTRAL AVE NE --ERCID -- 271350109</u>								
Copper	8,478	0	0	0	47,547	0	0	56,025
Xylene (mixed isomers)	12,250	0	830	0	0	0	0	13,080
<b>Totals</b>	<b>20,728</b>	<b>0</b>	<b>830</b>	<b>0</b>	<b>47,547</b>	<b>0</b>	<b>0</b>	<b>69,105</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of MINNEAPOLIS -- GLOBE TOOL &amp; MFG. CO. --730 24TH AVE SE --ERCID -- 271350187</u>								
Trichloroethylene	20,400	0	0	0	4,200	0	0	24,600
<b>Totals</b>	<b>20,400</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,200</b>	<b>0</b>	<b>0</b>	<b>24,600</b>
<u>Hennepin County, City of MINNEAPOLIS -- GRACO, INC. --60 11TH AVE NE BOX 1441 --ERCID -- 271350027</u>								
Nickel	2	0	0	0	36,000	0	0	36,002
Copper	23	0	0	0	70,000	0	0	70,023
Xylene (mixed isomers)	8,600	0	0	0	22,000	0	0	30,600
Manganese	0	0	0	0	28,000	0	0	28,000
Chromium	7	0	0	0	50,000	0	0	50,007
<b>Totals</b>	<b>8,632</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>206,000</b>	<b>0</b>	<b>0</b>	<b>214,632</b>
<u>Hennepin County, City of MINNEAPOLIS -- HARD CHROME, INC. --2631 2ND ST NE --ERCID -- 271350029</u>								
Chromium Compounds	192	0	0	0	201	188	0	581
Cyanide Compounds	0	0	0	0	0	23,294	1,016	24,310
Zinc Compounds	4,044	0	0	0	166	0	0	4,210
<b>Totals</b>	<b>4,236</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>367</b>	<b>23,482</b>	<b>1,016</b>	<b>29,101</b>
<u>Hennepin County, City of MINNEAPOLIS -- HAWKINS CHEMICAL, INC. --3100 E HENNEPIN AVE --ERCID -- 271350030</u>								
Nitric Acid	26	0	0	0	0	5,692	0	5,718
Ammonia	48	0	0	0	0	19	0	67
<b>Totals</b>	<b>74</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,711</b>	<b>0</b>	<b>5,785</b>
<u>Hennepin County, City of MINNEAPOLIS -- HONEYWELL, INC. - MSPO --2600 RIDGWAY PKWY --ERCID -- 271350033</u>								
Trichloroethylene	5,541	0	0	0	8,211	0	0	13,752
<b>Totals</b>	<b>5,541</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,211</b>	<b>0</b>	<b>0</b>	<b>13,752</b>
<u>Hennepin County, City of MINNEAPOLIS -- ILLBRUCK, INC. --3800 WASHINGTON AVE N --ERCID -- 271350288</u>								
Toluene	16,063	0	3,276	0	0	0	0	19,339
<b>Totals</b>	<b>16,063</b>	<b>0</b>	<b>3,276</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,339</b>
<u>Hennepin County, City of MINNEAPOLIS -- INTERPLASTIC CORP. --2015 NE BROADWAY ST. --ERCID -- 271350108</u>								
Dicyclopentadiene	222	0	1,334	0	0	13,213	0	14,769
Ethylene Glycol	100	0	0	0	0	2,793	0	2,893
Methyl Methacrylate	4	0	3	0	0	163	0	170
Maleic Anhydride	360	0	0	0	0	18,126	0	18,486
Styrene	2,932	0	1,439	0	0	144,490	0	148,861

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Phthalic Anhydride	234	0	0	0	0	4,887	702	5,823
<b>Totals</b>	<b>3,852</b>	<b>0</b>	<b>2,776</b>	<b>0</b>	<b>0</b>	<b>183,672</b>	<b>702</b>	<b>191,002</b>
<u>Hennepin County, City of MINNEAPOLIS -- LEJEUNE STEEL CO. --118 W 60TH ST --ERCID -- 271350226</u>								
Manganese	22	0	0	0	5,949	0	0	5,971
<b>Totals</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,949</b>	<b>0</b>	<b>0</b>	<b>5,971</b>
<u>Hennepin County, City of MINNEAPOLIS -- LINDBERG CORP., METALLURGICAL DIV. --900 E HENNEPIN AVE --ERCID -- 271350107</u>								
Nitrate Compounds (water dissociable)	44,000	0	0	0	0	0	0	44,000
Ammonia	30,000	0	0	0	0	0	0	30,000
<b>Totals</b>	<b>74,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74,000</b>
<u>Hennepin County, City of MINNEAPOLIS -- MARIGOLD FOODS, INC. MINNEAPOLIS PLANT --420 W BROADWAY --ERCID -- 271350040</u>								
Nitric Acid	0	0	0	0	0	18,280	0	18,280
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18,280</b>	<b>0</b>	<b>18,280</b>
<u>Hennepin County, City of MINNEAPOLIS -- MENTOR MINNESOTA OPERATIONS --1615 W RIVER RD N --ERCID -- 271350516</u>								
Toluene	8,954	0	1,272	0	0	0	0	10,226
<b>Totals</b>	<b>8,954</b>	<b>0</b>	<b>1,272</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,226</b>
<u>Hennepin County, City of MINNEAPOLIS -- NICO PRODUCTS, INC. --2929 1ST AVE S --ERCID -- 271350052</u>								
Cyanide Compounds	110	0	0	0	0	0	5,879	5,989
Nickel Compounds	195	0	0	0	1,930	0	0	2,125
Trichloroethylene	33,685	0	0	0	1,295	0	1	34,981
Zinc Compounds	400	0	0	0	43,584	0	0	43,984
Nitric Acid	110	0	0	0	0	3,000	18,422	21,532
<b>Totals</b>	<b>34,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,809</b>	<b>3,000</b>	<b>24,302</b>	<b>108,611</b>
<u>Hennepin County, City of MINNEAPOLIS -- NORTHERN STAR CO. --3171 5TH ST SE --ERCID -- 271350053</u>								
Nitric Acid	0	0	0	0	0	15,375	0	15,375
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	15,129	15,129
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,375</b>	<b>15,129</b>	<b>30,504</b>
<u>Hennepin County, City of MINNEAPOLIS -- NSP - RIVERSIDE PLANT --3100 MARSHALL ST NE --ERCID -- 271350064</u>								
Barium Compounds	300,000	0	0	0	0	0	0	300,000
Hydrochloric Acid (aerosol forms only)	9,500	0	0	0	0	38,000	0	47,500
Sulfuric Acid (aerosol forms only)	27,000	0	0	0	0	15,000	0	42,000
Hydrogen Fluoride	19,000	0	0	0	0	19,000	0	38,000



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of MINNEAPOLIS -- SUPERIOR PLATING, INC. --315 1ST AVE NE --ERCID -- 271350069</u>								
Nickel Compounds	742	0	0	0	8,725	0	0	9,467
Zinc Compounds	700	0	0	0	36,197	0	0	36,897
Chromium Compounds	848	0	0	0	12,623	36,000	0	49,471
Nitric Acid	1,472	0	0	0	0	49,051	0	50,523
Cyanide Compounds	1,246	0	0	0	0	60,880	398	62,524
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	48,300	48,300
<b>Totals</b>	<b>5,008</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57,545</b>	<b>145,931</b>	<b>48,698</b>	<b>257,182</b>
<u>Hennepin County, City of MINNEAPOLIS -- THE BUREAU ELECTRONICS GROUP --3311 BROADWAY NE --ERCID -- 271350011</u>								
Nickel Compounds	620	0	0	0	5,700	0	0	6,320
Formaldehyde	1,100	0	0	0	0	0	18,700	19,800
Copper Compounds	2,800	0	0	0	366,400	0	0	369,200
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	29,755	29,755
Nitric Acid	302	0	0	0	0	30,200	0	30,502
Ammonia	150	0	0	0	8,200	0	1,100	9,450
Glycol Ethers	9,300	0	9,000	0	0	0	7,106	25,406
Sodium Dimethyldithiocarbamate	400	0	0	0	76,819	0	8,535	85,754
<b>Totals</b>	<b>14,672</b>	<b>0</b>	<b>9,000</b>	<b>0</b>	<b>457,119</b>	<b>30,200</b>	<b>65,196</b>	<b>576,187</b>
<u>Hennepin County, City of MINNEAPOLIS -- TWIN CITY PLATING --641 NE HOOVER ST --ERCID -- 271350251</u>								
Nickel Compounds	10	0	0	0	5,582	0	0	5,592
<b>Totals</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,582</b>	<b>0</b>	<b>0</b>	<b>5,592</b>
<u>Hennepin County, City of MINNEAPOLIS -- WEATHER-RITE HEATING &amp; VENT., INC. --616 N 5TH ST --ERCID -- 271350110</u>								
Xylene (mixed isomers)	14,648	0	0	1,200	0	0	0	15,848
<b>Totals</b>	<b>14,648</b>	<b>0</b>	<b>0</b>	<b>1,200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,848</b>
<u>Hennepin County, City of MINNEAPOLIS -- ZALK STEEL &amp; SUPPLY CO. --446 ST. ANTHONY PKWY --ERCID -- 271350078</u>								
Zinc Compounds	742	0	0	0	0	0	0	742
<b>Totals</b>	<b>742</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>742</b>
<u>Hennepin County, City of MINNETONKA -- ADVANCED FLEX INC. #1 --15115 MINNETONKA INDUSTRIAL RD --ERCID -- 271400001</u>								
Ammonia	16,000	0	0	0	9,100	0	1,330	26,430
Nitric Acid	510	0	0	0	0	3,400	8,300	12,210
N-methyl-2-pyrrolidone	510	0	0	0	0	0	10,700	11,210

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Copper Compounds	4,001	0	0	0	125,830	0	0	129,831
<b>Totals</b>	<b>21,021</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>134,930</b>	<b>3,400</b>	<b>20,330</b>	<b>179,681</b>
<u>Hennepin County, City of MINNETONKA -- HOLADAY CIRCUITS, INC. --11126 BREN RD W --ERCID -- 271400010</u>								
Copper	255	0	0	0	75,140	0	0	75,395
Ammonia	510	0	0	0	20,679	0	255	21,444
<b>Totals</b>	<b>765</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>95,819</b>	<b>0</b>	<b>255</b>	<b>96,839</b>
<u>Hennepin County, City of MINNETONKA -- HONEYWELL ADVANCED CIRCUITS, INC --15102 MINNETONKA INDUSTRIAL RD --ERCID</u>								
Copper	2,237	0	0	0	266,652	0	0	268,889
Nitric Acid	255	0	0	0	0	16,719	26,421	43,395
Nitrate Compounds (water dissociable)	49	0	0	0	0	0	8,294	8,343
Formaldehyde	159	0	0	0	0	10,333	141	10,633
<b>Totals</b>	<b>2,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>266,652</b>	<b>27,052</b>	<b>34,856</b>	<b>331,260</b>
<u>Hennepin County, City of MINNETONKA -- OSMONICS, INC. --5951 CLEARWATER DRV --ERCID -- 271400006</u>								
1,4-dioxane	1,325	0	0	0	0	0	44,743	46,068
N,n-dimethylformamide	31	0	722	0	0	0	15,330	16,083
<b>Totals</b>	<b>1,356</b>	<b>0</b>	<b>722</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60,073</b>	<b>62,151</b>
<u>Hennepin County, City of MINNETONKA -- SIERRA CORP. --11401 W 47TH ST --ERCID -- 271400007</u>								
1,2,4-trimethylbenzene	3,789	0	0	0	0	0	0	3,789
Styrene	1,138	0	14,310	0	0	0	0	15,448
Methyl Ethyl Ketone	306	0	4,776	0	0	0	0	5,082
Glycol Ethers	813	0	9,540	0	0	0	0	10,353
Ethylbenzene	1,275	0	0	0	0	0	0	1,275
Cumene	569	0	0	0	0	0	0	569
Toluene	3,785	0	90,636	0	0	0	0	94,421
Xylene (mixed isomers)	7,008	0	23,856	0	0	0	0	30,864
<b>Totals</b>	<b>18,683</b>	<b>0</b>	<b>143,118</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>161,801</b>
<u>Hennepin County, City of MINNETONKA -- ST. JUDE MEDICAL - DAIG DIV. --14901 MINNETONKA INDUSTRIAL RD --ERCID --</u>								
Freon 113	15,870	0	0	0	2,070	0	0	17,940
2-chloro-1,1,1,2-tetrafluoroethane	15,662	0	0	0	0	0	0	15,662
<b>Totals</b>	<b>31,532</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,070</b>	<b>0</b>	<b>0</b>	<b>33,602</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of NEW HOPE -- ALPHA CERAMICS, INC. --5121 WINNETKA AVE --ERCID -- 271650006</u>								
Lead Compounds	69	0	0	9,125	10,970	0	0	20,164
<b>Totals</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>9,125</b>	<b>10,970</b>	<b>0</b>	<b>0</b>	<b>20,164</b>
<u>Hennepin County, City of NEW HOPE -- AVTEC FINISHING SYSTEMS, INC. --9101 SCIENCE CENTER DRV --ERCID -- 271650001</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	35,299	0	16,875	52,174
Nitric Acid	205	0	0	0	0	12,500	20,308	33,013
<b>Totals</b>	<b>205</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,299</b>	<b>12,500</b>	<b>37,183</b>	<b>85,187</b>
<u>Hennepin County, City of NEW HOPE -- CLARIANT --9101 INTERNATIONAL PKWY --ERCID -- 271650011</u>								
Zinc Compounds	512	0	0	0	0	0	0	512
Chromium Compounds	191	0	0	0	0	0	0	191
Di(2-ethylhexyl) Phthalate	1,577	0	0	0	0	0	68	1,645
Lead Compounds	245	0	0	0	50	0	0	295
<b>Totals</b>	<b>2,525</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>68</b>	<b>2,643</b>
<u>Hennepin County, City of NEW HOPE -- INNO-FLEX CORPORATION --4929 BOONE AVE N --ERCID -- 271650048</u>								
Toluene	6,047	0	6,464	0	0	0	0	12,511
<b>Totals</b>	<b>6,047</b>	<b>0</b>	<b>6,464</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,511</b>
<u>Hennepin County, City of NEW HOPE -- INTERMET --5100 BOONE AVE N --ERCID -- 271650013</u>								
Copper	6,952	0	0	237,473	62,908	0	0	307,333
Nickel	6,192	0	0	213,726	57,558	0	0	277,476
<b>Totals</b>	<b>13,144</b>	<b>0</b>	<b>0</b>	<b>451,199</b>	<b>120,466</b>	<b>0</b>	<b>0</b>	<b>584,809</b>
<u>Hennepin County, City of OSSEO -- CERAM-TRAZ CORP. --325 HWY 81 --ERCID -- 271750002</u>								
Methyl Ethyl Ketone	250	0	520	11,517	0	0	0	12,287
Toluene	400	0	4,331	8,860	0	0	0	13,591
Methyl Isobutyl Ketone	250	0	1,386	4,430	0	0	0	6,066
Glycol Ethers	166	0	173	12,757	0	0	0	13,096
Xylene (mixed isomers)	600	0	8,663	29,023	0	0	0	38,286
<b>Totals</b>	<b>1,666</b>	<b>0</b>	<b>15,073</b>	<b>66,587</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>83,326</b>
<u>Hennepin County, City of PLYMOUTH -- AACRON, INC. --2705 CHESHIRE LANE --ERCID -- 271800011</u>								
Nitric Acid	58	0	0	0	895	1,869	0	2,822
<b>Totals</b>	<b>58</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>895</b>	<b>1,869</b>	<b>0</b>	<b>2,822</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hennepin County, City of PLYMOUTH -- BOSTON SCIENTIFIC SCIMED, INC. --2050 E CENTER CIRCLE --ERCID -- 271800053</u>								
2-chloro-1,1,1,2-tetrafluoroethane	44,998	0	0	0	115,089	0	0	160,087
Ethylene Oxide	94	0	0	0	0	15,063	0	15,157
<b>Totals</b>	<b>45,092</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>115,089</b>	<b>15,063</b>	<b>0</b>	<b>175,244</b>
<u>Hennepin County, City of PLYMOUTH -- CIRCUIT SCIENCE, INC. --15831 HWY 55 --ERCID -- 271800013</u>								
Copper	0	0	0	0	51,592	0	0	51,592
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>51,592</b>	<b>0</b>	<b>0</b>	<b>51,592</b>
<u>Hennepin County, City of PLYMOUTH -- FOAM ENTERPRISES, INC. --13630 WATERTOWER CIRCLE --ERCID -- 271800069</u>								
Diisocyanates	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Hennepin County, City of PLYMOUTH -- PRECISION DIVERSIFIED INDUSTRIES, INC. --14755 27TH AVE N --ERCID -- 271800029</u>								
Copper Compounds	113	0	0	0	21,210	0	0	21,323
<b>Totals</b>	<b>113</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21,210</b>	<b>0</b>	<b>0</b>	<b>21,323</b>
<u>Hennepin County, City of PLYMOUTH -- PROGRESS CASTING GROUP --2600 NIAGARA LANE N --ERCID -- 271800038</u>								
Copper	0	0	0	0	23,975	0	0	23,975
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23,975</b>	<b>0</b>	<b>0</b>	<b>23,975</b>
<u>Hennepin County, City of PLYMOUTH -- SPICER OFF-HIGHWAY PRODUCTS DIVISION --15905 HWY 55 --ERCID -- 271800012</u>								
Nickel	480	0	0	0	0	0	0	480
<b>Totals</b>	<b>480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>480</b>
<u>Hennepin County, City of ROCKFORD -- DIVERSIFOAM PRODUCTS --9091 CO RD 50 --ERCID -- 271950007</u>								
1-chloro-1,1-difluoroethane	25,764	0	0	0	0	0	0	25,764
Chloromethane	85,365	0	0	0	0	0	0	85,365
<b>Totals</b>	<b>111,129</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>111,129</b>
<u>Hennepin County, City of ROGERS -- GRACO-KOCH CENTER --20500 DAVID KOCH AVE --ERCID -- 272000014</u>								
Nickel	0	0	0	0	10,000	0	0	10,000
Copper	4	0	0	0	95,000	0	0	95,004
Chromium	58	0	0	0	6,400	0	0	6,458
Xylene (mixed isomers)	2,200	0	0	0	9,400	0	0	11,600
<b>Totals</b>	<b>2,262</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>120,800</b>	<b>0</b>	<b>0</b>	<b>123,062</b>
<u>Hennepin County, City of ST. LOUIS PARK -- DOUGLAS CORP. - PLATING DIVISION --3520 XENWOOD AVE S --ERCID -- 272150034</u>								
Copper	74	0	0	1,873	8,431	0	0	10,378

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Chromium Compounds	802	0	0	21,563	11,881	0	0	34,246
Nickel	191	0	0	0	10,568	0	0	10,759
Nitric Acid	0	0	0	0	0	0	9,615	9,615
<b>Totals</b>	<b>1,067</b>	<b>0</b>	<b>0</b>	<b>23,436</b>	<b>30,880</b>	<b>0</b>	<b>9,615</b>	<b>64,998</b>
<u>Hennepin County, City of ST. LOUIS PARK -- HONEYWELL ADVANCED CIRCUITS, INC --3965 MEADOWBROOK RD --ERCID --</u>								
Copper	720	0	0	0	189,998	0	0	190,718
Formaldehyde	112	0	0	0	0	7,255	131	7,498
<b>Totals</b>	<b>832</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>189,998</b>	<b>7,255</b>	<b>131</b>	<b>198,216</b>
<u>Hennepin County, City of ST. LOUIS PARK -- MINNESOTA RUBBER --3630 WOODDALE AVE --ERCID -- 272150021</u>								
Zinc Compounds	28,000	0	0	0	0	0	0	28,000
<b>Totals</b>	<b>28,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28,000</b>
<u>Hennepin County, City of ST. LOUIS PARK -- NORTHLAND ALUMINUM PRODUCTS, INC. --5005 COUNTY ROAD 25 --ERCID --</u>								
Styrene	1,123	0	0	0	0	0	0	1,123
Lead Compounds	5,618	0	0	0	0	0	0	5,618
Glycol Ethers	16,851	0	0	0	1,072	0	0	17,923
Xylene (mixed isomers)	17,441	0	0	0	131	0	0	17,572
<b>Totals</b>	<b>41,033</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,203</b>	<b>0</b>	<b>0</b>	<b>42,236</b>
<u>Hennepin County, City of ST. LOUIS PARK -- NOVARTIS NUTRITION CORPORATION --5320 W 23RD ST --ERCID -- 272150008</u>								
Nitric Acid	0	0	0	0	0	32,900	135	33,035
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	44,613	44,613
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32,900</b>	<b>44,748</b>	<b>77,648</b>
<u>Hennepin County, City of ST. LOUIS PARK -- SUPER RADIATOR COILS --6714 WALKER ST --ERCID -- 272150033</u>								
Chromium	3	0	0	0	10,734	0	0	10,737
Nickel	2	0	0	0	8,049	0	0	8,051
Copper	45	0	0	0	138,395	0	0	138,440
Tetrachloroethylene	40,421	0	28,600	0	0	0	0	69,021
<b>Totals</b>	<b>40,471</b>	<b>0</b>	<b>28,600</b>	<b>0</b>	<b>157,178</b>	<b>0</b>	<b>0</b>	<b>226,249</b>
<u>Hennepin County, City of ST. PAUL -- NORTHWEST AIRLINES, INC. --5101 NORTHWEST DRIVE --ERCID -- 279990003</u>								
Trichloroethylene	51,000	0	0	0	0	0	73	51,073
<b>Totals</b>	<b>51,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>51,073</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Hubbard County, City of BEMIDJI -- POTLATCH CORP. - OSB --HWY 2 E --ERCID -- 290210001</u>								
Formaldehyde	48,489	0	0	0	0	0	0	48,489
Methanol	106,722	0	0	0	0	0	0	106,722
<b>Totals</b>	<b>155,211</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>155,211</b>
<u>Hubbard County, City of PARK RAPIDS -- LAMBWESTON/RDO FROZEN --HWY 71 S --ERCID -- 291200003</u>								
Nitrate Compounds (water dissociable)	41,368	0	0	0	0	0	0	41,368
<b>Totals</b>	<b>41,368</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>41,368</b>
<u>Isanti County, City of CAMBRIDGE -- ARROW TANK &amp; ENGINEERING --650 N EMERSON --ERCID -- 300190023</u>								
Nickel	11	0	0	0	23,558	0	0	23,569
Chromium	10	0	0	0	21,689	0	0	21,699
Manganese	11	0	0	0	14,950	0	0	14,961
<b>Totals</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60,197</b>	<b>0</b>	<b>0</b>	<b>60,229</b>
<u>Itasca County, City of COHASSET -- BOSWELL ENERGY CENTER - MN POWER --1200 NW 3RD ST --ERCID -- 310680001</u>								
Hydrogen Fluoride	60,000	0	0	0	0	60,000	0	120,000
Chromium Compounds	24,000	0	0	0	0	0	0	24,000
Manganese Compounds	500,000	0	0	0	0	0	0	500,000
Zinc Compounds	36,000	0	0	0	0	0	0	36,000
Sulfuric Acid (aerosol forms only)	26,000	0	0	0	0	37,000	0	63,000
Copper Compounds	48,000	0	0	0	0	0	0	48,000
Hydrochloric Acid (aerosol forms only)	17,000	0	0	0	0	21,000	0	38,000
Barium Compounds	1,000,000	0	0	0	0	0	0	1,000,000
<b>Totals</b>	<b>1,711,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118,000</b>	<b>0</b>	<b>1,829,000</b>
<u>Itasca County, City of GRAND RAPIDS -- BLANDIN PAPER --115 1ST ST SW --ERCID -- 311100004</u>								
Methanol	30,000	0	0	0	0	0	0	30,000
Ethylene Glycol	0	0	0	0	0	0	10,274	10,274
Barium Compounds	44,856	0	0	0	0	0	0	44,856
Manganese Compounds	67,140	0	0	0	0	0	0	67,140
<b>Totals</b>	<b>141,996</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,274</b>	<b>152,270</b>
<u>Itasca County, City of GRAND RAPIDS -- POTLATCH CORP. --502 CO RD 63 --ERCID -- 311100003</u>								
Methanol	17,694	0	0	0	0	143,856	0	161,550
Formaldehyde	19,460	0	0	0	0	19,745	0	39,205

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>37,154</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>163,601</b>	<b>0</b>	<b>200,755</b>
<u>Jackson County, City of JACKSON -- AG-CHEM EQUIPMENT CO., INC. --202 INDUSTRIAL PARK --ERCID -- 320600007</u>								
Methyl Ethyl Ketone	6,500	0	58,000	0	0	0	0	64,500
Ethylene Glycol	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>6,500</b>	<b>0</b>	<b>58,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,500</b>
<u>Kanabec County, City of MORA -- AMERICAN MARINE, LTD --811 E MAPLE --ERCID -- 330650005</u>								
Styrene	15,689	0	0	0	0	0	0	15,689
<b>Totals</b>	<b>15,689</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,689</b>
<u>Kanabec County, City of MORA -- ENGINEERED POLYMERS CORP. --1020 E MAPLE AVE --ERCID -- 330650001</u>								
Toluene	11,135	0	844	0	0	0	0	11,979
Methyl Ethyl Ketone	62,862	0	10,800	0	0	0	0	73,662
<b>Totals</b>	<b>73,997</b>	<b>0</b>	<b>11,644</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>85,641</b>
<u>Kandiyohi County, City of WILLMAR -- JENNIE-O FOODS, INC. --2505 WILLMAR AVE SW --ERCID -- 341750008</u>								
Ammonia	10,620	0	0	0	0	0	6,494	17,114
<b>Totals</b>	<b>10,620</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,494</b>	<b>17,114</b>
<u>Koochiching County, City of BIG FALLS -- PAGE &amp; HILL FOREST PRODUCTS, INC. --7556 CTY RD 31 --ERCID -- 360050001</u>								
Pentachlorophenol	1	0	704	30	0	0	0	735
Ammonia	23,416	0	0	0	0	0	0	23,416
<b>Totals</b>	<b>23,417</b>	<b>0</b>	<b>704</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24,151</b>
<u>Koochiching County, City of INTL FALLS -- BOISE CASCADE CORP. --400 2ND ST --ERCID -- 360100001</u>								
Chlorine Dioxide	3,200	0	0	0	0	410,000	0	413,200
Chlorine	390	0	0	0	0	27,000	0	27,390
Catechol	0	0	0	0	0	2,100	0	2,100
Methanol	380,000	350,000	0	0	0	8,600,000	0	9,330,000
Ammonia	110,000	0	0	0	0	0	0	110,000
Formic Acid	0	0	0	0	0	0	0	0
Manganese Compounds	28,000	0	0	0	0	0	0	28,000
Barium Compounds	10,000	0	0	0	0	0	0	10,000
Phenol	840	360,000	0	0	0	5,000	0	365,840
Zinc Compounds	15,000	0	0	0	0	0	0	15,000
Acetaldehyde	42,000	0	0	0	0	16,000	0	58,000

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Chloroform	21,000	0	0	0	0	0	0	21,000
<b>Totals</b>	<b>610,430</b>	<b>710,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,060,100</b>	<b>0</b>	<b>10,380,530</b>
<u>Lac Qui Parle County, City of DAWSON -- AG PROCESSING, INC. --800 DIAGONAL ST --ERCID -- 370450012</u>								
N-hexane	220,000	0	0	0	0	0	140	220,140
<b>Totals</b>	<b>220,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>140</b>	<b>220,140</b>
<u>Lac Qui Parle County, City of DAWSON -- ASSOCIATED MILK PRODUCERS, INC. --HWY 212 E --ERCID -- 370450004</u>								
Nitrate Compounds (water dissociable)	233,220	0	0	0	0	0	0	233,220
Nitric Acid	0	0	0	118,471	0	236,942	0	355,413
<b>Totals</b>	<b>233,220</b>	<b>0</b>	<b>0</b>	<b>118,471</b>	<b>0</b>	<b>236,942</b>	<b>0</b>	<b>588,633</b>
<u>Lake County, City of TWO HARBORS -- LOUISIANA PACIFIC CORP. --INDUSTRIAL PARK N HWY 2 --ERCID -- 380350002</u>								
Diisocyanates	1,000	0	0	0	0	0	0	1,000
Zinc Compounds	4,300	0	0	0	1,700	0	0	6,000
Formaldehyde	18,000	0	0	0	0	8,900	0	26,900
Methanol	28,000	0	0	0	0	38,000	0	66,000
<b>Totals</b>	<b>51,300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,700</b>	<b>46,900</b>	<b>0</b>	<b>99,900</b>
<u>Lake County, City of TWO HARBORS -- STANLEY HYDRAULIC TOOLS --1538 STATE RD 2 --ERCID -- 380350026</u>								
Nickel	100	0	0	0	29,035	0	0	29,135
Chromium	100	0	0	0	10,919	0	0	11,019
<b>Totals</b>	<b>200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39,954</b>	<b>0</b>	<b>0</b>	<b>40,154</b>
<u>Lake of the Woods County, City of BAUDETTE -- SOLVAY PHARMACEUTICALS --210 MAIN ST W --ERCID -- 390050001</u>								
Dichloromethane	44,469	0	3,242	0	0	0	359	48,070
Methanol	22,198	0	885	0	0	0	332	23,415
<b>Totals</b>	<b>66,667</b>	<b>0</b>	<b>4,127</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>691</b>	<b>71,485</b>
<u>Le Sueur County, City of LE SUEUR -- ADC TELECOMMUNICATIONS INC. --1100 N 4TH ST --ERCID -- 400700039</u>								
Copper	0	0	0	0	45,499	0	0	45,499
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>45,499</b>	<b>0</b>	<b>0</b>	<b>45,499</b>
<u>Le Sueur County, City of LE SUEUR -- DAVISCO LE SUEUR CHEESE DIVISION --719 N MAIN ST --ERCID -- 400700011</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	89,174	8,449	97,623
Nitric Acid	0	0	0	473,480	0	526,089	0	999,569
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>473,480</b>	<b>0</b>	<b>615,263</b>	<b>8,449</b>	<b>1,097,192</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Le Sueur County, City of LE SUEUR -- LE SUEUR INCORPORATED --1409 VINE ST --ERCID -- 400700020</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	33,389	33,389
Copper	908	0	0	0	17,324	0	0	18,232
Nickel	138	0	0	0	2,643	0	0	2,781
Zinc (fume or dust)	822	0	0	0	15,730	0	0	16,552
Nitric Acid	0	0	0	0	0	33,922	0	33,922
<b>Totals</b>	<b>1,868</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,697</b>	<b>33,922</b>	<b>33,389</b>	<b>104,876</b>
<u>Lyon County, City of COTTONWOOD -- NORCRAFT COMPANIES, LLC --67 E 2ND ST N --ERCID -- 420250006</u>								
Ethylbenzene	11,383	0	0	0	0	0	0	11,383
Methyl Ethyl Ketone	11,241	0	0	0	0	0	0	11,241
Xylene (mixed isomers)	49,952	0	0	0	1,019	0	0	50,971
Methanol	12,383	0	0	0	0	0	0	12,383
Toluene	26,906	0	0	0	13,500	0	0	40,406
<b>Totals</b>	<b>111,865</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,519</b>	<b>0</b>	<b>0</b>	<b>126,384</b>
<u>Marshall County, City of WARREN -- NORDIC FIBERGLASS, INC. --HWY 75 S --ERCID -- 452750002</u>								
Styrene	106,809	0	0	0	0	0	0	106,809
<b>Totals</b>	<b>106,809</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>106,809</b>
<u>Martin County, City of DUNNELL -- PENDA - GLASSTITE, INC. --600 HWY 4 N --ERCID -- 460200002</u>								
Xylene (mixed isomers)	15,142	0	764	0	0	0	0	15,906
Methyl Ethyl Ketone	26,144	0	799	0	0	0	0	26,943
Styrene	228,808	0	0	0	0	0	0	228,808
<b>Totals</b>	<b>270,094</b>	<b>0</b>	<b>1,563</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>271,657</b>
<u>Martin County, City of FAIRMONT -- 3M - FAIRMONT --710 N STATE ST --ERCID -- 460350002</u>								
Toluenediisocyanate (mixed isomers)	800	0	0	0	0	0	50	850
Toluene	110,000	0	7	0	0	0	2,500	112,507
<b>Totals</b>	<b>110,800</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,550</b>	<b>113,357</b>
<u>Martin County, City of FAIRMONT -- WEIGH-TRONIX INC. --1000 ARMSTRONG DRIVE --ERCID -- 460350041</u>								
Chromium	0	0	0	0	26,651	0	0	26,651
Nickel	0	0	0	0	13,326	0	0	13,326
Xylene (mixed isomers)	32,292	0	0	0	0	0	0	32,292
<b>Totals</b>	<b>32,292</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39,977</b>	<b>0</b>	<b>0</b>	<b>72,269</b>



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Zinc Compounds	3	0	0	0	0	0	0	3
Methyl Ethyl Ketone	210,000	0	200,000	10,000,000	280,000	230,000	1,200,000	12,120,000
Diisocyanates	800	0	0	0	0	0	0	800
Acrylic Acid	12,000	0	100	0	0	0	34,000	46,100
Xylene (mixed isomers)	2,300	0	120	0	0	96,000	39,000	137,420
N-hexane	39,000	0	30	180,000	0	34,000	9,100	262,130
<b>Totals</b>	<b>652,803</b>	<b>0</b>	<b>237,494</b>	<b>16,390,000</b>	<b>330,000</b>	<b>3,471,000</b>	<b>1,701,090</b>	<b>22,782,387</b>
<u>McLeod County, City of PLATO -- PLATO WOODWORKING, INC. --200 3RD ST SW --ERCID -- 430800003</u>								
Xylene (mixed isomers)	13,596	0	2,670	0	0	0	0	16,266
Toluene	10,916	0	896	0	0	0	0	11,812
<b>Totals</b>	<b>24,512</b>	<b>0</b>	<b>3,566</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28,078</b>
<u>McLeod County, City of WINSTED -- DAIRY FARMERS OF AMERICA --311 1ST ST N --ERCID -- 431090002</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	65,307	65,307
Nitric Acid	0	0	0	0	0	65,307	0	65,307
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>65,307</b>	<b>65,307</b>	<b>130,614</b>
<u>Meeker County, City of DARWIN -- POLLOCK MFG. INC. --26192 660TH AVE --ERCID -- 470390002</u>								
Styrene	25,480	0	0	0	0	0	0	25,480
<b>Totals</b>	<b>25,480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25,480</b>
<u>Meeker County, City of GROVE CITY -- PRECISION FIBERGLASS PRODUCTS LTD --102/108 ATLANTIC AVE, HWY 12 --ERCID --</u>								
Styrene	32,064	0	0	0	0	0	0	32,064
<b>Totals</b>	<b>32,064</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32,064</b>
<u>Meeker County, City of LITCHFIELD -- ANDERSON CHEMICAL CO. --405 S HUBBARD --ERCID -- 471000005</u>								
Nitric Acid	0	0	0	0	0	29	0	29
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>29</b>
<u>Meeker County, City of LITCHFIELD -- FIRST DISTRICT ASSN. --216 W COMMERCIAL ST --ERCID -- 471000001</u>								
Nitric Acid	25	0	0	0	0	569,080	0	569,105
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	560,853	560,853
<b>Totals</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>569,080</b>	<b>560,853</b>	<b>1,129,958</b>
<u>Mille Lacs County, City of ISLE -- MERIT ENTERPRISES, INC. --315 HENNEPIN AVE S --ERCID -- 480480002</u>								
Nickel Compounds	410	0	0	0	2,100	0	0	2,510
Copper	70	0	0	0	970	0	0	1,040

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,070</b>	<b>0</b>	<b>0</b>	<b>3,550</b>
<u>Mille Lacs County, City of PRINCETON -- SMITH SYSTEM MFG. CO. --1100 S 10TH ST -- ERCID -- 481090003</u>								
Xylene (mixed isomers)	24,954	0	20,500	0	0	0	0	45,454
<b>Totals</b>	<b>24,954</b>	<b>0</b>	<b>20,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>45,454</b>
<u>Morrison County, City of LITTLE FALLS -- LARSON GLASTRON BOATS, INC. --700 PAUL LARSON MEMORIAL DRV --ERCID --</u>								
Toluene	14,384	0	4,350	0	0	0	0	18,734
1,1-dichloro-1-fluoroethane	9,047	0	0	0	0	0	0	9,047
Styrene	357,299	0	0	0	0	0	0	357,299
Methyl Methacrylate	29,711	0	0	0	0	0	0	29,711
<b>Totals</b>	<b>410,441</b>	<b>0</b>	<b>4,350</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>414,791</b>
<u>Mower County, City of AUSTIN -- AUSTIN UTILITIES - NE POWER STATION --3701 11TH ST NE --ERCID -- 500150089</u>								
Copper Compounds	870	0	0	0	0	0	0	870
Zinc Compounds	1,400	0	0	0	0	0	0	1,400
Barium Compounds	5,500	0	0	0	0	0	0	5,500
Hydrochloric Acid (aerosol forms only)	110,000	0	0	0	0	0	0	110,000
Sulfuric Acid (aerosol forms only)	36,000	0	0	0	0	140,000	0	176,000
<b>Totals</b>	<b>153,770</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>140,000</b>	<b>0</b>	<b>293,770</b>
<u>Mower County, City of AUSTIN -- HORMEL FOODS CORPORATION --500 NE 14TH AVE --ERCID -- 500150002</u>								
Ammonia	18,000	0	0	0	0	0	32,894	50,894
<b>Totals</b>	<b>18,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32,894</b>	<b>50,894</b>
<u>Nicollet County, City of NORTH MANKATO -- MICO, INC. --1911 LEE BLVD --ERCID -- 520650001</u>								
Dichloromethane	13,438	0	0	2,000	1,531	0	0	16,969
<b>Totals</b>	<b>13,438</b>	<b>0</b>	<b>0</b>	<b>2,000</b>	<b>1,531</b>	<b>0</b>	<b>0</b>	<b>16,969</b>
<u>Nicollet County, City of ST. PETER -- ALUMACRAFT BOAT CO. --315 W ST. JULIEN ST --ERCID -- 520800001</u>								
Manganese	0	0	0	0	5,179	0	0	5,179
Toluene	8,307	0	0	0	4,903	0	1,091	14,301
N-hexane	16,440	0	0	0	0	0	0	16,440
<b>Totals</b>	<b>24,747</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,082</b>	<b>0</b>	<b>1,091</b>	<b>35,920</b>
<u>Nobles County, City of WORTHINGTON -- SWIFT &amp; CO. --HWY 60 NE BOX 369 --ERCID -- 531500003</u>								
Ammonia	11,598	0	0	0	0	0	66,840	78,438
<b>Totals</b>	<b>11,598</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>66,840</b>	<b>78,438</b>



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Hydrochloric Acid (aerosol forms only)	198,000	0	0	0	0	0	0	198,000
Sulfuric Acid (aerosol forms only)	45,000	0	0	0	0	0	0	45,000
<b>Totals</b>	<b>257,360</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>257,360</b>
<u>Olmsted County, City of STEWARTVILLE -- GEOTEK, INC. --1421 2ND AVE NW --ERCID -- 551150024</u>								
Styrene	35,420	0	0	0	0	0	11	35,431
<b>Totals</b>	<b>35,420</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>35,431</b>
<u>Olmsted County, City of STEWARTVILLE -- ROCHESTER MEDICAL CORP. --1500 NW 2ND AVE --ERCID -- 551150018</u>								
Xylene (mixed isomers)	64,121	0	0	0	135,248	0	0	199,369
Toluene	19,651	0	0	0	18,367	0	0	38,018
<b>Totals</b>	<b>83,772</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>153,615</b>	<b>0</b>	<b>0</b>	<b>237,387</b>
<u>Otter Tail County, City of FERGUS FALLS -- DAIRY FARMERS OF AMERICA, INC. --301 S. BUSE ST --ERCID -- 561650005</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	121,006	121,006
Nitric Acid	0	0	0	0	0	122,006	0	122,006
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>122,006</b>	<b>121,006</b>	<b>243,012</b>
<u>Otter Tail County, City of FERGUS FALLS -- OTTER TAIL POWER CO. (HOOT LAKE) --1012 WATER PLANT ROAD --ERCID -- 561650012</u>								
Hydrochloric Acid (aerosol forms only)	6,000	0	0	0	0	47,000	0	53,000
Barium Compounds	130,000	0	0	0	0	0	0	130,000
<b>Totals</b>	<b>136,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>47,000</b>	<b>0</b>	<b>183,000</b>
<u>Otter Tail County, City of FERGUS FALLS -- QUALITY CIRCUITS, INC. --1102 PROGRESS DRV --ERCID -- 561650055</u>								
Copper	3,058	0	0	0	53,719	0	0	56,777
Nitric Acid	2	0	0	0	0	9,000	0	9,002
Ammonia	407	0	0	0	43,442	12,725	13	56,587
<b>Totals</b>	<b>3,467</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>97,161</b>	<b>21,725</b>	<b>13</b>	<b>122,366</b>
<u>Otter Tail County, City of NEW YORK MILLS -- LUND BOAT DIVISION --W EST CENTENNIAL DRV --ERCID -- 562510003</u>								
N-hexane	11,416	0	0	0	0	0	0	11,416
Toluene	42,136	0	0	0	45,449	0	0	87,585
Xylene (mixed isomers)	28,930	0	0	0	24,791	0	0	53,721
1,1-dichloro-1-fluoroethane	2,078	0	0	0	0	0	0	2,078
<b>Totals</b>	<b>84,560</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>70,240</b>	<b>0</b>	<b>0</b>	<b>154,800</b>
<u>Otter Tail County, City of PERHAM -- LAND O'LAKES, INC. -DAIRY PRODUCTION DIV. --110 3RD AVE NE --ERCID -- 563190002</u>								
Nitrate Compounds (water dissociable)	15,580	0	0	0	0	398,118	0	413,698

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Nitric Acid	0	0	0	0	0	306,443	0	306,443
Chlorine	0	0	0	0	0	30,485	0	30,485
<b>Totals</b>	<b>15,580</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>735,046</b>	<b>0</b>	<b>750,626</b>
<u>Pennington County, City of THIEF RIVER FALLS -- ARCTIC CAT, INC. --601 BROOKS AVE S --ERCID -- 571150042</u>								
Styrene	36,100	0	1,228	0	0	0	0	37,328
<b>Totals</b>	<b>36,100</b>	<b>0</b>	<b>1,228</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37,328</b>
<u>Pipestone County, City of PIPESTONE -- US MARINE/BAYLINER --918 SIOUX DRV --ERCID -- 590750003</u>								
Styrene	333,917	0	0	0	0	0	0	333,917
Methyl Methacrylate	21,212	0	0	0	0	0	0	21,212
Dimethyl Phthalate	310	0	0	0	0	0	0	310
<b>Totals</b>	<b>355,439</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>355,439</b>
<u>Polk County, City of CROOKSTON -- AMERICAN CRYSTAL SUGAR CO. --HWY 75 S BOX 600 --ERCID -- 600650006</u>								
Ammonia	103,023	0	0	0	0	5,612	0	108,635
<b>Totals</b>	<b>103,023</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,612</b>	<b>0</b>	<b>108,635</b>
<u>Polk County, City of CROOKSTON -- PHOENIX INDUSTRIES OF CROOKSTON, LTD. --1200 BRUCE ST --ERCID -- 600650026</u>								
Styrene	160,195	0	12,650	0	0	0	0	172,845
<b>Totals</b>	<b>160,195</b>	<b>0</b>	<b>12,650</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>172,845</b>
<u>Polk County, City of EAST GRAND FORKS -- AMERICAN CRYSTAL SUGAR CO. --BUSINESS HWY 2 E --ERCID -- 600750002</u>								
Ammonia	366,000	0	0	0	0	50,000	0	416,000
<b>Totals</b>	<b>366,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50,000</b>	<b>0</b>	<b>416,000</b>
<u>Ramsey County, City of ARDEN HILLS -- ALLIANT AMMUNITIONS SYSTEMS CO. LLC --TC ARMY AMMUNITION PLANT --ERCID --</u>								
Copper	1,300	0	0	0	58,000	0	0	59,300
<b>Totals</b>	<b>1,300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>58,000</b>	<b>0</b>	<b>0</b>	<b>59,300</b>
<u>Ramsey County, City of ARDEN HILLS -- GUIDANT/CPI --4100 HAMLINE AVE N --ERCID -- 620050004</u>								
2-chloro-1,1,1,2-tetrafluoroethane	18,633	0	0	0	0	0	0	18,633
<b>Totals</b>	<b>18,633</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18,633</b>
<u>Ramsey County, City of ARDEN HILLS -- ST. PAUL METALCRAFT, INC. --3737 N LEXINGTON AVE --ERCID -- 620050012</u>								
Copper	128	0	0	0	25,907	0	0	26,035
<b>Totals</b>	<b>128</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25,907</b>	<b>0</b>	<b>0</b>	<b>26,035</b>
<u>Ramsey County, City of LAUDERDALE -- TWIN CITY DIE CASTING, INC. --1070 33RD AVE SE --ERCID -- 620250001</u>								
Copper	0	0	0	0	14,888	0	0	14,888

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,888</b>	<b>0</b>	<b>0</b>	<b>14,888</b>
<u>Ramsey County, City of MAPLEWOOD -- MODINE NORTH CENTRAL, INC. --2055 WHITE BEAR AVE --ERCID -- 620350040</u>								
Copper	1	0	0	0	6,486	0	0	6,487
<b>Totals</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,486</b>	<b>0</b>	<b>0</b>	<b>6,487</b>
<u>Ramsey County, City of NEW BRIGHTON -- JOHNSON SCREENS INC. --1950 OLD HWY 8 --ERCID -- 620450016</u>								
Chromium	64	0	0	0	52,579	0	0	52,643
Copper	60	0	0	0	5,675	0	0	5,735
Manganese	1	0	0	0	21,625	0	0	21,626
Nickel	59	0	0	0	49,757	0	0	49,816
<b>Totals</b>	<b>184</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>129,636</b>	<b>0</b>	<b>0</b>	<b>129,820</b>
<u>Ramsey County, City of NEW BRIGHTON -- MICOM CORP. --475 OLD HWY. 8 NW --ERCID -- 620450006</u>								
Copper	45	0	0	0	43,451	0	0	43,496
<b>Totals</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>43,451</b>	<b>0</b>	<b>0</b>	<b>43,496</b>
<u>Ramsey County, City of NEW BRIGHTON -- WOLKERSTORFER CO., INC. --348 1ST ST SW --ERCID -- 620450012</u>								
Xylene (mixed isomers)	12,508	0	460	0	1,841	0	0	14,809
Toluene	10,825	0	793	0	3,171	0	0	14,789
<b>Totals</b>	<b>23,333</b>	<b>0</b>	<b>1,253</b>	<b>0</b>	<b>5,012</b>	<b>0</b>	<b>0</b>	<b>29,598</b>
<u>Ramsey County, City of ROSEVILLE -- BP AMOCO OIL / TWIN CITIES TERMINAL --2288 W CO RD C --ERCID -- 620600002</u>								
Ethylbenzene	30	0	0	70	50	0	0	150
1,2,4-trimethylbenzene	25	0	0	230	60	0	0	315
Toluene	255	0	0	640	280	0	0	1,175
Xylene (mixed isomers)	140	0	0	50	230	0	0	420
N-hexane	265	0	0	90	70	0	0	425
Benzene	200	0	0	120	80	0	0	400
<b>Totals</b>	<b>915</b>	<b>0</b>	<b>0</b>	<b>1,200</b>	<b>770</b>	<b>0</b>	<b>0</b>	<b>2,885</b>
<u>Ramsey County, City of ROSEVILLE -- HONEYWELL ADVANCED CIRCUITS, INC. --1633 TERRACE DRV --ERCID -- 620600001</u>								
Glycol Ethers	4,326	0	0	0	4,455	82,189	0	90,970
Copper	1,300	0	0	0	569,927	0	0	571,227
Formaldehyde	476	0	0	0	0	32,015	9	32,500
Nitrate Compounds (water dissociable)	876	0	0	0	0	0	9,523	10,399
Nitric Acid	876	0	0	0	0	12,647	54,337	67,860

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Ammonia	789	0	0	0	16,523	0	6,672	23,984
<b>Totals</b>	<b>8,643</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>590,905</b>	<b>126,851</b>	<b>70,541</b>	<b>796,940</b>
<u>Ramsey County, City of ROSEVILLE -- MILSOLV CORPORATION --2340 ROSE PLACE --ERCID -- 620600003</u>								
Toluene	197	0	0	0	3,240	0	0	3,437
Methanol	1,126	0	0	0	1,772	0	0	2,898
Methyl Ethyl Ketone	527	0	0	0	1,196	0	0	1,723
<b>Totals</b>	<b>1,850</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,208</b>	<b>0</b>	<b>0</b>	<b>8,058</b>
<u>Ramsey County, City of ROSEVILLE -- MULTILAYER TECHNOLOGY, INC. --2520 TERMINAL RD --ERCID -- 620600083</u>								
Copper Compounds	640	0	0	4,789	70,784	0	0	76,213
Nitric Acid	0	0	0	0	0	1,927	3,450	5,377
<b>Totals</b>	<b>640</b>	<b>0</b>	<b>0</b>	<b>4,789</b>	<b>70,784</b>	<b>1,927</b>	<b>3,450</b>	<b>81,590</b>
<u>Ramsey County, City of ROSEVILLE -- U.S. FILTER RECOVERY SERVICES INC. --2430 ROSE PLACE --ERCID -- 620600023</u>								
Zinc Compounds	7,392	0	0	0	524,646	0	0	532,038
Ammonia	82	0	0	926,502	0	0	14,596	941,180
Nickel	1,319	0	0	16,000	87,598	0	0	104,917
Chlorine	255	0	0	0	0	58,000	0	58,255
Chromium	1,654	0	0	0	120,565	0	0	122,219
Copper	4,669	0	0	3,363,096	331,553	0	0	3,699,318
<b>Totals</b>	<b>15,371</b>	<b>0</b>	<b>0</b>	<b>4,305,598</b>	<b>1,064,362</b>	<b>58,000</b>	<b>14,596</b>	<b>5,457,927</b>
<u>Ramsey County, City of SHOREVIEW -- MULTI-CLEAN --600 CARDIGAN RD --ERCID -- 620750017</u>								
Glycol Ethers	318	0	63	620	0	0	2,251	3,252
<b>Totals</b>	<b>318</b>	<b>0</b>	<b>63</b>	<b>620</b>	<b>0</b>	<b>0</b>	<b>2,251</b>	<b>3,252</b>
<u>Ramsey County, City of ST. PAUL -- 3M COMPANY --900 BUSH AVE --ERCID -- 620700045</u>								
Nickel	10	0	0	0	5,482	0	0	5,492
Toluene	258,538	214,007	201	0	0	1,489,304	66,408	2,028,458
Cyclohexane	4,982	5,265	0	0	0	37,176	76	47,499
Ethylbenzene	2,768	0	0	0	0	18,305	79	21,152
Methanol	2,227	0	0	0	0	15,361	55	17,643
Methyl Ethyl Ketone	47,396	9,721	25	0	0	354,595	8,205	419,942
Formaldehyde	12,254	0	2	0	0	4,309	496	17,061

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Phenol	35,903	0	1	0	0	12,930	434	49,268
Di(2-ethylhexyl) Phthalate	0	0	0	0	0	0	0	0
Zinc Compounds	2,344	0	0	0	0	0	0	2,344
Toluenediisocyanate (mixed isomers)	0	0	0	0	0	0	0	0
Methyl Isobutyl Ketone	6,303	0	1	0	0	43,071	346	49,721
2-ethoxyethanol	2,754	0	131	0	0	894	43,668	47,447
1,2,4-trimethylbenzene	29,256	0	1	0	0	0	428	29,685
Xylene (mixed isomers)	22,237	0	1	0	0	117,984	401	140,623
<b>Totals</b>	<b>426,972</b>	<b>228,993</b>	<b>363</b>	<b>0</b>	<b>5,482</b>	<b>2,093,929</b>	<b>120,596</b>	<b>2,876,335</b>
<u>Ramsey County, City of ST. PAUL -- ADVANCE CORPORATION --958 PROSPERITY AVE --ERCID -- 620700356</u>								
Nitric Acid	0	0	0	0	0	82,956	0	82,956
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	66,756	66,756
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>82,956</b>	<b>66,756</b>	<b>149,712</b>
<u>Ramsey County, City of ST. PAUL -- ASHLAND CHEMICAL CO. --395 JAMES AVE --ERCID -- 620700077</u>								
Xylene (mixed isomers)	590	0	4,500	0	0	0	0	5,090
Toluene	920	0	2,400	0	0	0	0	3,320
1,2,4-trimethylbenzene	53	0	540	0	0	0	0	593
Methanol	800	0	2,200	0	0	0	0	3,000
Glycol Ethers	510	0	1,400	0	0	0	0	1,910
N-hexane	1,100	0	770	0	0	0	0	1,870
Methyl Ethyl Ketone	510	0	800	0	0	0	0	1,310
<b>Totals</b>	<b>4,483</b>	<b>0</b>	<b>12,610</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17,093</b>
<u>Ramsey County, City of ST. PAUL -- B. BROS. PKG., INC. DBA FOX PKG. CO. --51 E MARYLAND AVE --ERCID -- 620700241</u>								
Methanol	10,594	0	0	0	0	0	0	10,594
<b>Totals</b>	<b>10,594</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,594</b>
<u>Ramsey County, City of ST. PAUL -- CENTURY CIRCUITS &amp; ELECTRONICS, INC. --155 EATON ST --ERCID -- 620700011</u>								
Chlorine	160	0	0	0	4,340	0	0	4,500
Copper	517	0	0	0	15,889	0	0	16,406
<b>Totals</b>	<b>677</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20,229</b>	<b>0</b>	<b>0</b>	<b>20,906</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Ramsey County, City of ST. PAUL -- CMS HARTZELL MFG. CO. --2516 WABASH AVE --ERCID -- 620700105</u>								
Copper	0	0	0	0	5,872	0	0	5,872
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,872</b>	<b>0</b>	<b>0</b>	<b>5,872</b>
<u>Ramsey County, City of ST. PAUL -- COOPERATIVE PLATING CO. --1605 IGLEHART AVE --ERCID -- 620700181</u>								
Cyanide Compounds	35	0	0	0	0	0	4,300	4,335
Nitric Acid	200	0	0	0	0	8,000	28,000	36,200
Nickel Compounds	525	0	0	0	550	0	0	1,075
Zinc Compounds	58	0	0	0	1,800	0	0	1,858
<b>Totals</b>	<b>818</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,350</b>	<b>8,000</b>	<b>32,300</b>	<b>43,468</b>
<u>Ramsey County, City of ST. PAUL -- DIAMOND PRODUCTS CO. --310 E 5TH ST --ERCID -- 620700025</u>								
Glycol Ethers	0	0	0	0	0	0	1,600	1,600
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,600</b>	<b>1,600</b>
<u>Ramsey County, City of ST. PAUL -- ELECTRO-PLATING ENGINEERING CO. INC. --45 W IVY AVE --ERCID -- 620700017</u>								
Nickel Compounds	36	0	0	0	14,090	0	0	14,126
Zinc Compounds	106	0	0	0	32,490	0	0	32,596
<b>Totals</b>	<b>142</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,580</b>	<b>0</b>	<b>0</b>	<b>46,722</b>
<u>Ramsey County, City of ST. PAUL -- FORD - TWIN CITIES ASSEMBLY PLANT --966 S MISSISSIPPI RIVER BLVD --ERCID -- 620700020</u>								
1,2,4-trimethylbenzene	57,000	0	0	0	7,700	52,000	0	116,700
Xylene (mixed isomers)	340,000	0	180	0	540,000	160,000	0	1,040,180
Ethylbenzene	76,000	0	40	0	140,000	31,000	0	247,040
Ethylene Glycol	70	0	0	0	0	0	3,400	3,470
Toluene	12,000	0	0	0	27,000	2,900	0	41,900
Methanol	27,000	0	0	0	1,300	26,000	0	54,300
Zinc Compounds	7,200	0	0	0	0	0	0	7,200
N-butyl Alcohol	70,000	0	0	0	14,000	69,000	0	153,000
Methyl Isobutyl Ketone	78,000	0	0	0	160,000	35,000	0	273,000
Nickel Compounds	6,600	0	0	0	0	0	0	6,600
Sodium Nitrite	130	0	0	0	0	0	1,900	2,030
Manganese Compounds	3,000	0	0	0	0	0	0	3,000
Glycol Ethers	50,000	0	0	0	1,000	77,000	14,000	142,000

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Methyl Ethyl Ketone	17,000	0	0	0	2,000	7,900	0	26,900
<b>Totals</b>	<b>744,000</b>	<b>0</b>	<b>220</b>	<b>0</b>	<b>893,000</b>	<b>460,800</b>	<b>19,300</b>	<b>2,117,320</b>
<u>Ramsey County, City of ST. PAUL -- HAWKINS TERMINAL I --1125 CHILDS RD --ERCID -- 620700030</u>								
Dimethylamine	900	0	0	0	0	0	20,550	21,450
Methanol	20	0	0	0	0	0	3,358	3,378
Chlorine	46	0	0	0	0	408	0	454
Formaldehyde	9	0	0	0	0	0	13,805	13,814
Ammonia	175	0	0	0	0	70	0	245
Nitric Acid	62	0	0	0	0	545	0	607
<b>Totals</b>	<b>1,212</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,023</b>	<b>37,713</b>	<b>39,948</b>
<u>Ramsey County, City of ST. PAUL -- HCI WORUM CHEMICAL AND FIBERGLASS --2130 ENERGY PARK DRV --ERCID -- 620700082</u>								
Styrene	938	0	0	0	0	0	0	938
Xylene (mixed isomers)	1,305	0	14,593	0	0	0	0	15,898
Methyl Ethyl Ketone	513	0	8,811	0	0	0	0	9,324
Toluene-2,4-diisocyanate	0	0	0	0	0	0	894	894
Toluene	277	0	31,211	0	0	0	0	31,488
Methanol	537	0	1,995	0	0	0	0	2,532
<b>Totals</b>	<b>3,570</b>	<b>0</b>	<b>56,610</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>894</b>	<b>61,074</b>
<u>Ramsey County, City of ST. PAUL -- IVC NORTH dba TI-KROMATIC , INC. --2492 DOSWELL AVE --ERCID -- 620700071</u>								
Ethylbenzene	549	0	201	504	0	0	0	1,254
N-butyl Alcohol	747	0	0	0	0	0	0	747
Glycol Ethers	940	0	505	0	0	0	0	1,445
Toluene	794	0	2,235	567	0	0	0	3,596
Xylene (mixed isomers)	3,560	0	1,188	2,818	0	0	0	7,566
<b>Totals</b>	<b>6,590</b>	<b>0</b>	<b>4,129</b>	<b>3,889</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,608</b>
<u>Ramsey County, City of ST. PAUL -- LOES ENTERPRISES, INC. --1457 IGLEHART AVE --ERCID -- 620700036</u>								
Di(2-ethylhexyl) Phthalate	0	0	0	700	0	0	0	700
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>700</b>
<u>Ramsey County, City of ST. PAUL -- MIXON, INC. --2286 CAPP RD --ERCID -- 620700047</u>								
Lead Compounds	112	0	0	0	1,151,653	0	0	1,151,765

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>112</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,151,653</b>	<b>0</b>	<b>0</b>	<b>1,151,765</b>
<u>Ramsey County, City of ST. PAUL -- NOR-LAKES SERVICES MIDWEST, INC. --606 VANDALIA ST --ERCID -- 620700189</u>								
Ethylene Glycol	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Ramsey County, City of ST. PAUL -- NORTH STAR RECYCLING-MINNESOTA --1678 RED ROCK RD --ERCID -- 620700334</u>								
Chromium Compounds	14,932	0	0	0	0	0	0	14,932
Barium Compounds	58,462	0	0	0	0	0	0	58,462
Copper Compounds	896,800	0	0	0	0	0	0	896,800
Manganese Compounds	58,065	0	0	0	0	0	0	58,065
Nickel Compounds	17,979	0	0	0	0	0	0	17,979
Zinc Compounds	340,109	0	0	0	0	0	0	340,109
Molybdenum Trioxide	1,442	0	0	0	0	0	0	1,442
Lead Compounds	62,777	0	0	0	0	0	0	62,777
<b>Totals</b>	<b>1,450,566</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,450,566</b>
<u>Ramsey County, City of ST. PAUL -- NORTH STAR STEEL-MINNESOTA --1678 RED ROCK RD --ERCID -- 620700051</u>								
Copper Compounds	2,824	0	0	2,269	70,578	0	0	75,671
Manganese Compounds	30,151	0	0	23,648	600,919	0	0	654,718
Zinc Compounds	94,702	0	0	75,937	3,750,705	0	0	3,921,344
Nickel Compounds	216	0	0	147	5,445	0	0	5,808
Molybdenum Trioxide	272	0	0	214	0	0	0	486
Chromium Compounds	639	0	0	712	50,413	0	0	51,764
Barium Compounds	1,302	0	0	490	5,243	0	0	7,035
Lead Compounds	1,663	0	0	1,127	270,212	0	0	273,002
<b>Totals</b>	<b>131,769</b>	<b>0</b>	<b>0</b>	<b>104,544</b>	<b>4,753,515</b>	<b>0</b>	<b>0</b>	<b>4,989,828</b>
<u>Ramsey County, City of ST. PAUL -- NSP - HIGH BRIDGE PLANT --501 SHEPARD RD --ERCID -- 620700031</u>								
Barium Compounds	120,000	0	0	0	0	0	0	120,000
<b>Totals</b>	<b>120,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>120,000</b>
<u>Ramsey County, City of ST. PAUL -- PLATING, INC. --888 N PRIOR AVE --ERCID -- 620700054</u>								
Cyanide Compounds	58	0	0	0	0	0	295	353
Zinc Compounds	117	0	0	0	4,209	0	0	4,326

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>175</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,209</b>	<b>0</b>	<b>295</b>	<b>4,679</b>
<u>Ramsey County, City of ST. PAUL -- QUEBECOR PRINTING - ST. PAUL --1999 SHEPARD RD --ERCID -- 620700193</u>								
Methanol	19,482	0	0	0	0	0	0	19,482
<b>Totals</b>	<b>19,482</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,482</b>
<u>Ramsey County, City of ST. PAUL -- REXAM BEVERAGE CAN COMPANY --139 EVA ST --ERCID -- 620700003</u>								
Manganese	63	0	0	0	0	0	0	63
Hydrogen Fluoride	13	0	0	0	0	12,959	0	12,972
Glycol Ethers	124,199	0	119	0	0	0	0	124,318
N-butyl Alcohol	105,303	0	37	0	0	0	0	105,340
<b>Totals</b>	<b>229,578</b>	<b>0</b>	<b>156</b>	<b>0</b>	<b>0</b>	<b>12,959</b>	<b>0</b>	<b>242,693</b>
<u>Ramsey County, City of ST. PAUL -- SILGAN CONTAINERS MFG. CORP. --755 N PRIOR AVE --ERCID -- 620700002</u>								
Toluene	4,082	0	6,027	0	0	0	0	10,109
N-hexane	130,998	0	155	0	0	0	0	131,153
<b>Totals</b>	<b>135,080</b>	<b>0</b>	<b>6,182</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>141,262</b>
<u>Ramsey County, City of ST. PAUL -- ST. PAUL BRASS FOUNDRY --954 W MINNEHAHA AVE. --ERCID -- 620700065</u>								
Copper	3,463	0	0	0	49,395	0	0	52,858
<b>Totals</b>	<b>3,463</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49,395</b>	<b>0</b>	<b>0</b>	<b>52,858</b>
<u>Ramsey County, City of ST. PAUL -- VAN WATERS &amp; ROGERS, INC. --845 TERRACE CT --ERCID -- 620700079</u>								
N,n-dimethylformamide	38	0	0	0	0	0	1,919	1,957
Nitric Acid	32	0	0	0	0	1,828	0	1,860
<b>Totals</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,828</b>	<b>1,919</b>	<b>3,817</b>
<u>Ramsey County, City of ST. PAUL -- VIKING DRILL &amp; TOOL INC. --355 STATE ST --ERCID -- 620700369</u>								
Trichloroethylene	6,505	0	7,239	68,283	0	0	0	82,027
Chromium	650	0	0	0	5,292	0	0	5,942
Barium Compounds	63	0	0	0	0	0	25,540	25,603
<b>Totals</b>	<b>7,218</b>	<b>0</b>	<b>7,239</b>	<b>68,283</b>	<b>5,292</b>	<b>0</b>	<b>25,540</b>	<b>113,572</b>
<u>Ramsey County, City of ST. PAUL -- WALDORF CORP. (A ROCK-TENN COMPANY) --2250 WABASH AVE --ERCID -- 620700081</u>								
Toluene	43,156	63,030	1,743	8,471	0	0	0	116,400
<b>Totals</b>	<b>43,156</b>	<b>63,030</b>	<b>1,743</b>	<b>8,471</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>116,400</b>
<u>Ramsey County, City of VADNAIS HEIGHTS -- H.B. FULLER CO.-CORPORATE PILOT FACILITY --3450 LABORE RD --ERCID --</u>								
Diisocyanates	2	0	0	0	0	0	6,680	6,682



Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Redwood County, City of REDWOOD FALLS -- U OF MN-SANDERS CROP MGMT. CTR. --112N 36W REDWOOD-PT. OF SEC.</u>								
Ammonia	69,508	0	0	0	0	0	0	69,508
<b>Totals</b>	<b>69,508</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>69,508</b>
<u>Renville County, City of RENVILLE -- SOUTHERN MN BEET SUGAR COOPERATIVE --HWY 212 E --ERCID -- 651550009</u>								
Ammonia	148,951	0	0	0	0	0	0	148,951
<b>Totals</b>	<b>148,951</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>148,951</b>
<u>Rice County, City of FARIBAULT -- CROWN CORK &amp; SEAL CO. --4TH ST &amp; PARK AVE BOX 38 --ERCID -- 660300017</u>								
Glycol Ethers	19,000	0	3,500	0	0	67,000	0	89,500
1,2,4-trimethylbenzene	1,800	0	0	0	0	10,400	0	12,200
Methyl Ethyl Ketone	13,000	0	0	0	0	0	0	13,000
N-butyl Alcohol	21,000	0	3,000	0	0	44,000	0	68,000
Methyl Isobutyl Ketone	15,000	0	0	0	0	87,000	0	102,000
Xylene (mixed isomers)	47,000	0	16,000	0	0	32,000	0	95,000
<b>Totals</b>	<b>116,800</b>	<b>0</b>	<b>22,500</b>	<b>0</b>	<b>0</b>	<b>240,400</b>	<b>0</b>	<b>379,700</b>
<u>Rice County, City of FARIBAULT -- K &amp; G MANUFACTURING --226 PARK AVE --ERCID -- 660300078</u>								
Trichloroethylene	20,295	0	0	0	165	0	0	20,460
<b>Totals</b>	<b>20,295</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>165</b>	<b>0</b>	<b>0</b>	<b>20,460</b>
<u>Rice County, City of FARIBAULT -- LAND O'LAKES, INC.-DAIRY PRODUCTION DIV. --1612 NW 7TH ST --ERCID -- 660300003</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	692	27,931	394	29,017
Nitric Acid	0	0	0	0	0	21,494	0	21,494
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>692</b>	<b>49,425</b>	<b>394</b>	<b>50,511</b>
<u>Rice County, City of FARIBAULT -- MCQUAY INTERNATIONAL --300 24TH ST NW --ERCID -- 660300004</u>								
Aluminum (fume or dust)	2	0	0	0	263,166	0	0	263,168
Chromium	1	0	0	0	5,170	0	0	5,171
Chlorodifluoromethane	1,011	0	0	0	2,400	0	0	3,411
Copper	73	0	0	0	115,604	0	0	115,677
Manganese	3	0	0	0	25,706	0	0	25,709
Zinc (fume or dust)	1	0	0	0	135,564	0	0	135,565
Nickel	1	0	0	0	5,170	0	0	5,171
<b>Totals</b>	<b>1,092</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>552,780</b>	<b>0</b>	<b>0</b>	<b>553,872</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Rice County, City of NORTHFIELD -- SHELDAHL, INC. - EAST FACILITY --805 HWY 3 N --ERCID -- 660600002</u>								
Methyl Ethyl Ketone	10,746	0	37,775	0	0	301,669	0	350,190
Decabromodiphenyl Oxide	5,392	0	0	0	0	0	727	6,119
Lead Compounds	1,328	0	0	0	8,144	0	0	9,472
Copper Compounds	6,527	0	0	0	708,410	0	0	714,937
Antimony Compounds	3,440	0	0	0	0	0	0	3,440
Nitrate Compounds (water dissociable)	324	0	0	0	0	0	21,742	22,066
Toluene	32,251	0	95,875	0	0	765,625	0	893,751
Ammonia	1,018	0	0	0	44,706	0	13,002	58,726
Nitric Acid	164	0	0	0	0	14,292	0	14,456
Methanol	13,113	0	575	0	0	3,523	0	17,211
<b>Totals</b>	<b>74,303</b>	<b>0</b>	<b>134,225</b>	<b>0</b>	<b>761,260</b>	<b>1,085,109</b>	<b>35,471</b>	<b>2,090,368</b>
<u>Roseau County, City of ROSEAU -- POLARIS INDUSTRIES, INC. --301 5TH AVE SW --ERCID -- 681550001</u>								
Toluene	20,000	0	770	0	0	0	0	20,770
Methyl Ethyl Ketone	25,000	0	6,500	0	0	0	0	31,500
Xylene (mixed isomers)	8,300	0	2,600	0	0	0	0	10,900
Ethylene Glycol	0	0	0	0	830	0	0	830
<b>Totals</b>	<b>53,300</b>	<b>0</b>	<b>9,870</b>	<b>0</b>	<b>830</b>	<b>0</b>	<b>0</b>	<b>64,000</b>
<u>Scott County, City of NEW PRAGUE -- CHART/MVE, INC. - MAIN PLANT --407 7TH ST NW --ERCID -- 700700001</u>								
Manganese	135	0	0	0	13,000	0	0	13,135
Chromium	88	0	0	0	21,000	0	0	21,088
Nickel	389	0	0	0	30,000	0	0	30,389
<b>Totals</b>	<b>612</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,000</b>	<b>0</b>	<b>0</b>	<b>64,612</b>
<u>Scott County, City of SAVAGE -- CONTINENTAL MACHINES, INC. --5505 W 123RD ST --ERCID -- 700820003</u>								
Methanol	27,330	0	0	0	0	0	0	27,330
<b>Totals</b>	<b>27,330</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27,330</b>
<u>Scott County, City of SAVAGE -- SILGAN CONTAINERS MFG. CORP. --12130 LYNN AVE --ERCID -- 700820004</u>								
N-butyl Alcohol	8,815	0	8,099	0	0	63,291	0	80,205
Glycol Ethers	26,232	0	24,099	0	0	188,332	0	238,663
Methyl Isobutyl Ketone	2,917	0	2,680	0	0	20,943	0	26,540

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
1,2,4-trimethylbenzene	4,316	0	3,965	0	0	30,986	0	39,267
Xylene (mixed isomers)	22,431	0	20,608	0	0	161,048	0	204,087
Ethylbenzene	4,614	0	4,239	0	0	33,127	0	41,980
N-hexane	16,011	0	259	0	0	0	0	16,270
<b>Totals</b>	<b>85,336</b>	<b>0</b>	<b>63,949</b>	<b>0</b>	<b>0</b>	<b>497,727</b>	<b>0</b>	<b>647,012</b>
<u>Scott County, City of SHAKOPEE -- ADC TELECOMMUNICATIONS --1187 PARK PLACE --ERCID -- 700850057</u>								
Nickel	0	0	0	0	73,118	0	0	73,118
Dichloromethane	6,215	0	0	0	3,933	0	0	10,148
Copper	1	0	0	0	942,862	0	0	942,863
<b>Totals</b>	<b>6,216</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,019,913</b>	<b>0</b>	<b>0</b>	<b>1,026,129</b>
<u>Scott County, City of SHAKOPEE -- CONKLIN COMPANY, INC. --551 VALLEY PARK DRV --ERCID -- 700850006</u>								
Methanol	20	0	2,628	0	0	0	0	2,648
Xylene (mixed isomers)	54	0	1,051	0	0	0	0	1,105
<b>Totals</b>	<b>74</b>	<b>0</b>	<b>3,679</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,753</b>
<u>Sherburne County, City of BECKER -- BECKER RDF ASH LANDFILL --13999 INDUSTRIAL BLVD --ERCID -- 710090018</u>								
Chromium Compounds	10,000	0	0	0	0	0	0	10,000
Ammonia	50	0	0	0	0	0	0	50
Zinc Compounds	330,000	0	0	0	0	0	0	330,000
Nickel Compounds	13,000	0	0	0	0	0	0	13,000
Manganese Compounds	110,000	0	0	0	0	0	0	110,000
Lead Compounds	140,000	0	0	0	0	0	0	140,000
Copper Compounds	180,000	0	0	0	0	0	0	180,000
Barium Compounds	59,000	0	0	0	0	0	0	59,000
Antimony Compounds	27,000	0	0	0	0	0	0	27,000
<b>Totals</b>	<b>869,050</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>869,050</b>
<u>Sherburne County, City of BECKER -- NSP - SHERCO PLANT --13999 INDUSTRIAL BLVD --ERCID -- 710090001</u>								
Manganese Compounds	560,000	0	0	0	0	0	0	560,000
Zinc Compounds	85,000	0	0	0	0	0	0	85,000
Hydrogen Fluoride	12,000	0	0	0	0	190,000	0	202,000
Ammonia	14,000	0	0	0	0	770	0	14,770

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Barium Compounds	5,200,000	0	0	0	0	0	0	5,200,000
Sulfuric Acid (aerosol forms only)	29,000	0	0	0	0	88,000	0	117,000
Copper Compounds	130,000	0	0	0	0	0	0	130,000
Hydrochloric Acid (aerosol forms only)	5,900	0	0	0	0	200,000	0	205,900
Lead Compounds	43,000	0	0	0	0	0	0	43,000
Nickel Compounds	57,000	0	0	0	0	0	0	57,000
Antimony Compounds	4,000	0	0	0	0	0	0	4,000
Chromium Compounds	74,000	0	0	0	0	0	0	74,000
<b>Totals</b>	<b>6,213,900</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>478,770</b>	<b>0</b>	<b>6,692,670</b>
<u>Sherburne County, City of PRINCETON -- CRYSTAL CABINET WORKS, INC. --1100 CRYSTAL DRV --ERCID -- 710050001</u>								
N-butyl Alcohol	255	0	0	0	12,140	0	0	12,395
Glycol Ethers	8,635	0	0	0	1,543	0	0	10,178
1,2,4-trimethylbenzene	10,610	0	0	0	0	0	0	10,610
Methyl Isobutyl Ketone	8,531	0	0	0	4,432	0	0	12,963
Methanol	10,314	0	0	0	15,272	0	0	25,586
Toluene	23,656	0	0	0	57,291	0	0	80,947
Xylene (mixed isomers)	52,591	0	0	0	31,466	0	0	84,057
Ethylbenzene	14,006	0	0	0	0	0	0	14,006
<b>Totals</b>	<b>128,598</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>122,144</b>	<b>0</b>	<b>0</b>	<b>250,742</b>
<u>Sibley County, City of GAYLORD -- M. G. WALDBAUM CO. --120 TOWER ST. SOUTH --ERCID -- 720400012</u>								
Nitric Acid	0	0	0	0	0	30,754	0	30,754
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30,754</b>	<b>0</b>	<b>30,754</b>
<u>Sibley County, City of WINTHROP -- DAIRY FARMERS OF AMERICA --212 E 1ST ST --ERCID -- 721200003</u>								
Nitric Acid	0	0	0	0	0	12,648	0	12,648
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,648</b>	<b>0</b>	<b>12,648</b>
<u>St Louis County, City of AURORA -- LASKIN ENERGY CENTER - MN POWER --5699 COLBY LAKE RD --ERCID -- 690350001</u>								
Barium Compounds	140,000	0	0	0	0	0	0	140,000
<b>Totals</b>	<b>140,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>140,000</b>
<u>St Louis County, City of BIWABIK -- MINNESOTA EXPLOSIVES CO. --5392 VERMILION TRAIL --ERCID -- 690580002</u>								
Ammonia	185	0	0	150	0	35	0	370

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Nitrate Compounds (water dissociable)	580	0	0	530	0	50	0	1,160
<b>Totals</b>	<b>765</b>	<b>0</b>	<b>0</b>	<b>680</b>	<b>0</b>	<b>85</b>	<b>0</b>	<b>1,530</b>
<u>St Louis County, City of CHISHOLM -- MINNESOTA TWIST DRILL, INC. --611 WEST DRIVE --ERCID -- 690950008</u>								
Barium Compounds	40,560	0	0	0	0	0	0	40,560
Chromium	25,590	0	0	0	3,053	0	0	28,643
Trichloroethylene	1,971	0	0	0	11,286	0	0	13,257
<b>Totals</b>	<b>68,121</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,339</b>	<b>0</b>	<b>0</b>	<b>82,460</b>
<u>St Louis County, City of COOK -- POTLATCH CORPORATION --9358 HWY 53 S --ERCID -- 691100001</u>								
Formaldehyde	26,848	0	0	0	0	16,619	0	43,467
Methanol	31,263	0	0	0	0	87,632	0	118,895
<b>Totals</b>	<b>58,111</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>104,251</b>	<b>0</b>	<b>162,362</b>
<u>St Louis County, City of DULUTH -- A.E. STALEY MFG. CO. --110 SPRING ST --ERCID -- 691250003</u>								
Maleic Anhydride	48	0	0	0	0	2,570	0	2,618
<b>Totals</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,570</b>	<b>0</b>	<b>2,618</b>
<u>St Louis County, City of DULUTH -- GEORGIA-PACIFIC CORPORATION --1220 RAILROAD STREET --ERCID -- 691250014</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	244,367	244,367
Nitric Acid	0	0	0	0	0	248,339	1	248,340
Methanol	146,835	0	0	0	0	0	26,056	172,891
<b>Totals</b>	<b>146,835</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>248,339</b>	<b>270,424</b>	<b>665,598</b>
<u>St Louis County, City of DULUTH -- LAKE SUPERIOR PAPER IND. --100 N CENTRAL AVE --ERCID -- 691250008</u>								
Methanol	81,000	0	0	0	0	0	55,000	136,000
<b>Totals</b>	<b>81,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55,000</b>	<b>136,000</b>
<u>St Louis County, City of DULUTH -- M.E. INTERNATIONAL - DULUTH --200 E CARTERETT ST --ERCID -- 691250013</u>								
Nickel	265	0	0	0	0	0	0	265
Barium	6,120	0	0	0	0	0	0	6,120
Manganese Compounds	12,900	0	0	0	0	0	0	12,900
Molybdenum Trioxide	197	0	0	0	0	0	0	197
Chromium	4,725	0	0	0	0	0	0	4,725
<b>Totals</b>	<b>24,207</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24,207</b>
<u>St Louis County, City of DULUTH -- NORTH STAR STEEL MINNESOTA - DULUTH DIV. --800 GARFIELD AVE --ERCID -- 691250087</u>								
Nickel Compounds	685	0	0	0	0	0	0	685

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Manganese Compounds	1,973	0	0	0	0	0	0	1,973
Copper Compounds	1,233	0	0	0	0	0	0	1,233
Chromium Compounds	1,480	0	0	0	0	0	0	1,480
<b>Totals</b>	<b>5,371</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,371</b>
<u>St Louis County, City of HIBBING -- INTERMET HIBBING FOUNDRY --555 W 25TH ST --ERCID -- 692350004</u>								
Copper	868	0	0	0	521	0	0	1,389
<b>Totals</b>	<b>868</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>521</b>	<b>0</b>	<b>0</b>	<b>1,389</b>
<u>St Louis County, City of HIBBING -- L &amp; M RADIATOR, INC. --1414 E 37TH ST --ERCID -- 692350038</u>								
Copper	10	0	0	0	64,785	0	0	64,795
<b>Totals</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,785</b>	<b>0</b>	<b>0</b>	<b>64,795</b>
<u>St Louis County, City of HIBBING -- NOBLE INDUSTRIES, LTD. --3430 E 13TH AVE --ERCID -- 692350002</u>								
Copper	140	0	0	0	26,600	0	0	26,740
<b>Totals</b>	<b>140</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26,600</b>	<b>0</b>	<b>0</b>	<b>26,740</b>
<u>St Louis County, City of HIBBING -- VIKING EXPLOSIVES &amp; SUPPLY INC. --4469 HWY 5 --ERCID -- 692350029</u>								
Ammonia	0	0	0	0	0	0	0	0
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>St Louis County, City of VIRGINIA -- BORDEN CHEMICAL, INC. --1507 SOUTHERN DRV --ERCID -- 694400002</u>								
Methanol	673	0	0	0	0	0	0	673
Formaldehyde	277	0	0	0	0	0	0	277
<b>Totals</b>	<b>950</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>950</b>
<u>Stearns County, City of HOLDINGFORD -- POLAR TANK TRAILER, INC. --12810 CO RD 17 --ERCID -- 731050001</u>								
Chromium	32	0	0	0	152,000	0	0	152,032
Nickel	18	0	0	0	66,000	0	0	66,018
Manganese	34	0	0	0	23,000	0	0	23,034
<b>Totals</b>	<b>84</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>241,000</b>	<b>0</b>	<b>0</b>	<b>241,084</b>
<u>Stearns County, City of MELROSE -- CARSTENS INDUSTRIES, INC. --733 W MAIN ST BOX 185 --ERCID -- 731500010</u>								
Styrene	30,450	0	0	0	0	0	0	30,450
<b>Totals</b>	<b>30,450</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30,450</b>
<u>Stearns County, City of MELROSE -- KRAFT FOODS, INC. --1000 E KRAFT DRV --ERCID -- 731500003</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	531,006	531,006

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Nitric Acid	0	0	0	0	0	541,842	0	541,842
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>541,842</b>	<b>531,006</b>	<b>1,072,848</b>
<u>Stearns County, City of PAYNESVILLE -- ASSOCIATED MILK PRODUCERS, INC. --200 RAILROAD ST --ERCID -- 731840001</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	0	84,675	84,675
Nitric Acid	0	0	0	43,031	0	86,062	0	129,093
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>43,031</b>	<b>0</b>	<b>86,062</b>	<b>84,675</b>	<b>213,768</b>
<u>Stearns County, City of PAYNESVILLE -- CROMWELL MOLDING --27546 HWY 23 --ERCID -- 731840025</u>								
Styrene	8,239	0	0	0	0	0	0	8,239
<b>Totals</b>	<b>8,239</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,239</b>
<u>Stearns County, City of SARTELL -- DEZURIK --250 RIVERSIDE AVE N --ERCID -- 732620002</u>								
Phenol	10,146	0	0	0	0	0	0	10,146
Nickel	477	0	0	0	0	0	0	477
<b>Totals</b>	<b>10,623</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,623</b>
<u>Stearns County, City of ST. CLOUD -- DCI, INC. --600 N 54TH AVE --ERCID -- 732300056</u>								
Manganese Compounds	125	0	0	0	7,600	0	0	7,725
Nickel Compounds	734	0	0	0	35,500	0	0	36,234
Chromium Compounds	1,200	0	0	0	75,000	0	0	76,200
<b>Totals</b>	<b>2,059</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118,100</b>	<b>0</b>	<b>0</b>	<b>120,159</b>
<u>Stearns County, City of ST. CLOUD -- FRIGIDAIRE HOME PRODUCTS-FREEZERS --701 N 33RD AVE --ERCID -- 732300008</u>								
Diisocyanates	48,000	0	0	0	33,000	0	5,700	86,700
1,1-dichloro-1-fluoroethane	703,000	0	0	0	22,000	0	300	725,300
<b>Totals</b>	<b>751,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55,000</b>	<b>0</b>	<b>6,000</b>	<b>812,000</b>
<u>Stearns County, City of ST. CLOUD -- GREDE - ST. CLOUD --5200 FOUNDRY CIRCLE --ERCID -- 732300084</u>								
Chromium	79,900	0	0	2,040	24,000	0	0	105,940
Nickel	40,000	0	0	6,400	12,000	0	0	58,400
Copper	2,600	0	0	122,000	790	0	0	125,390
Diisocyanates	560	0	0	0	0	10,000	190	10,750
Manganese	11,000	0	0	120,000	3,300	0	0	134,300
Phenol	850	0	0	0	0	1,100	122	2,072
Aluminum Oxide (fibrous forms)	161,000	0	0	0	0	0	0	161,000
Ethylene Glycol	0	0	0	0	10,300	0	14,900	25,200

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>295,910</b>	<b>0</b>	<b>0</b>	<b>250,440</b>	<b>50,390</b>	<b>11,100</b>	<b>15,212</b>	<b>623,052</b>
<u>Stearns County, City of ST. CLOUD -- VISION EASE LENS, INC. --700 54TH AVE N --ERCID -- 732300020</u>								
Lead	26	0	0	0	28,789	0	0	28,815
Trichloroethylene	2,431	0	94	6,798	0	0	0	9,323
Barium	0	0	0	0	11,271	0	0	11,271
<b>Totals</b>	<b>2,457</b>	<b>0</b>	<b>94</b>	<b>6,798</b>	<b>40,060</b>	<b>0</b>	<b>0</b>	<b>49,409</b>
<u>Steele County, City of BLOOMING PRAIRIE -- ATOFINA CHEMICALS, INC. --157 W HWY N --ERCID -- 740140002</u>								
Formic Acid	98	0	0	0	0	232	0	330
Peracetic Acid	900	0	0	0	0	854	0	1,754
<b>Totals</b>	<b>998</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,086</b>	<b>0</b>	<b>2,084</b>
<u>Steele County, City of BLOOMING PRAIRIE -- TANDEM PRODUCTS, INC. --520 INDUSTRIAL DRV --ERCID -- 740140039</u>								
Nickel	1,229	0	0	0	5,808	0	0	7,037
Chromium	1,177	0	0	0	5,559	0	0	6,736
<b>Totals</b>	<b>2,406</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11,367</b>	<b>0</b>	<b>0</b>	<b>13,773</b>
<u>Steele County, City of OWATONNA -- BLOUNT, INC. --CO RD 45 --ERCID -- 740700124</u>								
Nickel	14	0	0	0	34,980	0	0	34,994
Chromium	15	0	0	0	38,790	0	0	38,805
Manganese	20	0	0	0	29,960	0	0	29,980
Copper	6	0	0	0	16,070	0	0	16,076
<b>Totals</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119,800</b>	<b>0</b>	<b>0</b>	<b>119,855</b>
<u>Steele County, City of OWATONNA -- CROWN CORK &amp; SEAL CO., INC. --2929 W BRIDGE ST --ERCID -- 740700127</u>								
Glycol Ethers	145,000	0	0	0	0	0	0	145,000
N-butyl Alcohol	230,000	0	0	0	0	0	0	230,000
<b>Totals</b>	<b>375,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>375,000</b>
<u>Steele County, City of OWATONNA -- JOSTENS INC. - SOUTHTOWN --1900 HARTLE AVE --ERCID -- 740700007</u>								
Nitrate Compounds (water dissociable)	0	0	0	0	0	20	28,000	28,020
Nitric Acid	23	0	0	0	0	28,303	0	28,326
<b>Totals</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28,323</b>	<b>28,000</b>	<b>56,346</b>
<u>Steele County, City of OWATONNA -- MUSTANG MFG. CO. --1605 NORTH COUNTY RD 45 --ERCID -- 740700057</u>								
Methyl Ethyl Ketone	1,200	0	6,800	0	12,400	0	0	20,400
<b>Totals</b>	<b>1,200</b>	<b>0</b>	<b>6,800</b>	<b>0</b>	<b>12,400</b>	<b>0</b>	<b>0</b>	<b>20,400</b>





Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Zinc Compounds	21,000	0	0	0	0	0	0	21,000
Barium Compounds	500,000	0	0	0	0	0	0	500,000
Hydrochloric Acid (aerosol forms only)	11,000	0	0	0	0	46,000	0	57,000
<b>Totals</b>	<b>747,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>103,000</b>	<b>0</b>	<b>850,000</b>
<u>Washington County, City of COTTAGE GROVE -- 3M COTTAGE GROVE CENTER --10746 INNOVATION RD --ERCID -- 820300001</u>								
Chromium Compounds	88,408	0	0	0	2,406	0	0	90,814
4,4'-methylenedianiline	0	0	128	0	0	12,212	0	12,340
Acetonitrile	26	0	0	0	0	23,804	0	23,830
Acrylic Acid	1,691	0	1,324	0	0	102,090	0	105,105
Aluminum (fume or dust)	0	0	0	0	0	0	0	0
Ammonia	17,791	0	0	0	0	5,754	0	23,545
Antimony Compounds	2,543	0	0	0	4	0	0	2,547
Ethyl Acrylate	3,724	0	0	0	0	37,097	0	40,821
2-methoxyethanol	0	0	0	0	0	17,927	0	17,927
Ethylene Glycol	235	0	75	0	0	44,872	0	45,182
Cyclohexane	1,189	0	58	0	0	35,510	0	36,757
Decabromodiphenyl Oxide	0	0	0	0	0	2,867	0	2,867
Di(2-ethylhexyl) Phthalate	118	0	0	0	0	10,549	0	10,667
Dichloromethane	783	0	0	0	0	28,450	19,238	48,471
N-methyl-2-pyrrolidone	0	0	1,848	0	0	10,179	0	12,027
N,n-dimethylformamide	576	0	5,084	0	0	24,099	0	29,759
2-ethoxyethanol	2,606	0	0	0	0	118,774	0	121,380
Catechol	9	0	0	0	0	19,551	0	19,560
Manganese Compounds	11,902	0	0	0	474	0	0	12,376
Toluenediisocyanate (mixed isomers)	465	0	980	0	0	691	0	2,136
Ethylbenzene	1,343	0	15,563	0	22,651	46,261	0	85,818
Sulfuric Acid (aerosol forms only)	291	0	0	0	0	5,822	0	6,113
Polycyclic Aromatic Compounds	0	32,277	0	0	0	0	0	32,277
Sodium Nitrite	349,407	0	0	0	0	0	0	349,407
Lead Compounds	49,864	0	0	0	3,969	0	0	53,833

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
Hydrogen Fluoride	1,936	0	0	0	0	215,272	3,357	220,565
Hydrochloric Acid (aerosol forms only)	2,184	0	0	0	0	321,067	4,018	327,269
N-hexane	342	0	0	0	0	38,374	0	38,716
Glycol Ethers	770	0	8,761	0	0	121,964	0	131,495
Maleic Anhydride	190	0	0	0	0	451	0	641
Formaldehyde	1,796	0	184	0	0	74,744	0	76,724
Ethylene Oxide	0	0	0	0	0	12,038	0	12,038
Formic Acid	2,028	0	0	0	0	48,324	0	50,352
Copper Compounds	12,727	0	0	0	89,819	0	0	102,546
Methanol	9,710	0	103,458	0	31,389	744,447	0	889,004
Nitric Acid	26,010	0	0	0	0	175,020	166	201,196
Methyl Ethyl Ketone	21,189	0	57,207	0	573,498	3,991,701	0	4,643,595
Diisocyanates	27	0	32,042	0	0	31,291	0	63,360
Methyl Methacrylate	2,636	0	512	0	0	16,671	0	19,819
1,3-phenylenediamine	0	0	0	0	0	19,110	0	19,110
N-butyl Alcohol	228	0	0	0	0	100,563	0	100,791
Nickel Compounds	12,786	0	0	0	10,102	0	0	22,888
Methyl Acrylate	3,279	0	0	0	0	781	0	4,060
Methyl Isobutyl Ketone	274	0	76	0	0	144,280	0	144,630
Toluene-2,4-diisocyanate	0	0	22,879	0	0	9,097	0	31,976
Tert-butyl Alcohol	2	0	0	0	0	18,576	0	18,578
Pyridine	64	0	0	0	0	10,432	0	10,496
Phthalic Anhydride	523	0	0	0	0	38,367	0	38,890
Phenol	3,533	0	0	0	0	56,129	0	59,662
Nitrate Compounds (water dissociable)	172,241	0	0	0	0	0	40	172,281
Xylene (mixed isomers)	13,587	0	78,245	0	116,208	3,894,097	0	4,102,137
Zinc Compounds	21,582	0	0	0	2,216	0	0	23,798
Toluene	111,198	0	129,330	0	23,844	4,958,483	0	5,222,855
<b>Totals</b>	<b>953,813</b>	<b>32,277</b>	<b>457,754</b>	<b>0</b>	<b>876,580</b>	<b>15,587,788</b>	<b>26,819</b>	<b>17,935,031</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Washington County, City of COTTAGE GROVE -- LSP-COTTAGE GROVE, LP --9525 105TH ST CT S --ERCID -- 820300033</u>								
Ammonia	107,000	0	0	0	0	0	0	107,000
<b>Totals</b>	<b>107,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>107,000</b>
<u>Washington County, City of FOREST LAKE -- ROYALINE INDUSTRIES, INC. --794 SW 15TH ST --ERCID -- 820490009</u>								
Styrene	19,156	0	0	0	0	0	0	19,156
<b>Totals</b>	<b>19,156</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19,156</b>
<u>Washington County, City of ST. PAUL PARK -- MARATHON ASHLAND PETROLEUM, LLC --100 W 3RD AVE --ERCID -- 821650001</u>								
1,3-butadiene	678	0	0	2	0	201	0	881
Xylene (mixed isomers)	24,284	0	799	175,643	0	35,346	1,953	238,025
Cyclohexane	3,165	0	933	16,555	0	626	137	21,416
Tetrachloroethylene	4,282	0	0	0	8	0	2	4,292
Ammonia	8,516	0	0	0	0	2,645	0	11,161
Polycyclic Aromatic Compounds	860	0	0	0	0	0	0	860
N-hexane	12,097	0	405	62,989	0	452	706	76,649
1,2,4-trimethylbenzene	9,904	0	1,243	79,703	8	10,193	1,022	102,073
Molybdenum Trioxide	0	0	0	0	302	0	37,175	37,477
Ethylbenzene	3,979	0	874	28,887	0	5,333	383	39,456
Ethylene	6,913	0	7	1,801	0	372	0	9,093
Styrene	1,736	0	0	2	0	7	0	1,745
Propylene	19,980	0	33	1,760	0	372	0	22,145
Biphenyl	143	0	22	1,075	0	60	0	1,300
Chlorine	6,202	0	0	0	0	0	0	6,202
Hydrogen Fluoride	91	0	0	0	0	259,115	0	259,206
Carbonyl Sulfide	2	0	0	0	0	0	0	2
Carbon Disulfide	1	0	0	0	0	0	0	1
Toluene	21,443	0	2,378	120,327	0	51,466	1,817	197,431
Benzene	8,762	0	617	27,424	1	28,991	395	66,190
Naphthalene	1,123	0	13	8,114	3	3,520	120	12,893
<b>Totals</b>	<b>134,161</b>	<b>0</b>	<b>7,324</b>	<b>524,282</b>	<b>322</b>	<b>398,699</b>	<b>43,710</b>	<b>1,108,498</b>

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<u>Washington County, City of STILLWATER -- 3M-STILLWATER --1987 INDUSTRIAL BLVD --ERCID -- 821700005</u>								
Glycol Ethers	6,284	0	11	0	0	0	3,754	10,049
N-methyl-2-pyrrolidone	8,118	0	13	0	0	0	4,266	12,397
Xylene (mixed isomers)	25,305	0	3	0	0	0	1,070	26,378
Diisocyanates	1,300	0	2	0	0	0	102	1,404
<b>Totals</b>	<b>41,007</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,192</b>	<b>50,228</b>
<u>Washington County, City of WOODBURY -- ECOWATER SYSTEMS, INC. --1890 WOODLANE DRV --ERCID -- 821910002</u>								
Styrene	5,700	0	0	0	0	500	0	6,200
<b>Totals</b>	<b>5,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>0</b>	<b>6,200</b>
<u>Watsonwan County, City of ST. JAMES -- WESTIN AUTOMOTIVE PRODUCTS, INC. --240 S 15TH ST --ERCID -- 830900001</u>								
Nickel	5	0	0	0	10,899	0	0	10,904
<b>Totals</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,899</b>	<b>0</b>	<b>0</b>	<b>10,904</b>
<u>Winona County, City of LEWISTON -- RIVERSIDE ELECTRONICS LTD. --1 RIVERSIDE DRV --ERCID -- 850550016</u>								
Lead	0	0	0	0	6,155	0	0	6,155
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,155</b>	<b>0</b>	<b>0</b>	<b>6,155</b>
<u>Winona County, City of WINONA -- BADGER EQUIPMENT CO. --217 PATNEAUDE DRIVE --ERCID -- 851450037</u>								
Nickel	0	0	0	0	31,931	0	0	31,931
Manganese	0	0	0	0	32,233	0	0	32,233
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,164</b>	<b>0</b>	<b>0</b>	<b>64,164</b>
<u>Winona County, City of WINONA -- BADGER FOUNDRY CO. --1058 E MARK ST --ERCID -- 851450005</u>								
Copper	2,640	0	0	31,520	110	0	0	34,270
Manganese	41,260	0	0	45,305	180	0	0	86,745
<b>Totals</b>	<b>43,900</b>	<b>0</b>	<b>0</b>	<b>76,825</b>	<b>290</b>	<b>0</b>	<b>0</b>	<b>121,015</b>
<u>Winona County, City of WINONA -- BEHRENS INC --471 W 3RD ST --ERCID -- 851450092</u>								
Zinc Compounds	0	0	0	0	59,900	0	0	59,900
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>59,900</b>	<b>0</b>	<b>0</b>	<b>59,900</b>
<u>Winona County, City of WINONA -- CYTEC FIBERITE, INC. --501 W 3RD ST --ERCID -- 851450010</u>								
Methanol	30,893	212,623	66,362	19,744	0	0	0	329,622
Phenol	31,634	146,586	67,151	0	0	0	0	245,371
Methyl Ethyl Ketone	9,856	142,254	45,172	0	0	0	0	197,282
Formaldehyde	5,269	45,482	16,313	0	0	0	0	67,064

Statewide Listing of Amount of Releases, Transfers, and Total Chemicals  
 Managed for the Calendar Year 1999  
 Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission  
 (Amount in Pounds)

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b>Totals</b>	<b>77,652</b>	<b>546,945</b>	<b>194,998</b>	<b>19,744</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>839,339</b>
<u>Winona County, City of WINONA -- MIDWEST METAL PRODUCTS INC. --1175 EAST BROADWAY --ERCID -- 851450101</u>								
Chromium	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Winona County, City of WINONA -- MILLER WASTE MILLS, INC. - RTP --580 E FRONT ST --ERCID -- 851450019</u>								
Antimony Compounds	781	0	0	0	0	0	0	781
Decabromodiphenyl Oxide	1,727	0	0	0	0	0	0	1,727
<b>Totals</b>	<b>2,508</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,508</b>
<u>Winona County, City of WINONA -- PEERLESS CHAIN CO. --1416 E SANBORN ST --ERCID -- 851450002</u>								
Zinc Compounds	22,015	0	0	0	0	0	0	22,015
<b>Totals</b>	<b>22,015</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22,015</b>
<u>Winona County, City of WINONA -- WE-NO-NAH CANOE --1252 BUNDY BLVD --ERCID -- 851450071</u>								
Styrene	9,146	0	0	0	0	0	0	9,146
<b>Totals</b>	<b>9,146</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,146</b>
<u>Wright County, City of BUFFALO -- HONEYWELL ADVANCED CIRCUITS, INC. --200 CENTENNIAL DRV --ERCID -- 860190025</u>								
Nitric Acid	279	0	0	0	0	18,303	24,922	43,504
Copper	473	0	0	0	140,516	0	0	140,989
Formaldehyde	66	0	0	0	0	4,345	0	4,411
<b>Totals</b>	<b>818</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>140,516</b>	<b>22,648</b>	<b>24,922</b>	<b>188,904</b>
<u>Wright County, City of HOWARD LAKE -- DURA SUPREME, INC. --300 DURA DRV --ERCID -- 860850007</u>								
Xylene (mixed isomers)	24,174	0	1,227	0	0	0	10	25,411
<b>Totals</b>	<b>24,174</b>	<b>0</b>	<b>1,227</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>25,411</b>
<u>Wright County, City of MAPLE LAKE -- SUN PATIO INC. --400 HWY 55 --ERCID -- 860890008</u>								
Styrene	10,832	0	0	0	0	0	0	10,832
<b>Totals</b>	<b>10,832</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,832</b>
<u>Wright County, City of MONTICELLO -- SUNNY FRESH FOODS --206 W 4TH ST --ERCID -- 861090004</u>								
Nitric Acid	0	0	0	0	0	12,326	0	12,326
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,326</b>	<b>0</b>	<b>12,326</b>
<u>Wright County, City of MONTROSE -- KNIGHT COLORS &amp; CHEMICALS CO. --2515 US HWY 12 SW --ERCID -- 861200005</u>								
N-hexane	9,580	0	0	0	0	0	0	9,580
<b>Totals</b>	<b>9,580</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,580</b>
<b>Grand Totals:</b>	<b>31,774,694</b>	<b>4,659,701</b>	<b>2,290,764</b>	<b>209,011,671</b>	<b>23,065,389</b>	<b>45,365,494</b>	<b>17,069,750</b>	<b>333,237,463</b>

Statewide Listing of State TRI Expansion Facilities by Amount of Releases, Transfers and Total Chemicals Managed for the Calendar Year 1999

State of Minnesota  
Department of Public Safety

Emergency Response Commission  
(Amount in Pounds)

Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

Sorted by County, City, Facility

Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off -site (8.3)	Recycled On-site (8.4)	Recycled Off -site (8.5)	Treated On-site (8.6)	Treated Off -site (8.7)	Total Chemicals Managed
<b><u>Dakota County, City of ROSEMOUNT -- U OF MN - ROSEMOUNT RESEARCH CENTER -- 15325 BABCOCK AVE -- ERCID -- 191450017</u></b>								
Ammonia	154,901	0	0	0	0	0	0	154,901
<b>Totals</b>	<b>154,901</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>154,901</b>
<b><u>Hennepin County, City of ST. PAUL-- NORTHWEST AIRLINES, INC. -- 5101 NORTHWEST DRIVE -- ERCID -- 279990003</u></b>								
Trichloroethylene	51,000	0	0	0	0	0	73	51,073
<b>Totals</b>	<b>51,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>51,073</b>
<b><u>Redwood County, City of LAMBERTON -- U OF MN - SOUTHWEST EXPERIMENT STATION -- HWY 330 -- ERCID -- 640590003</u></b>								
Ammonia	46,860	0	0	0	0	0	0	46,860
<b>Totals</b>	<b>46,860</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,860</b>
<b><u>Redwood County, City of REDWOOD FALLS -- U OF MN - SANDERS CROP MGMT. CTR. -- 112N 36W REDWOOD-PARTS OF SEC. 22</u></b>								
Ammonia	56,824	0	0	0	0	0	0	56,824
<b>Totals</b>	<b>56,824</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>56,824</b>
<b><u>Redwood County, City of REDWOOD FALLS -- U OF MN-SANDERS CROP MGMT. CTR. -- 112N 35W PAXTON-S 1/2 SEC. OF 31 --</u></b>								
Ammonia	18,176	0	0	0	0	0	0	18,176
<b>Totals</b>	<b>18,176</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18,176</b>
<b><u>Redwood County, City of REDWOOD FALLS -- U OF MN-SANDERS CROP MGMT. CTR. -- 112N 35W PAXTON-NE 1/4 SEC. OF 21 --</u></b>								
Ammonia	17,442	0	0	0	0	0	0	17,442
<b>Totals</b>	<b>17,442</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17,442</b>
<b><u>Redwood County, City of REDWOOD FALLS -- U OF MN-SANDERS CROP MGMT. CTR. -- 112N 36W REDWOOD-PT. OF SEC.</u></b>								
Ammonia	69,508	0	0	0	0	0	0	69,508
<b>Totals</b>	<b>69,508</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>69,508</b>
<b><u>Waseca County, City of WASECA -- U OF MN - SOUTHERN EXPERIMENT STATION -- 1101 W ELM-- ERCID -- 810700010</u></b>								
Ammonia	44,000	0	0	0	0	0	0	44,000
<b>Totals</b>	<b>44,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44,000</b>
<b>Grand</b>	<b>458,711</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>458,784</b>



**Number of Facilities (by County) Reporting Releases  
and Transfers for the Calendar Year 1999**  
Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

**State of Minnesota  
Department of Public Safety  
Emergency Response Commission**  
(Amount in Pounds)

<b>County</b>	<b>Number of Facilities</b>	<b>Environmental Releases (8.1)</b>	<b>Off-site Releases and Transfers (8.1,3,5,7)</b>	<b>Total Chemicals Managed (8.1,2,3,4,5,6,7)</b>
Anoka	26	579,866	1,921,401	2,493,858
Beltrami	1	184,250	184,250	184,250
Benton	5	88,526	103,674	376,327
Blue Earth	6	758,817	1,044,442	1,070,813
Brown	2	59,665	649,805	671,005
Carlton	3	335,334	7,463,383	9,914,671
Carver	12	210,944	624,456	1,551,868
Cass	1	6,725	6,725	6,725
Chisago	1	30,031	30,031	30,031
Clay	2	190,310	190,328	488,290
Crow Wing	5	7,831	84,704	122,222
Dakota	25	2,834,713	3,073,454	191,397,299
Dodge	1	232,841	578,741	578,741
Douglas	3	63,370	140,270	224,777
Faribault	3	13,227	13,227	31,227
Fillmore	1	87,910	113,036	113,036
Freeborn	4	104,267	218,254	279,133
Goodhue	11	686,280	867,498	1,710,995
Grant	1	14,464	15,703	15,703
Hennepin	85	1,951,307	9,901,136	11,900,116
Hubbard	2	196,579	196,579	196,579
Isanti	1	32	60,229	60,229
Itasca	3	1,890,150	1,900,424	2,182,025
Jackson	1	6,500	64,500	64,500
Kanabec	2	89,686	101,330	101,330
Kandiyohi	1	10,620	17,114	17,114
Koochiching	2	633,847	634,551	10,404,681
Lac Qui Parle	2	453,220	453,360	808,773
Lake	2	51,500	93,154	140,054
Lake of the Woods	1	66,667	71,485	71,485
Le Sueur	3	1,868	124,902	1,247,567
Lyon	1	111,865	126,384	126,384
Marshall	1	106,809	106,809	106,809
Martin	4	413,447	457,544	457,544
McLeod	7	680,610	3,421,080	23,441,043
Meeker	4	57,569	618,422	1,187,531
Mille Lacs	2	25,434	49,004	49,004
Morrison	1	410,441	414,791	414,791
Mower	2	171,770	204,664	344,664
Nicollet	2	38,185	50,889	52,889
Nobles	1	11,598	78,438	78,438
Olmsted	8	580,782	2,213,895	3,260,126
Otter Tail	5	239,607	528,027	1,453,804
Pennington	1	36,100	37,328	37,328
Pipestone	1	355,439	355,439	355,439
Polk	3	629,218	641,868	697,480
Ramsey	46	3,596,893	14,687,030	22,368,951
Redwood	5	208,810	208,810	208,810

**Number of Facilities (by County) Reporting Releases  
and Transfers for the Calendar Year 1999**  
Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

**State of Minnesota  
Department of Public Safety  
Emergency Response Commission**  
(Amount in Pounds)

<b>County</b>	<b>Number of Facilities</b>	<b>Environmental Releases (8.1)</b>	<b>Off-site Releases and Transfers (8.1,3,5,7)</b>	<b>Total Chemicals Managed (8.1,2,3,4,5,6,7)</b>
Renville	1	148,951	148,951	148,951
Rice	5	212,490	1,719,977	3,094,911
Roseau	1	53,300	64,000	64,000
Scott	5	119,568	1,271,109	1,768,836
Sherburne	3	7,211,548	7,333,692	7,812,462
Sibley	2	0	0	43,402
St Louis	14	526,426	958,095	1,314,020
Stearns	10	1,100,822	2,242,359	3,181,632
Steele	10	416,426	657,906	687,315
Swift	1	9,459	91,729	91,729
Todd	2	8,787	12,730	12,730
Wabasha	3	117,452	124,981	124,981
Wadena	1	16,287	16,287	16,287
Waseca	3	57,437	222,142	247,133
Washington	8	2,059,187	3,490,360	20,150,416
Watonwan	1	5	10,904	10,904
Winona	9	155,221	480,728	1,124,242
Wright	5	45,404	212,079	247,053
<b>Totals:</b>	<b>396</b>	<b>31,774,694</b>	<b>74,200,597</b>	<b>333,237,463</b>

## Attachment 6

### **Facilities Filing a Certification Statement (Alternate Threshold Option) instead of an EPA Form R**

Starting with the 1995 reporting year, EPA granted a reporting modification entitled *TRI Alternate Thresholds for Facilities with Low Annual Reportable Amounts*. A facility that does not exceed 500 pounds of on-site and off-site releases and transfers (total of Sections 8.1 through 8.7 of the EPA Form R) is eligible to apply the alternate manufacture, process, or otherwise use threshold of one million pounds to determine if a Form R is required to be submitted for a listed chemical. If a facility does not meet the 500 pound threshold, and uses less than one million pounds of the listed chemical, the facility may file a two page Certification Statement instead of the Form R for that chemical.

The owner or operator must retain records substantiating the alternate threshold determination for a period of three years from the date of the submission of the certification statement. The certification statement must be submitted on an annual basis for each eligible chemical.

The Minnesota Emergency Response Commission follows EPA's guidelines for facilities filing a Certification Statement and is granting those facilities an exemption from preparing Pollution Prevention Plans, submitting annual Pollution Prevention Progress Reports, and paying Pollution Prevention fees.

In 1999, 128 facilities filed 293 Certification Statements including 50 who filed both a Form R and Certification Statement(s), and 78 who filed only a Certification Statement(s).

The following facilities filed a Certification Statement(s) for the 1999 reporting year:

<u>FACILITY NAME</u>	<u>ERC ID NUMBER</u>	<u>CHEMICAL NAME</u>
Federal-Cartridge Co.	02-005-0004	Nitroglycerin Nitric Acid Antimony Compounds
Airgas North Central, Inc.	02-005-0029	Propylene
Onan Mfg.	02-055-0009	Ethylene Glycol
H.B. Fuller Co.	02-055-0018	Zinc Compounds
Land O'Lakes - Detroit Lakes	03-055-0001	Copper Compounds Zinc Compounds Manganese Compounds

Land O'Lakes Wood Preserving	04-215-0001	Copper Compounds Arsenic Compounds Chromium Compounds
Gold' N Plump Farms LP, LLP	05-073-0015	Copper Compounds Zinc Compounds Manganese Compounds
Feed Service Co., Inc.	07-100-0057	Zinc Compounds
Big Gain Inc.	07-160-0004	Zinc Compounds Manganese Compounds Copper Compounds
Ochs Brick Co.	08-105-0002	Manganese Compounds Barium Compounds
Specialty Minerals, Inc.	09-040-0019	Acid (Trade Secret)
Softsoap Enterprises, Inc.	10-035-0003	Diethanolamine
McLaughlin Gormley King	10-035-0008	Permethrin Piperonyl Butoxide Maleic Anhydride Phenothrin Tetramethrin Dicyclopentadiene Dipropyl Isocinchomeronate
Busch Agricultural Resources, Inc.	14-145-0010	Polycyclic Aromatic Compounds
Ethanol 2000, LLP	17-020-0002	Ammonia Benzene Cyclohexane n-Hexane
Water Heater Innovations, Inc.	19-025-0027	Diisocyanates
Materials Processing Corporation	19-025-0091	Copper
W.R. Grace & Co.	19-025-0095	Nitrate Compounds
ConAgra Flour Milling Co.	19-060-0001	Chlorine
Intek Plastics, Inc.	19-060-0043	Diisocyanates
Land O'Lakes - Inver Grove Hts.	19-071-0001	Copper Compounds Manganese Compounds Zinc Compounds
ChemCentral/Minnesota	19-080-0001	Styrene Ethylene Glycol Ethylbenzene Di(2-ethylhexyl) Phthalate (DEHP)

		Methyl Isobutyl Ketone 1,2,4 -Trimethylbenzene n-Hexane Glycol Ethers Dibutyl Phthalate
Koch Petroleum Group	19-145-0005	Lead Compounds Copper Compounds Molybdenum Trioxide Chromium Compounds
Koch Sulfur Products Co.	19-145-0006	Ethylbenzene Naphthalene Nickel Compounds
Dole Explosives, Inc.	19-145-0014	Ammonia Nitrate Compounds
DPC Industries, Inc.	19-145-0018	Hydrogen Fluoride
Flint Ink Corp.	19-180-0001	Dibutyl Phthalate Barium Compounds
Al Corn Clean Fuel	20-014-0016	Ammonia Benzene Cyclohexane n-Hexane
Hubbard Feeds, Inc.	21-005-0002	Zinc Compounds
Standard Iron & Wire Works, Inc.	21-005-0064	Manganese
Crown Fixtures Corp.	22-110-0014	Trichlorofluoromethane Dichlorodifluoromethane Diisocyanates
Corn Plus	22-110-0019	Benzene 1,2,4 -Trimethylbenzene Naphthalene
Pro-Corn	23-134-0019	Ammonia Benzene Cyclohexane n-Hexane
Schweigert Foods	24-005-0001	Ammonia
Airgas North Central, Inc.	24-005-0040	Propylene
Agra Resources Coop	24-005-0081	Ammonia Benzene Cyclohexane n-Hexane

Red Wing Shoe Co., Inc. Plant II	25-110-0001	Diisocyanates
Red Wing Shoe Co., Inc. Plant I	25-110-0008	Diisocyanates
Chemrex	27-005-0008	Diisocyanates Toluene Diisocyanate
Hitchcock Industries, Inc.	27-005-0013	Diisocyanates
FMS Corporation	27-005-0092	Ammonia Tetrachloroethylene
Caterpillar Paving Products , Inc.	27-015-0053	Ethylene Glycol
Birchwood Laboratories, Inc.	27-056-0001	Barium Compounds
Douglas Corp.	27-056-0076	Diisocyanates
Reliance Motion Control	27-056-0081	Diisocyanates
Filmtec Corporation	27-060-0002	Diisocyanates
Honeywell, Inc.	27-070-0001	Diisocyanates
Electrochemicals, Inc.	27-120-0010	Ethylene Glycol Formaldehyde
Bureau of Engraving, Inc. Electronics Group	27-135-0011	Chlorine Hydrochloric Acid (aerosol)
Purina Mills, Inc.	27-135-0062	Copper Compounds Manganese Compounds Zinc Compounds
Diamond Vogel – North, Inc.	27-135-0079	Methyl Isobutyl Ketone
Davis -Frost, Inc.	27-135-0098	Zinc Compounds Maleic Anhydride
A & L Laboratories, Inc.	27-135-0156	Nitric Acid
Kohl & Madden Printing Ink Corp.	27-135-0222	Barium Compounds
Hiawatha Metalcraft, Inc. - Building 2	27-135-0277	Chromium Compounds
Hauenstein & Burmeister	27-135-0281	Nickel Manganese Chromium
Honeywell Advanced Circuits, Inc.	27-140-0008	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)

Ceram-Traz Corporation	27-175-0002	Diethanolamine
Foam Enterprises, Inc.	27-180-0069	Chlorodifluoromethane Ethylene Glycol 1,1-Dichloro-1-fluoroethane
Hutchinson Technology, Inc.	27-180-0078	Ammonia
Honeywell Advanced Circuits, Inc.	27-215-0003	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)
Lamb-Weston/RDO Frozen	29-120-0003	Chlorine
EPC/Loudon	33-065-0001	Barium Compounds
Jennie-O Foods, Inc.	34-010-0002	Formaldehyde
Ducoa L.P.	34-175-0007	Zinc Compounds Copper Compounds Manganese Compounds
Willmar Poultry Farms, Inc.	34-175-0079	Formaldehyde
Land O' Lakes - Willmar	34-175-0082	Copper Compounds Manganese Compounds Zinc Compounds
Land O' Lakes - Dawson	37-045-0001	Copper Compounds Manganese Compounds Zinc Compounds
Ag Processing, Inc.	37-045-0012	Chlorine
Koch Materials Co.	42-095-0003	1,2,4 -Trimethylbenzene Xylene Ethylbenzene Toluene
Minnesota Corn Processors	42-095-0048	Benzene Xylene Cyclohexane Toluene Chlorine
Seneca Foods	43-030-0001	Peracetic Acid
Polyfoam, Inc.	43-065-0002	Sulfuric Acid (aerosol)
Custom Products	47-100-0028	Chromium Manganese Nickel
Minnesota Corn Processors	49-120-0048	Benzene

		Ammonia Cyclohexane n-Hexane
Hormel Foods Corporation	50-015-0002	Sodium Nitrite Chlorine
Alumacraft Boat Co.	52-080-0001	Diisocyanates
Continental Grain, Inc. Wayne Feed Division	53-150-0007	Manganese Compounds Zinc Compounds Copper Compounds
Hubbard Feeds, Inc.	53-150-0043	Copper Compounds Manganese Compounds Zinc Compounds
Quest International	55-095-0017	Nitric Acid Ammonia Peracetic Acid Sulfuric Acid (aerosol)
Lund Boat Company	56-251-0003	Diisocyanates
Arctic Cat, Inc.	57-115-0042	Diisocyanates Ethylene Glycol
Bell Lumber & Pole Co.	62-045-0001	Pentachlorophenol
Honeywell Advanced Circuits, Inc.	62-060-0001	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)
Milsolv Corp.	62-060-0003	1,2,4 -Trimethylbenzene Glycol Ethers n-Butyl Alcohol n-Hexane 2-Ethoxyethanol Dichloromethane Ethylbenzene Ethylene Glycol Xylene Methyl Isobutyl Ketone
Buckbee-Mears St. Paul	62-070-0009	Chlorine
C&H Enterprises, Inc.	62-070-0010	Glycol Ethers Sodium Nitrite
Ford Motor Company- Twin Cities Assembly Plant	62-070-0020	Benzene Cyclohexane n-Hexane
H.B. Fuller Co.	62-070-0032	Ethylene Glycol

Harcros Chemicals, Inc.	62-070-0070	Ethylene Glycol
Ashland Distribution Company	62-070-0077	Cyclohexane n-Butyl Alcohol Cumene Styrene Trichloroethylene Methyl Isobutyl Ketone
Van Waters & Rogers, Inc.	62-070-0079	Xylene Toluene Methanol Tetrachloroethylene Methyl Ethyl Ketone Ethylene Glycol Glycol Ethers Ammonia
HCI Worum Chemical Company	62-070-0082	Toluene-2,6-Diisocyanate Glycol Ethers n-Butyl Alcohol Ethylene Glycol Methyl Isobutyl Ketone 1,2,4-Trimethylbenzene Ethylbenzene n-Hexane Dichloromethane Trichloroethylene Tetrachloroethylene Diethanolamine N-Methyl-2-pyrrolidone Dimethyl Phthalate Cumene 4,4'-Isopropylidenediphenol Zinc Compounds 2,2-Dichloro-1,1,1-Trifluoroethane
Gross-Given Mfg. Co.	62-070-0108	Trichlorofluoromethane Dichlorodifluoromethane Diisocyanates
Versa Iron & Machine	62-070-0230	Copper Compounds Manganese Compounds
Quality Wood Treating Co., Inc.	62-095-0001	Copper Compounds Arsenic Compounds Chromium Compounds
Central Biproducts	64-110-0002	Chlorine
Artesyn Technologies	64-110-0012	Diisocyanates
Agri-Energy, LLC	67-055-0022	Ammonia Benzene

		Cyclohexane n-Hexane
Minnesota Explosives Co.	69-058-0002	Nitric Acid
Duluth Brass Mfg. ITW Irathane Systems	69-125-0220 69-235-0007	Copper Diisocyanates
Chaska Chemical Co., Inc.	70-082-0002	Nitric Acid
Ashland Distribution Co.	70-085-0003	Ethylene Glycol
Conklin Company, Inc.	70-085-0006	Ammonia Zinc Compounds Nitrate Compounds
Fremont Industries, Inc.	70-085-0008	Sodium Nitrite Glycol Ethers Toluene Methyl Ethyl Ketone Ethylene Glycol N-Methyl-2-Pyrrolidone
Heartland Corn Products	72-120-0010	Ammonia Benzene Cyclohexane n-Hexane
Gold' N Plump Farms LP, LLP	73-040-0001	Chlorine
Kraft Foods, Inc.	73-150-0003	Methyl Tert-Butyl Ether Toluene Xylene
Wiman Corporation	73-230-0054	Di(2-Ethylhexyl) Phthalate
Grede–St. Cloud Foundry, Inc.	73-230-0084	Propylene
Standard Iron & Wire Works, Inc.	73-265-0028	Manganese
Tandem Products, Inc.	74-014-0039	Diisocyanates Nitrate Compounds
Diversified Energy Co.	75-070-0014	Ammonia Benzene Cyclohexane n-Hexane Nitric Acid
Chippewa Valley Ethanol Co.	76-015-0036	Ammonia Benzene Cyclohexane n-Hexane

Central Bi-Products	77-124-0002	Chlorine
Federal-Mogul Powertrain Systems	79-067-0003	Chromium
Heat-N-Glo	79-067-0034	Diisocyanates
Cargill, Inc.	81-039-0015	Copper Compounds Zinc Compounds
Andersen Corporation	82-015-0002	Antimony Compounds
Badger Foundry Co.	85-145-0005	Diisocyanates
United Machine and Foundry	85-145-0066	Chromium Nickel
Miller Felpax Corp.	85-145-0069	Diisocyanates
Honeywell Advanced Circuits, Inc.	86-019-0025	Hydrochloric Acid (aerosol)
Standard Iron & Wire Works, Inc.	86-109-0028	Manganese
Victor Fluid Power	87-040-0022	Copper Nickel Cobalt Chromium Barium Cadmium



## Attachment 7

### Facilities which reported in 1998 but not subject to reporting in 1999

<u>Facility Name &amp; Location</u>	<u>ERC ID Number</u>	<u>County</u>
Arrow Cryogenics, Inc.	02-020-0002	Anoka
Midwest Finishing, Inc.	02-050-0002	Anoka
Armament Systems-United Defense	02-055-0003	Anoka
American Converters, Inc.	02-055-0033	Anoka
Georgia-Pacific Corp.	04-015-0001	Beltrami
Associated Milk Producers, Inc.	08-080-0002	Brown
Kraft Foods, Inc.	08-080-0004	Brown
Beckman Coulter, Inc.	10-035-0025	Carver
Manus Products, Inc.	10-035-0033	Carver
Plews/Edelmann	12-025-0007	Chippewa
Ecolab, Inc.	19-025-0004	Dakota
Midwest Coca-Cola Bottling, Inc.	19-025-0013	Dakota
Rayfo, Inc.	19-145-0011	Dakota
Crown Tonka Walk-Ins	22-110-0014	Faribault
Technical Plating, Inc.	27-015-0036	Hennepin
Universal Plating, Inc.	27-135-0073	Hennepin
Hauenstein and Burmeister, Inc.	27-135-0281	Hennepin
Kapak Corp.	27-135-0499	Hennepin
Pechiney Plastic Packaging, Inc.	27-215-0006	Hennepin
Flame Metals Processing Corp.	27-215-0019	Hennepin
Northern Automotive Systems, Inc.	28-084-0003	Houston
Seneca Foods Corp.	40-080-0001	Le Sueur
SSE Mfg., Inc.	42-095-0008	Lyon
Custom Products, Inc.	47-100-0028	Meeker
Towmaster, Inc.	47-100-0037	Meeker
Westling Mfg. Co.	48-109-0006	Mille Lacs
Kroger Co. (Pace Dairy Foods)	55-095-0008	Olmsted
Halcon Corp.	55-115-0014	Olmsted
Doane Pet Care Co.	56-319-0006	Otter Tail
U of M – Ag Research Center	60-065-0018	Polk
Paper, Calmenson & Co.	62-060-0026	Ramsey
General Foam of MN, Inc.	62-070-0023	Ramsey
Harcros Chemicals	62-070-0070	Ramsey
Tamor Corp.	62-070-0104	Ramsey
Gross-Given Mfg. Co.	62-070-0108	Ramsey
Huot Mfg. Co.	62-070-0358	Ramsey
AAA Metal Finishing, Inc.	62-070-0399	Ramsey
U of M - Sanders Crop Mgmt. Ctr.	64-110-0035	Redwood

<b><u>Facility Name &amp; Location</u></b>	<b><u>ERC ID Number</u></b>	<b><u>County</u></b>
Gold N' Plump Poultry, Inc.	67-055-0006	Rock
Fremont Industries, Inc.	70-085-0008	Scott
Rahr Malting Co.	70-085-0010	Scott
Liberty Paper, Inc.	71-009-0014	Sherburne
Kraft Foods	73-004-0001	Stearns
Gold N' Plump Poultry, Inc.	73-040-0001	Stearns
Chippewa Valley Ethanol Co.	76-015-0036	Swift
H.B. Fuller Co.	82-136-0019	Washington
Dean Foods North Central, Inc.	82-191-0001	Washington

## **Attachment 8: “Core” Set of Reported Chemicals (1988-1999)**

The Environmental Protection Agency (EPA) has the authority to add chemicals to the Section 313 Toxic Chemical List (see Appendix A on page 577.) if they meet the statutory toxicity criteria. Conversely, EPA may delete chemicals if these chemicals do not meet the toxicity criteria. Since 1987, EPA has deleted a number of chemicals from the list, added others, and modified the reporting requirements for others. Year-to-year chemical release/transfer comparisons must be based on the same set of chemicals to ensure that changes are not simply the result of the addition, deletion, or change in definition of reportable chemicals from one year to another. Consequently, in order to make a meaningful comparison, we have identified a “core” set of chemicals for which there was a requirement to report every year from 1988 through the most current reporting year (1999). Pages 117 to 128 include a listing of these core chemicals, and the quantity of them that was released/transferred in 1988 versus the quantity that was released/transferred in 1999. This information is intended to provide at least a gross indication of the upward/downward release/transfer trend for each of the core chemicals during the 1988-1999 time period.

To facilitate a full understanding of the release/transfer data provided, two basic clarifications are needed. First, if 1988 or 1999 data are not included for a particular chemical, it is because that chemical was not reported by any facility in that year. Second, the total number of facilities indicated at the end of the listing represents the total *that reported core chemicals*, not the total number of facilities reporting in that particular year.

By way of summary, from 1988-1999, nearly 500 facilities that met the reporting criteria for one or more years notified the ERC that they were no longer required to file. Several factors are responsible for this development, including pollution prevention initiatives, chemical substitution or elimination, regulatory changes, and facilities moving to another state or going out of business. For these reasons, it appears that there have been reductions in chemical releases into the environment, especially into the air. However, the following factors should be considered before drawing any conclusion relative to the upward/downward release/transfer trends:

1. Manufacture and process thresholds began at 75,000 pounds for the 1987 reporting year, dropped to 50,000 pounds for 1988, and dropped to 25,000 pounds for 1989 and thereafter. Therefore, some facilities may have been required to report in 1989, but not 1988.
2. Effective with the 1995 reporting year, facilities whose “total annual reportable amount” does not exceed 500 pounds, and that do not manufacture, process, or otherwise use more than one million pounds of a TRI chemical, were permitted to submit a certification statement (EPA Form A) instead of the EPA Form R. Form A’s do not include any release or transfer amount information.

3. Prior to the 1991 reporting year, facilities were required to report only transfers to Publicly Owned Treatment Works (POTW) and other off-site locations for the purposes of treatment and disposal. The federal Pollution Prevention Act of 1990 added to the TRI the collection of data for energy recovery and recycling. Because this data was not collected until 1991, comparisons can only be drawn between 1988-1999 using data reported for off-site transfers for treatment and disposal.
4. Beginning with the 1997 reporting year, metals and metal compounds reported as being transferred off-site to a POTW or for solidification/stabilization or wastewater treatment, must be reported as a transfer for disposal. Prior to 1997, facilities were allowed to report these amounts as a transfer for treatment off-site.
5. Dramatic increases and/or decreases in releases/transfers as indicated in Figures 6-11 on pages 127 to 128 can often be attributed to a single facility. For example:

- a. Fugitive Air

IBM in Rochester reported releases of 770,000 pounds of Freon 113 as fugitive air emissions in 1988 but are no longer required to report this chemical. Freon 113 is being phased out because of its potential to deplete the earth's ozone layer. Numerous other large and small facilities contributed to the remaining reductions in fugitive air emissions.

- b. Stack Air

The 3M facility in Hutchinson reduced their total stack air emissions from 15,926,247 pounds in 1988 to 579,635 pounds in 1999. Numerous other large and small facilities contributed to the remaining reductions in stack air emissions.

- c. Water

Northwest Airlines at the Twin Cities International Airport reported a discharge of 1,995,424 pounds of Ethylene Glycol to water in 1993, but through chemical substitution was able to replace Ethylene Glycol with a non-reportable chemical.

- d. Land

The NSP facility in Becker reported 5,690,070 pounds of primarily metal compounds to on-site Land in 1998. The 1998 reporting year was the first year that electric utilities were required to report under the federal TRI expansion.

e. Publicly Owned Treatment Works (POTW)

Potlatch at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred to the POTW in 1988, 4,482,658 pounds in 1998, and 7,114,328 pounds in 1999.

f. Off-site Transfers (Treatment and Disposal only)

- \* The 3M facility in Hutchinson reported total off-site transfers of Methyl Ethyl Ketone and Toluene for treatment of 3,003,000 pounds in 1989, 577,571 pounds in 1990, 320,000 pounds in 1998, and 1,540,000 pounds in 1999.
- \* The 3M facility in Cottage Grove reported total off-site transfers for treatment of Methyl Ethyl Ketone, Toluene, Xylene, and Ethylene Glycol of 4,630,000 pounds in 1989 but only 10,000 pounds of these same four chemicals in 1990.
- \* As indicated under the POTW heading above, Potlatch at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred off-site to the POTW for treatment in 1988 and 7,114,328 pounds in 1999.
- \* Numerous facilities, as part of an EPA enforcement initiative, reported for the first time in the year 2000 the off-site transfers of Nitrate Compounds for treatment for reporting years 1995-1999.



"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
Department of Public Safety  
Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
1,1,1-Trichloroethane	1988	74	1,078,094	2,079,144	0	0	3,397	,293,477
1,1,2,2-Tetrachloroethane	1988	1	, ,250	50,000	0	0	0	, , 0
1,1,2-Trichloroethane	1988	1	, ,120	16,000	0	0	0	, 3,400
1,2,4-Trimethylbenzene	1988	9	, 17,840	201,061	30	210	8	, 31,030
	1999	15	, 28,126	126,881	14	0	7	, 2,772
1,2-Butylene oxide	1988	1	, 1,300	0	0	0	0	, , 0
1,2-Dibromoethane	1988	1	, , 0	5	0	0	0	, , 0
1,2-Dichloroethane	1988	2	, , 83	12,009	0	0	0	, 9,400
1,3-Butadiene	1988	1	, , 0	13,000	30	0	0	, , 30
	1999	1	, , 401	275	2	0	0	0
1,4-Dioxane	1988	3	, 1,879	23,584	0	0	45,985	, , 421
	1999	2	, 1,179	11,305	0	0	44,580	, , 163
2,4-D	1988	1	, , 0	0	0	0	0	, , 245
2,4-Dimethylphenol	1988	1	, , 0	0	0	1	0	, , 0
2-Ethoxyethanol	1988	4	, 20,702	485,577	120	0	12,250	, 39,000
	1999	3	, 3,362	15,697	1	0	255	, 44,368
2-Methoxyethanol	1988	1	, , 0	9,800	0	0	0	, , 0
	1999	1	, , 0	0	0	0	0	0
4,4'-Methylenedianiline	1988	2	, , 0	0	0	0	0	, 8,145
	1999	1	, , 0	0	0	0	0	0

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Acetaldehyde	1999	2	, , 5	52,265	830	0	7,775	, , 1
Acetonitrile	1999	1	, , 0	19	7	0	0	0
Acrylic acid	1988	1	, , 4	120	0	0	0	, , 0
	1999	2	, 1,582	12,779	0	0	0	, 34,000
Acrylonitrile	1988	1	, , 0	0	0	0	0	, , 0
Aluminum (fume or dust)	1988	4	, , 0	27,688	4,100	0	63	,109,842
	1999	6	, , 818	24,221	0	0	0	, 72,985
Anthracene	1999	1	, , 55	2	0	0	0	0
Antimony	1988	2	, , 130	140	0	19,098	68	, , 0
	1999	1	, , 14	79	0	0	242	, 21,000
Antimony compounds	1988	3	, , 5	63	6	18	28	, 6,405
	1999	8	, , 10	459	736	30,910	0	, 7,997
Arsenic	1988	2	, , 65	74	160	5,981	6	, , 0
	1999	1	, , 7	64	0	0	36	, 13,000
Arsenic compounds	1988	2	, , 0	250	0	0	0	, 1,350
Barium	1988	4	, , 0	21,870	1,000	84,900	0	, , 267
	1999	2	, , 5	5	5	0	0	, 6,100
Barium compounds	1988	3	, , 250	250	0	0	250	, 2,135
	1999	22	, 3,396	76,888	18,385	6,638,419	10,358	1,184,281
Benzene	1988	4	, 14,180	300,310	30	970	0	, , 715
	1999	5	, 8,892	11,278	12	0	1	, , 505

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Benzoyl chloride	1988	1	, 250	250	0	0	0	, , 0
Beryllium	1988	1	, , 0	1	0	0	0	, , 0
Biphenyl	1988	2	, 1,080	0	3	0	0	, , 91
	1999	2	, 1,443	17	0	0	0	0
Bromomethane	1999	1	, 10,213	0	0	0	0	0
C.I. Basic Green 4	1988	1	, , 0	0	0	0	0	, , 0
Cadmium	1988	4	, , 0	5	63	14	8	, , 254
Cadmium compounds	1988	1	, , 0	0	0	0	0	, 1,050
Carbon disulfide	1988	2	, , 0	7,600	0	0	0	, , 0
	1999	2	, , 9	0	0	0	0	0
Carbon tetrachloride	1988	1	, , 0	0	0	0	0	, , 0
Carbonyl sulfide	1999	3	, , 112	211,102	0	0	0	0
Catechol	1988	1	, , 0	0	0	0	14,000	, , 0
	1999	3	, , 9	0	0	0	750	0
Chlorine	1988	40	, 14,906	469,794	26,804	0	42,724	, 62,000
	1999	14	, 7,872	4,167	255	0	7	0
Chlorine dioxide	1988	3	, , 500	19,250	0	0	0	, , 0
	1999	2	, , 10	15,958	0	0	0	0
Chloroform	1988	2	, 102,000	161,000	79,000	430	17,000	, , 0
	1999	1	, 5,400	3,300	13,000	0	0	, , 14

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Chloromethane	1988	1	,143,000	0	0	0	0	, , 0
	1999	1	, 85,365	0	0	0	0	0
Chromium	1988	11	, ,757	1,558	1,313	12,250	1,258	, 25,734
	1999	34	, ,485	2,366	5	0	766	,129,949
Chromium compounds	1988	11	, 1,300	1,496	0	12,056	46,593	, 36,042
	1999	17	, , 30	1,935	412	106,043	30,893	,146,657
Cobalt	1988	2	, ,250	65	200	290	0	, , 2
	1999	1	, , 0	4	0	0	0	, 9,500
Cobalt compounds	1988	2	, , 3	649	0	0	0	, 9,686
	1999	1	, , 0	16	0	0	0	, 3,359
Copper	1988	27	, 2,540	3,013	57	0	3,672	, 30,474
	1999	56	, 5,668	14,068	5	55	6,706	, 82,380
Copper compounds	1988	15	, ,511	1,009	5	1,283	9,695	,190,419
	1999	22	, ,557	7,622	1,097	353,020	4,604	,950,493
Cresol (mixed isomers)	1988	1	, , 0	0	0	24	0	, , 0
Cumene	1988	1	, ,91	0	30	0	0	, , 30
	1999	2	, ,610	75	0	0	0	, , 73
Cyanide compounds	1988	8	, 1,250	750	0	0	27,882	, 7,700
	1999	7	, ,290	1,309	0	0	785	, 11,852
Cyclohexane	1988	3	, 5,004	67,240	150	0	0	, , 30
	1999	6	, 18,331	47,194	6	0	0	, 3,213
Decabromodiphenyl oxide	1999	5	, , 0	0	0	0	0	, 9,031

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
Department of Public Safety  
Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Di(2-ethylhexyl) phthalate	1988	3	, , 0	4,100	0	3	1	, 4,860
	1999	6	, , 56	118	0	0	68	, 4,790
Dichloromethane	1988	40	,594,104	2,176,785	1,800	0	1,839	,188,395
	1999	9	, 29,754	79,106	0	0	352	, 19,266
Diethanolamine	1988	3	, , 0	250	0	0	13,362	, ,250
Dimethyl phthalate	1988	1	, 25,500	0	0	0	0	, , 0
	1999	1	, , 0	310	0	0	0	0
Ethyl acrylate	1988	1	, 2,400	960	0	0	0	, , 0
	1999	1	, 3,200	517	7	0	0	0
Ethylbenzene	1988	11	, 20,790	443,063	30	1,800	500	, 28,143
	1999	15	, 27,611	116,447	23	0	6	, ,711
Ethylene	1988	2	, 23,700	310	30	0	0	, , 30
	1999	2	, 6,831	608	4	0	0	0
Ethylene glycol	1988	20	, 33,394	64,116	1,493	0	303,604	,392,057
	1999	12	, 23,261	399	7	0	407,028	, , 2
Ethylene oxide	1999	3	, , 86	5,714	0	0	0	0
Formaldehyde	1988	18	, 4,700	749,359	3,900	0	8,197	, 8,385
	1999	18	, 4,164	170,480	9	0	19,544	, 15,016
Freon 113	1988	50	2,446,227	953,886	0	0	4,295	, 55,796
	1999	1	, 15,870	0	0	0	0	0
Glycol ethers	1988	31	,322,763	837,357	0	0	306,809	, 59,832
	1999	32	,155,225	622,272	10	0	320,184	, 7,996

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Hydrogen cyanide	1988	1	, , 0	95	800	0	0	, , 0
Hydrogen fluoride	1988	3	, 1,550	96,500	0	0	0	, , 0
	1999	11	, ,479	139,268	0	0	151	, 3,477
Lead	1988	6	, 6,760	7,530	1,510	142,955	493	, 69,388
	1999	6	, 1,109	6,403	0	0	89	,270,328
Lead compounds	1988	8	, 12,250	5,043	0	370,747	1,505	, 18,291
	1999	14	, ,288	3,097	399	182,010	268	,125,743
Maleic anhydride	1988	5	, ,317	663	0	0	0	, , 42
	1999	3	, ,157	441	0	0	0	0
Manganese	1988	9	, ,510	1,330	360	0	250	, 16,694
	1999	22	, ,731	2,532	0	50	308	, 53,895
Manganese compounds	1988	10	, 13,000	2,910	5	130,000	4,810	, 1,050
	1999	19	, 1,296	11,154	30,445	1,242,850	107,095	,158,543
Mercury	1988	1	, , 2	130	0	18	0	, , 0
Methanol	1988	32	,128,628	2,199,194	0	280,000	2,245,700	,289,959
	1999	38	, 69,413	1,490,153	146	0	7,231,011	, 83,347
Methyl acrylate	1988	1	, , 70	1,300	0	0	0	, , 0
	1999	1	, 2,285	994	0	0	0	0
Methyl ethyl ketone	1988	44	,450,882	12,859,366	240	730	1,250	,668,447
	1999	35	, 74,745	785,210	97	0	28	1,286,537
Methyl isobutyl ketone	1988	23	, 31,057	572,202	0	0	500	, 57,660
	1999	15	, 13,641	207,026	0	0	0	, 1,274

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Methyl methacrylate	1988	1	, 1,500	660	73	0	0	, , 0
	1999	5	, 31,974	21,795	68	0	0	0
Molybdenum trioxide	1988	2	, ,250	0	0	0	0	, , 0
	1999	4	, , 5	6	19	0	0	, 39,072
n-Butyl alcohol	1988	20	, 48,999	807,983	0	0	100	, 85,270
	1999	13	, 138,764	578,466	0	0	0	, 3,800
Naphthalene	1988	3	, 13,704	2,094	3	1,500	0	, , 51
	1999	2	, 8,942	2,667	14	0	0	, , 812
Nickel	1988	13	, ,788	760	1,260	2,500	919	, 45,295
	1999	44	, ,941	3,497	1	60	1,152	, 62,445
Nickel compounds	1988	4	, 1,355	750	0	86,040	831	, 1,019
	1999	23	, ,975	16,330	577	69,043	4,335	, 190,065
Nitric acid	1988	52	, 3,156	44,371	250	0	140,957	, 60,501
	1999	62	, 2,414	39,087	0	0	46,587	, 428,950
Nitroglycerin	1988	1	, , 0	0	0	250	0	, , 0
O-Toluidine	1988	1	, , 0	0	0	0	0	, , 0
Pentachlorophenol	1988	1	, ,250	250	0	0	0	, , 0
	1999	1	, , 1	0	0	0	0	0
Peracetic acid	1988	1	, , 15	8	0	0	0	, , 0
	1999	1	, , 48	854	0	0	0	0
Phenol	1988	10	, 2,780	231,949	1,200	289,310	500	, 21,218
	1999	12	, 9,667	109,657	451	0	1,530	, 12,144

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Phthalic anhydride	1988	2	, , 0	10,750	0	0	0	, , 0
	1999	2	, , 75	682	0	0	0	, , 702
Propylene	1988	3	,153,000	67,250	30	0	0	, , 30
	1999	2	, 38,470	3,606	4	0	0	0
Propylene oxide	1988	1	, , 750	750	0	0	0	, , 0
	1999	1	, , 750	0	0	0	0	0
Pyridine	1999	1	, , 0	64	0	0	0	0
sec-Butyl alcohol	1988	1	, , 0	0	0	0	0	, , 0
Selenium compounds	1988	1	, , 0	25	660	180	0	, , 0
	1999	1	, , 6	44	2,300	0	0	, , 90
Silver	1988	1	, , 0	0	70	0	0	, , 0
Silver compounds	1988	1	, , 0	0	0	0	0	, , 210
Styrene	1988	26	,787,847	117,193	30	0	0	, 6,015
	1999	35	,570,257	1,333,707	5	0	0	, , 20
tert-Butyl alcohol	1988	1	, , 0	17,799	0	0	0	, , 0
	1999	3	, , 0	3,099	0	0	0	, , 150
Tetrachloroethylene	1988	8	, 51,086	107,564	0	0	603	, 14,000
	1999	5	, 8,562	101,262	0	0	0	, , 2
Toluene	1988	72	,750,321	10,673,905	30	750	846	1,693,032
	1999	61	,298,238	1,384,630	18	0	20	,421,082
Toluene-2,4-diisocyanate	1988	7	, , 870	575	0	0	0	, 2,250
	1999	2	, , 0	0	0	0	0	, , 894

Note: See important explanatory information on pages 113-115.

"Core" Set of Reported Chemicals (1988 - 1999)

State of Minnesota  
 Department of Public Safety  
 Emergency Response Commission

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Amount in Water	Land	POTW	Offsite(Disposal and Treatment)
Toluene-2,6-diisocyanate	1988	4	, 348	39	0	0	0	, 170
Trichloroethylene	1988	27	,466,036	396,587	0	0	1,500	, 53,123
	1999	15	, 30,440	311,460	0	0	48	, 4,933
Vanadium (fume or dust)	1988	1	, , 0	150	0	630	0	, , 0
Vinyl acetate	1999	2	, , 0	15,158	0	0	0	0
Xylene (mixed isomers)	1988	62	,561,448	4,602,829	30	2,000	800	,291,947
	1999	58	,251,283	1,198,099	54	0	13	, 65,086
Zinc compounds	1988	19	, 84,755	22,575	14,410	1,501,773	7,423	,118,118
	1999	37	, 4,252	14,721	6,735	448,920	4,399	,672,470
<b>1988 Totals</b>		365	8,456,206	42,057,890	141,315	2,948,711	3,272,481	5,120,902
<b>1999 Totals</b>		361	2,010,522	9,422,490	76,165	9,071,380	8,251,981	6,667,335

Note: See important explanatory information on pages 113-115.



Figure 6: "Core" Set of Chemicals - Fugitive Air

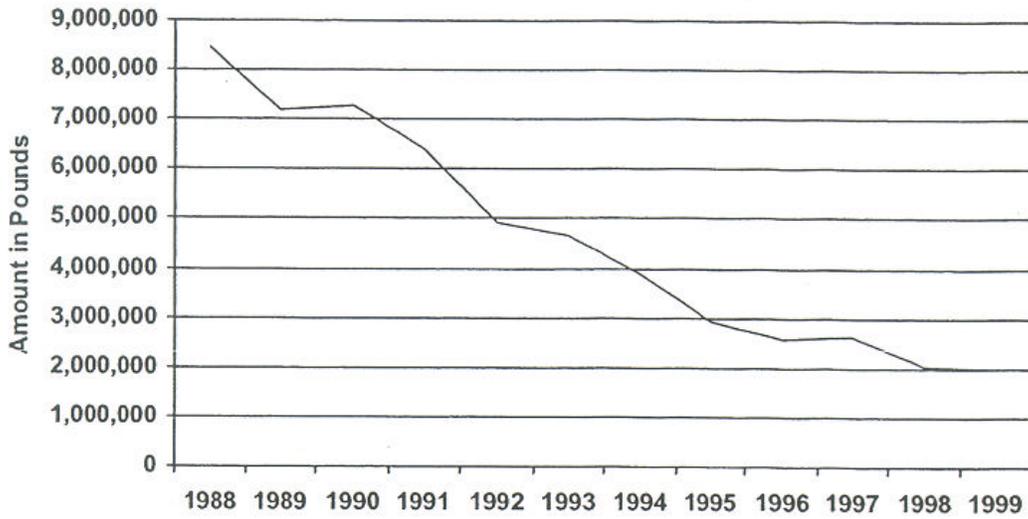


Figure 7: "Core" Set of Chemicals - Stack Air

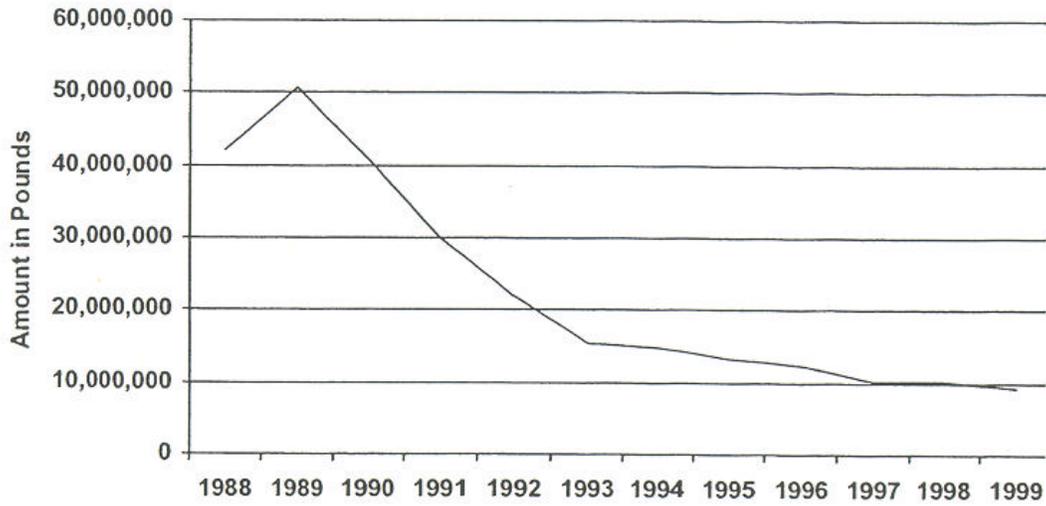


Figure 8: "Core" Set of Chemicals - Water

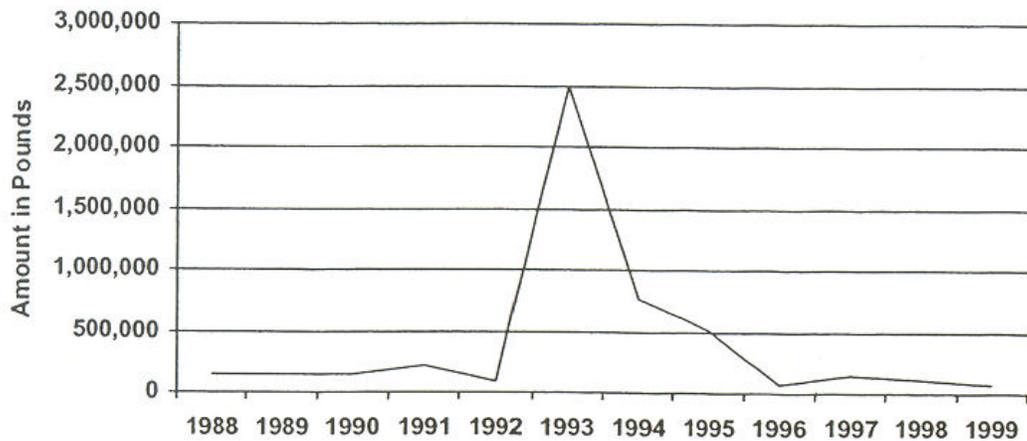


Figure 9: "Core" Set of Chemicals - Land

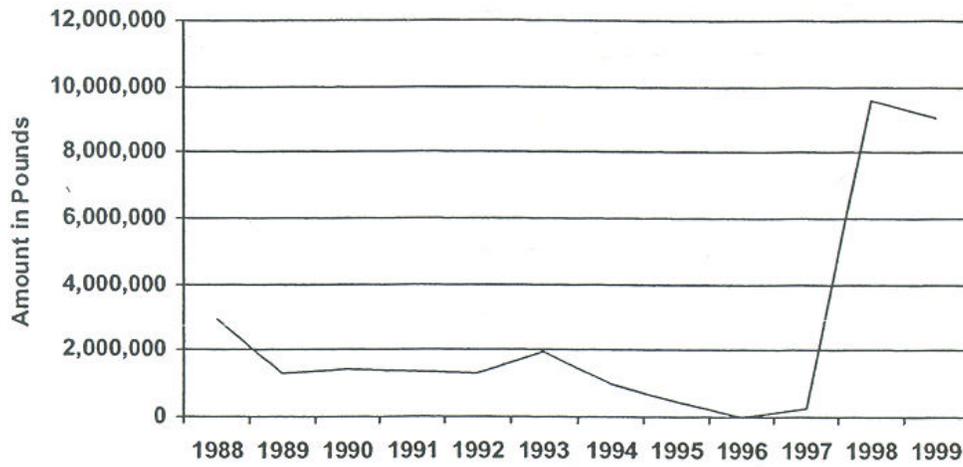


Figure 10: "Core" Set of Chemicals - POTW

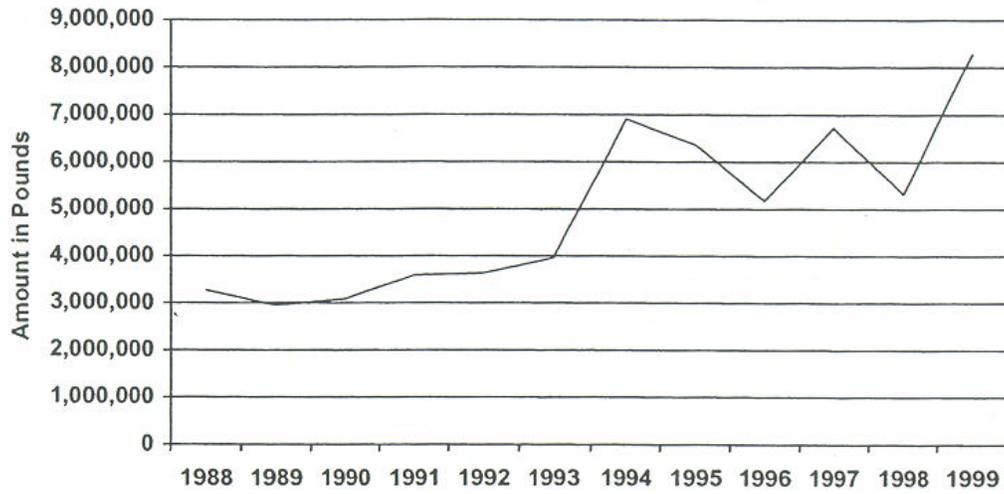
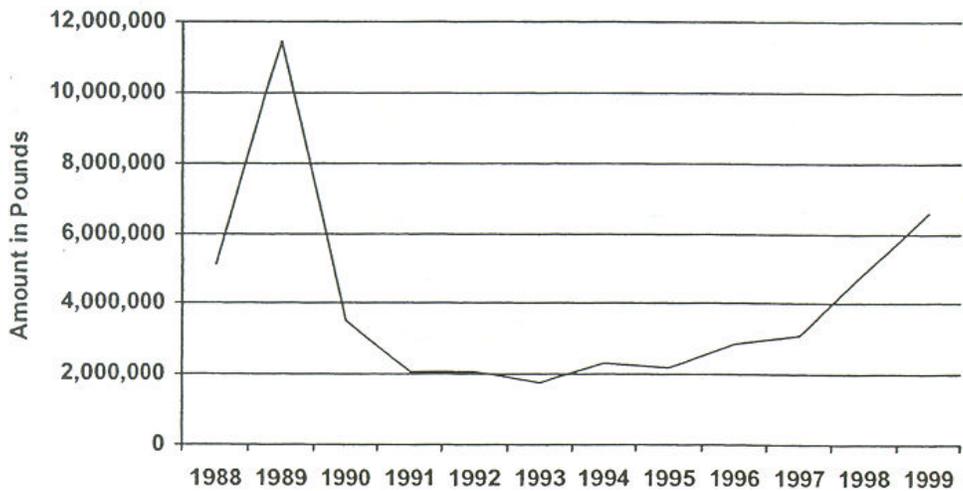


Figure 11: "Core" Set of Chemicals - Offsite Transfers (Disposal and Treatment Only)





# 1998 Toxics Release Inventory

# MINNESOTA

## Reported Releases and Waste Management Activities (in pounds)

	Original Industries	New Industries	Total
On-site Releases	17,004,641	11,889,243	28,893,884
Air Emissions	15,904,943	1,773,087	17,678,030
Surface Water Discharges	812,176	18,641	830,817
Underground Injection Class I Wells	0	0	0
Underground Injection Class II-V Wells	0	0	0
On-site Land Releases to RCRA Subtitle C Landfills	1,069	0	1,069
Other On-site Land Releases	286,453	10,097,515	10,383,968
Off-site Releases (Transfers Off-site to Disposal)*	2,375,503	1,106,939	3,482,442
<b>Total On- and Off-site Releases</b>	<b>19,380,144</b>	<b>12,996,182</b>	<b>32,376,326</b>
Recycled On-site	187,351,415	4,031,921	191,383,336
Recycled Off-site	21,940,758	1,162,699	23,103,457
Energy Recovery On-site	7,034,602	0	7,034,602
Energy Recovery Off-site	2,191,446	105,123	2,296,569
Treated On-site	36,106,015	1,539,758	37,645,773
Treated Off-site**	10,716,446	13,323	10,729,769
Quantity Released On- and Off-site***	20,096,775	12,945,025	33,041,800
<b>Total Production-related Waste Managed</b>	<b>285,437,457</b>	<b>19,797,849</b>	<b>305,235,306</b>
<b>Total Non-production-related Waste Managed</b>	<b>19,320</b>	<b>251</b>	<b>19,571</b>

## Transfers Off-site for Further Waste Management/Disposal

	Original Industries	New Industries	Total
Recycling	21,932,542	1,162,905	23,095,447
Energy Recovery	2,197,041	105,133	2,302,174
Treatment	1,245,251	1,197	1,246,448
Publicly Owned Treatment Works (POTWs)	9,635,673	15,027	9,650,700
Metals and Metal Compounds*	134,379	2,550	136,929
Non-metal TRI Chemicals**	9,501,294	12,477	9,513,771
Other Off-site Transfers****	0	0	0
Off-site Transfers to Disposal <i>not including metals to POTWs</i>	2,731,634	1,104,389	3,836,023
<b>Total Transfers Off-site for Further Waste Management/Disposal</b>	<b>37,742,141</b>	<b>2,388,651</b>	<b>40,130,792</b>

\* Transfers to POTWs of metals and metal compounds are included in off-site releases. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.

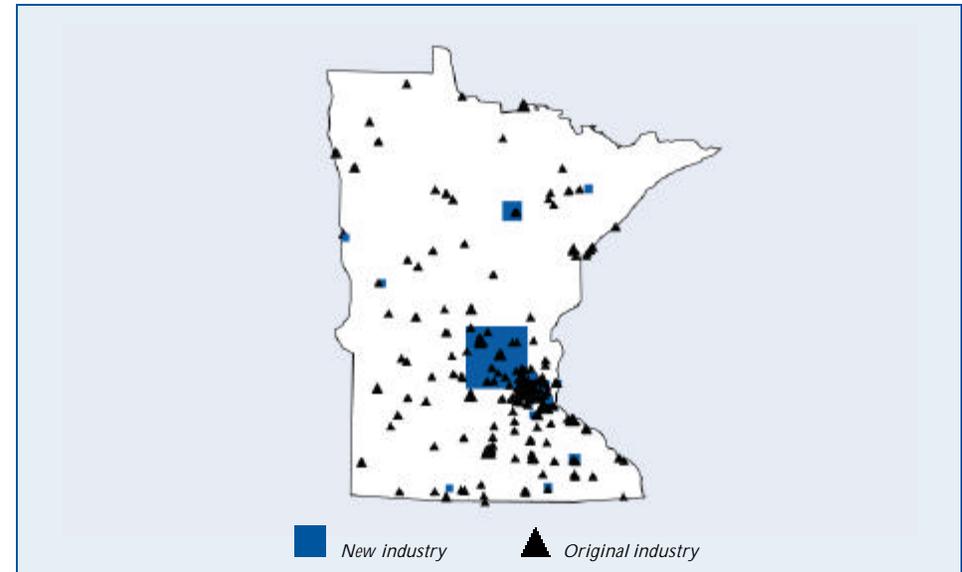
\*\* Transfers to POTWs of non-metals are included in treated off-site waste management activity.

\*\*\* Excludes non-production-related releases; e.g. releases due to catastrophic events or remedial actions.

\*\*\*\* Transfers reported without a valid waste management code.

## For More Information . . .

<b>State Contact:</b> Steve Tomlyanovich (651) 282-5396 Fax: (651) 296-0459	<b>EPA Regional Contact:</b> Thelma Codina (312) 886-6219 Fax: (312) 353-4788	<b>To obtain TRI data use assistance, call TRI User Support Service (TRI-US):</b> (202) 260-1531 Fax: (202) 401-2347
--	--	--



The largest marker in the state map represents the largest facility for on-site releases in the state of Minnesota. All markers are proportionally-sized to represent the on-site releases at each facility within this state.

## State/TRI Data †

Population	4,725,419
Square Miles	79,617
Total Facilities	496
Total Forms	1,482
Form As	308

	Original Industries	New Industries	Total
<b>National Rank for Total On- and Off-site Releases*</b>			
Rank	34	36	36
Pounds	19,380,144	12,996,182	32,376,326
<b>National Rank for Total On-site Releases**</b>			
Rank	33	35	36
Pounds	17,004,641	11,889,243	28,893,884
<b>National Rank for Total Releases within State***</b>			
Rank	34	36	36
Pounds	18,085,510	13,171,883	31,257,393
<b>National Rank for Production-related Waste Managed</b>			
Rank	26	35	30
Pounds	285,437,457	19,797,849	305,235,306

\* Includes transfers out-of-state for disposal. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.

\*\* Includes amounts released at the facility. Excludes amounts transferred to other sites.

\*\*\* Excludes transfers for disposal sent out-of-state or sent to other TRI facilities within the state reporting that amount released on-site.

† One facility, reporting 1.3 million pounds released on-site and total production-related waste managed, was incorrectly located in this state. Removal of this facility changes the national rank for total on-site releases for new industries from 35 to 37, for total releases within the state for total industries from 36 to 37, and for production-related waste managed for new industries from 35 to 38.



# 1998 Toxics Release Inventory

# MINNESOTA

## On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Original Industries)

CAS Number	Chemical	On-Site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-Site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
1330-20-7	Xylene (mixed isomers)	1,953,526	197	0	398	21,292	1,975,413	42,701	16,222	5,070
110-54-3	n-Hexane	1,962,581	5	0	250	1,134	1,963,970	0	1,040	94
108-88-3	Toluene	1,945,295	206	0	0	11,566	1,957,067	12,486	10,947	619
100-42-5	Styrene	1,645,322	5	0	0	21,431	1,666,758	11	16,347	5,084
67-56-1	Methanol	1,489,787	12,057	0	2,500	4,236	1,508,580	15,351	4,236	0
7664-41-7	Ammonia	1,166,787	85,985	0	44,959	49,193	1,346,924	22	49,193	0
78-93-3	Methyl ethyl ketone	872,913	199	0	0	4,792	877,904	42,813	4,366	426
—	Glycol ethers	817,598	862	0	0	687	819,147	2,399	224	463
71-36-3	n-Butyl alcohol	702,795	0	0	0	0	702,795	220	0	0
—	Zinc compounds	28,147	4,846	0	17,000	615,971	665,964	9,070	61,260	554,713

\* Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

\*\* The chemical ranking is based on the amounts in this column.

## On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Seven New Industries)

CAS Number	Chemical	On-Site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-Site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
—	Barium compounds	59,313	7,455	0	7,559,285	992,840	8,618,893	150,000	992,820	20
—	Manganese compounds	9,430	8,200	0	1,219,915	23,370	1,260,915	19,000	23,360	10
7647-01-0	Hydrochloric acid	699,030	0	0	0	0	699,030	0	0	0
7664-39-3	Hydrogen fluoride	579,030	0	0	0	0	579,030	0	0	0
—	Zinc compounds	5,037	1,075	0	495,015	2,475	503,602	303	2,470	5
—	Copper compounds	5,840	1,175	0	334,020	1,425	342,460	1,300	1,420	5
7664-93-9	Sulfuric acid	224,265	0	0	0	0	224,265	0	0	0
—	Lead compounds	2,360	0	0	206,010	32	208,402	11	10	22
—	Nickel compounds	11,640	431	0	88,275	79,795	180,141	620	79,795	0
7664-41-7	Ammonia	147,099	0	0	5	0	147,104	0	0	0

\* Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

\*\* The chemical ranking is based on the amounts in this column.



# 1998 Toxics Release Inventory

# MINNESOTA

## On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Original Industries)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection		On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
			Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Koch Refining Co. L.P., Rosemount, Dakota	456,459	616,531	0	0	0	49	1,073,039	32,724	34
Ford Motor Co. — Twin Cities Assembly Plant, Saint Paul, Ramsey	854,652	0	0	0	0	0	854,652	1,095	13,131
Cenex Harvest States Oilseed Processing & Refining, Mankato, Blue Earth	733,000	0	0	0	250	0	733,250	0	0
Boise Cascade Corp., International Falls, Koochiching	506,568	50,260	0	0	0	44,523	601,351	0	0
3M, Cottage Grove Center, Cottage Grove, Washington	490,648	56,145	0	0	0	0	546,793	4,865	267,139
3M Hutchinson, Hutchinson, Mc Leod	541,365	0	0	0	0	0	541,365	22,930	7,080
Crystal Cabinet Works Inc., Princeton, Sherburne	515,272	0	0	0	0	0	515,272	0	0
3M, Saint Paul, Ramsey	453,689	0	0	0	0	0	453,689	5,464	0
Frigidaire Home Prods. — Freezer, Saint Cloud, Stearns	378,044	0	0	0	0	0	378,044	33,000	0
American Crystal Sugar Co., East Grand Forks, Polk	343,250	24,000	0	0	0	0	367,250	0	0

\*The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.

## On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Seven New Industries)<sup>†</sup>

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection		On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
			Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Northern States Power Co., Becker, Sherburne	121,446	470	0	0	0	7,367,685	7,489,601	610	17
Boswell Energy Center, Cohasset, Itasca	124,200	11,190	0	0	0	1,600,025	1,735,415	50	25
Rochester Public Utilities Silver Lake Plant, Rochester, Olmsted	512,000	0	0	0	0	0	512,000	5,470	0
Austin Utilities Northeast Power Station, Austin, Mower	149,800	15	0	0	0	0	149,815	12,200	0
Laskin Energy Center, Hoyt Lakes, St Louis	2,105	4,000	0	0	0	130,005	136,110	10	0
LSP — Cottage Grove L.P., Cottage Grove, Washington	120,005	0	0	0	0	0	120,005	0	0
Otter Tail Power Co., Hoot Lake Plant, Fergus Falls, Otter Tail	14,402	0	0	0	0	100,000	114,402	1,700	0
A.S. King Generating Plant, Bayport, Washington	89,211	1,580	0	0	0	15	90,806	547,020	5
High Bridge Generating Plant, Saint Paul, Ramsey	31,315	0	0	0	0	52,000	83,315	100,260	5
Black Dog Generating Plant, Burnsville, Dakota	32,715	30	0	0	0	30,005	62,750	121,215	5

\*The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.

<sup>†</sup>One facility was incorrectly located in this state. It ranked third with total on-site releases of 1,311,745 pounds. It is instead located in Iowa and has been removed from this list.



# 1998 Toxics Release Inventory

# MINNESOTA

## Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Original Industries)

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site* Pounds	Total Production-related Waste Managed Pounds	Total Non-Production-related Waste Managed Pounds
North Star Recycling, Saint Paul, Ramsey	0	0	0	0	0	0	1,241,207	1,241,207	0
Koch Refining Co. L.P., Rosemount, Dakota	164,650	99,532	0	0	1,283,150	348	1,105,721	2,653,401	2,999
Ford Motor Co. — Twin Cities Assembly Plant, Saint Paul, Ramsey	0	874,096	0	0	428,900	15,900	866,379	2,185,275	0
3M, Cottage Grove Center, Cottage Grove, Washington	0	1,101,552	1,291,640	454,480	15,203,124	145,049	845,805	19,041,650	8
Cenex Harvest States Oilseed Processing & Refining, Mankato, Blue Earth	0	17,000	0	0	16,200	600	730,000	763,800	0
Boise Cascade Corp., International Falls, Koochiching	0	0	3,040,000	0	4,658,000	0	602,410	8,300,410	0
3M Hutchinson, Hutchinson, McLeod	20,471,000	1,100,000	0	59,390	3,193,000	406,900	579,836	25,810,126	0
Crystal Cabinet Works Inc., Princeton, Sherburne	0	163,123	0	0	0	0	515,312	678,435	0
3M, Saint Paul, Ramsey	0	24,200	228,648	18,359	2,308,829	130,163	459,153	3,169,352	0
Frigidaire Home Prods. — Freezer, Saint Cloud, Stearns	0	36,000	0	0	0	3,500	411,035	450,535	0

\*The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.

## Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Seven New Industries)<sup>†</sup>

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site* Pounds	Total Production-related Waste Managed Pounds	Total Non-Production-related Waste Managed Pounds
Northern States Power Co., Becker, Sherburne	0	0	0	0	589,100	0	7,453,651	8,042,751	0
Boswell Energy Center, Cohasset, Itasca	0	0	0	0	122,000	0	1,727,000	1,849,000	0
A.S. King Generating Plant, Bayport, Washington	0	0	0	0	83,000	0	635,300	718,300	0
Rochester Public Utilities Silver Lake Plant, Rochester, Olmsted	0	0	0	0	0	0	513,100	513,100	0
Riverside Generating Plant, Minneapolis, Hennepin	0	0	0	0	81,000	0	376,000	457,000	0
Black Dog Generating Plant, Burnsville, Dakota	0	0	0	0	50,000	0	181,200	231,200	0
High Bridge Generating Plant, Saint Paul, Ramsey	0	0	0	0	49,000	0	178,800	227,800	0
Austin Utilities Northeast Power Station, Austin, Mower	0	0	0	0	128,000	0	161,800	289,800	0
Laskin Energy Center, Hoyt Lakes, St Louis	0	0	0	0	0	0	140,000	140,000	0
LSP — Cottage Grove L.P., Cottage Grove, Washington	0	0	0	0	0	0	120,000	120,000	0

\*The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.

<sup>†</sup>One facility was incorrectly located in this state. It ranked third with quantity released on- and off-site of 1,318,000 pounds. It is instead located in Iowa and has been removed from this list.

## **V. Pollution Prevention Progress Reports**

The Minnesota Toxic Pollution Prevention Act (TPPA) of 1990 requires facilities that report toxic chemical releases and/or transfers under Section 313 of SARA Title III to prepare a Pollution Prevention Plan and submit annual Progress Reports. This section is a summary of the Progress Report information for each reporting facility.

### Definition of Pollution Prevention

Pollution Prevention means eliminating or reducing at the source the use, generation, or release of toxic pollutants, hazardous substances, and hazardous wastes. Pollution Prevention in Minnesota includes the following activities:

#### **Input change:**

Replacing a toxic material with a non-toxic or less toxic material.

#### **Product reformulation:**

Changing the design or composition of an existing end product to reduce the need for toxic materials.

#### **Production process redesign:**

Developing or using production units of a different design or upgrading/renovating equipment to reduce the need for toxic materials.

#### **Operational improvements:**

Improved housekeeping practices, product and process inspections, and the use of production unit control equipment or methods.

#### **In-process, in-line, or closed-loop recycling:**

Recycling, reuse, or extended use of toxic materials.

Pollution prevention emphasizes a multi-media waste reduction approach. Multi-media means the air, water, land, and workplace surroundings into which chemicals are released or transferred. The goal is to find waste solutions that do not transfer a chemical to a different media. The end result is a reduction in the quantity of toxic materials used or environmental wastes created in the first place.

## Pollution Prevention Plans and Progress Reports

The Pollution Prevention Plan is a non-public document, which is updated every two years based on the addition and/or deletion of chemicals and includes:

- \* a policy statement by management in support of eliminating or reducing the generation or release of toxic pollutants at the facility;
- \* a description of current processes generating or releasing toxic pollutants;
- \* a description and evaluation of current and past practices used to reduce or eliminate the generation or release of toxic pollutants;
- \* an assessment of options available to reduce or eliminate toxic pollutant release or generation;
- \* a statement of (reduction/elimination) objectives and a schedule for achieving the objectives. The objectives may be numerical or non-numerical;
- \* an explanation of the rationale for each objective;
- \* a list of considered options that were rejected as economically or technically impracticable;
- \* a certification attesting to the accuracy of the plan.

The Progress Report is a public document submitted annually. It indicates a facility's progress toward meeting the objectives as stated in the Plan. The Progress Report includes:

- \* a summary of each objective (from the Plan) and a schedule for meeting the objective;
- \* a summary of progress made during the past year;
- \* a statement of methods used to reduce or eliminate generation or release of toxic pollutants;
- \* an explanation of reasons for not meeting objectives including technical, economic, or other barriers;
- \* a certification attesting to the existence of the Plan and the accuracy of the Progress Report.

The Minnesota Emergency Response Commission (ERC) receives the annual Progress Reports and reviews them for completeness. If a Progress Report does not fulfill pollution prevention planning requirements, the TPPA provides a mechanism for the ERC and Office of Environmental Assistance (OEA) to review the Plan and, potentially, hold a public meeting on the Plan. Citizens may also request

that the Commission formally review a Plan, based on a petition which identifies deficiencies in the Progress Report.

The 1999 Progress Reports are available for review at the ERC office. Copies of the Progress Reports are also available from the Minnesota Pollution Control Agency (MPCA), the Minnesota Technical Assistance Program (MNTAP), and Office of Environmental Assistance (OEA). Progress Reports for years prior to 1995 are available for review at the MPCA's Pollution Prevention and Sustainability Office.

### **Progress Report Issues**

Approximately fifty-eight percent of the reporting facilities have chosen to define non-numeric pollution prevention objectives. Discussions between the ERC, OEA, MPCA, MNTAP, and regulated facilities have defined a number of factors which make it difficult for a facility to state numeric goals including:

- \* Rapid changes in the production processes and/or market demand makes quantitative prediction of future production difficult if not impossible.
- \* Some facilities have established facility-wide pollution prevention goals that do not lend themselves to the process by process reporting requirements of the TPPA.
- \* Some facilities have made significant reductions in the amounts of toxic chemicals generated or released in years prior to the TPPA requiring reporting. These efforts are not reflected in the current Progress Reports and further reductions are extremely difficult and expensive.
- \* Some chemicals are double counted because they are shipped from site to site for treatment, recovery, or recycling. This double counting reduces the ability of a facility to select a numeric goal because, if they receive chemicals for treatment, recovery or recycling from other facilities, then any reductions in releases at the other facilities appear as increased chemical management activities at the receiving facility.
- \* A number of facilities have upgraded their process technology to minimize releases of chemicals. This leaves accidental or unintentional releases as the primary chemical releases of concern; such releases are not predictable.
- \* Minnesota requires pollution prevention planning for the chemicals reported under Section 313 of SARA Title III. A number of facilities have found pollution prevention opportunities for non-Section 313 reported chemicals. This activity is not reflected in the Progress Reports.

## Definitions

The statewide list found on pages 137 to 551 summarizes 1999 Progress Report information. The following definitions will help to explain the information in the list:

**Barriers to Pollution Prevention** - the facility's pollution prevention efforts were hindered by certain factors (see page 556 for F code descriptions)

**Baseline Quantity** - quantity of releases and/or transfers associated with this chemical during the baseline year

**Baseline Year** - the year the facility chose to measure pollution prevention progress

**Chemical** - target chemicals for pollution prevention

**ERC ID** - number assigned to facilities by the Emergency Response Commission

**Facility Name** - provided by the facility

**Met Objective** - pollution prevention success as reported by the facility

**Numeric Objective / Releases and Transfers** - the facility set an objective(s) to reduce the amount of the chemical generated or released that can be quantified. These numbers are obtained directly from the Pollution Prevention Plan. If no numbers are entered, the facility has elected to use the same numbers as reported in Sections 8.1 - 8.7 of their EPA Form R.

**Non-numeric Objective** - the facility set an objective(s) to reduce chemical release and/or transfer quantities that cannot be quantified

**Process** - process code(s) that generate the releases and/or transfers of this chemical (see page 553 for process (P) code descriptions)

**P.R.** - facility production ratio; that is the change in the level of business or production activity as compared to the previous year

**Quantity Reported in 1998 & 1999** - actual quantity of this chemical reported on the EPA Form R (Sections 8.1 - 8.7) in 1998 and 1999

**Source Reduction** - describes the reduction activity code(s) that was used to meet pollution prevention objective (see pages 554-555 for source reduction (W) code descriptions)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of Minnesota  
Department of Public Safety  
Emergency Response Commission

Sorted by County, City,

**Anoka County, City of ANOKA -- FEDERAL CARTRIDGE COMPANY -- ERCID -- 020050004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Barium Compounds</i>	1991	100					1998 1999	1,700 1,740	1999 / 1998 = 1.17	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W42

SUBSTITUTED RAW MATERIALS

Employed Activity

W42

SUBSTITUTED RAW MATERIALS

**Non Numeric Objective:** EVALUATE NEW PRIMING FORMULATION THAT REDUCES OR REPLACES BARIUM COMPOUNDS REQUIRED IN THE PRIMING MIX FORMULATION.

**Non Numeric Progress:** EVALUATE NEW CHEMICALS TO REPLACE BARIUM IN PRIMING MIX MANUFACTURING. CONTINUE TO RUN LONG-TERM TESTS ON PRIMING MIXMANUFACTURED WITH BARIUM FREE COMPOUNDS. CONTINUE TO SELL PRIMING MIX WITH LOW BARIUM CONTACT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1991	8900					1998 1999	8,270 11,800	1999 / 1998 = 1.17	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W64

IMPROVED DRAINING PROCEDURES

W67

IMPROVED RINSE EQUIPMENT DESIGN

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Process Code** P09 ELECTROLESS/IMMERSION COATING

Intended Activity

W81

CHANGED PRODUCT SPECIFICATIONS

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

**Process Code** P10 ELECTROPLATING

Intended Activity

W64

IMPROVED DRAINING PROCEDURES

W68

IMPROVED RINSE EQUIPMENT OPERATION

Employed Activity

W81

CHANGED PRODUCT SPECIFICATIONS

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of Minnesota  
Department of Public Safety  
Emergency Response Commission

Sorted by County, City,

**Non Numeric Objective:** EVALUATE NEW CLEANING CHEMICALS TO PRODUCE LESS COPPER WASTE IN WATER IN METAL CLEANING, ALTERNATE TREATMENT OPTIONS OF ACID PICKLE SOLUTION TO RECYCLE COPPER IN ACID SOLUTION, ANSD NON-COPPER COATED SHOT FOR USE IN SHOTGUN SHELLS.

**Non Numeric Progress:** EVALUATE NEW CLEANERS TO PRODUCE LESS COPPER IN RINSE WATER. PRODUCE AND SELL NON-COPPER COATED SHOT AND BULLETS TO REDUCE THE AMOUNT OF COPPER WATER GENERATED. EVALUATE NEW WASTE HANDLING PROCEDURE TO RECYCLE COPPER IN ACID PICKLE SOLUTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1991	200000					1998 163,430 1999 368,970	1999 / 1998 = 1.17	Yes

**Process Code** P11 EXTRUDING ANY MATERIAL

Intended Activity

W36

W13

W52

Employed Activity

W52

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Non Numeric Objective:** EVALUATE REPLACEMENT PRODUCTS TO SUBSTITUTE FOR ETHYLENE GLYCOL IN MANUFACTURING PROCESS AND EQUIPMENT TO RECLAIM AND RECYCLE ETHYLENE GLYCOL.

**Non Numeric Progress:** CONTINUE TO DO LITERATURE SEARCH FOR AN ACCEPTABLE SUBSTITUTE PRODUCT AND EVALUATE AND OBTAIN QUOTES FOR RECYCLING EQUIPMENT AND TECHNOLOGIES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1991	675					1998 37,500 1999 44,900	1999 / 1998 = 1.17	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W81

W82

W42

Employed Activity

W81

W42

W82

CHANGED PRODUCT SPECIFICATIONS  
MODIFIED DESIGN OR COMPOSITION  
SUBSTITUTED RAW MATERIALS

CHANGED PRODUCT SPECIFICATIONS  
SUBSTITUTED RAW MATERIALS  
MODIFIED DESIGN OR COMPOSITION

**Process Code** P10 ELECTROPLATING

Intended Activity

W52

Employed Activity

W81

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

CHANGED PRODUCT SPECIFICATIONS  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION  
**Non Numeric Objective:** EVALUATE AND CONTINUE TESTING LEAD FREE PRIMING MIX AND NON-LEAD BULLETS AND SHOT TO REPLACE LEAD IN AMMUNITION COMPOUNDS.  
**Non Numeric Progress:** IN CERTAIN AMMUNITION LOADS, CONTINUE LOADING AND SELLING LEAD SUBSTITUTE METALS, LOADING AND SELLING NON-LEAD BASED PRIMERS, AND EVALUATE USE OF OTHER METALS TO REPLACE LEAD.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Nitrate Compounds (water dissociable)	1995	31000					1998 23,100 1999 24,869	1999 / 1998 = 1.17	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION  
W42 SUBSTITUTED RAW MATERIALS  
**Non Numeric Objective:** MATERIAL IS USED IN THE CHEMICAL MANUFACTURE OF LEAD BASED PRIMING MIX. PILOT RUNS HAVE BEEN COMPLETED USING LEAD FREE PRIMING MIXES IN SOME PRODUCTS THAT WILL REDUCE THE USE OF NITRATE COMPOUNDS IN THE MANUFACTURE OF PRIMING MIX.  
**Non Numeric Progress:** NONE  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Anoka County, City of ANOKA -- HOFFMAN ENCLOSURES INC. - MAIN PLANT -- ERCID -- 020050053**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Glycol Ethers	1994	108828					1998 29,259 1999 31,238	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W19 TRANSFERRED SOME SPECIALIZED COATING JOBS TO A SUBCONTRACTOR.  
Employed Activity W58 DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT AND NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION AND TESTING OF HVLP LIQUID APPLICATION SYSTEMS.  
**Non Numeric Objective:** ALL OF THE POLLUTION PREVENTION OBJECTIVES HAVE BEEN COMPLETED. CURRENTLY LOOKING AT HVLP APPLICATIONS AND LOOKING INTO SOME SPECIALIZED MODIFICATIONS TO OUR PAINT LINES, HOWEVER THESE ARE IN THE INVESTIGATIVE STAGES.  
**Non Numeric Progress:** DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT LINES. DEVELOPING NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION OF HVLP LIQUID APPLICATION SYSTEMS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1994	40762					25,153	20,362	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W19 TRANSFERRED SOME SPECIALIZED COATING JOBS TO A SUBCONTRACTOR.  
 Employed Activity W58 DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT AND NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION AND TESTING OF HVLP LIQUID APPLICATION SYSTEMS.  
**Non Numeric Objective:** ALL OF THE POLLUTION PREVENTION OBJECTIVES HAVE BEEN COMPLETED. CURRENTLY LOOKING AT HVLP APPLICATIONS AND LOOKING INTO SOME SPECIALIZED MODIFICATIONS TO OUR PAINT LINES, HOWEVER THESE ARE IN THE INVESTIGATIVE STAGES.  
**Non Numeric Progress:** DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT LINES. DEVELOPING NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION OF HVLP LIQUID APPLICATION SYSTEMS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1994	33,483					20,717	20,786	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W19 TRANSFERRED SOME SPECIALIZED COATING JOBS TO A SUBCONTRACTOR.  
 Employed Activity W58 DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT AND NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION AND TESTING OF HVLP LIQUID APPLICATION SYSTEMS.  
**Non Numeric Objective:** ALL OF THE POLLUTION PREVENTION OBJECTIVES HAVE BEEN COMPLETED. CURRENTLY LOOKING AT HVLP APPLICATIONS AND LOOKING INTO SOME SPECIALIZED MODIFICATIONS TO OUR PAINT LINES, HOWEVER THESE ARE IN THE INVESTIGATIVE STAGES.  
**Non Numeric Progress:** DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT LINES. DEVELOPING NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION OF HVLP LIQUID APPLICATION SYSTEMS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1994	55874					37,160	30,518	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W19 TRANSFERRED SOME SPECIALIZED COATING JOBS TO A SUBCONTRACTOR.  
 Employed Activity W58 DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT AND NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION AND TESTING OF HVLP LIQUID APPLICATION SYSTEMS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ALL OF THE POLLUTION PREVENTION OBJECTIVES HAVE BEEN COMPLETED. CURRENTLY LOOKING AT HVLP APPLICATIONS AND LOOKING INTO SOME SPECIALIZED MODIFICATIONS TO OUR PAINT LINES, HOWEVER THESE ARE IN THE INVESTIGATIVE STAGES.

**Non Numeric Progress:** DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT LINES. DEVELOPING NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION OF HVLP LIQUID APPLICATION SYSTEMS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1994	55057					1998 28,632 1999 25,546	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W19

TRANSFERRED SOME SPECIALIZED COATING JOBS TO A SUBCONTRACTOR.

Employed Activity

W58

DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT AND NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION AND TESTING OF HVLP LIQUID APPLICATION SYSTEMS.

**Non Numeric Objective:** ALL OF THE POLLUTION PREVENTION OBJECTIVES HAVE BEEN COMPLETED. CURRENTLY LOOKING AT HVLP APPLICATIONS AND LOOKING INTO SOME SPECIALIZED MODIFICATIONS TO OUR PAINT LINES, HOWEVER THESE ARE IN THE INVESTIGATIVE STAGES.

**Non Numeric Progress:** DEVELOPMENT OF THE CONVERSION PROCESS OF EXISTING LIQUID PAINT LINES TO POWDER PAINT LINES. DEVELOPING NEW TECHNOLOGIES FOR MULTICOLOR PAINTING. INVESTIGATION OF HVLP LIQUID APPLICATION SYSTEMS.

**Anoka County, City of ANOKA -- IMI CORNELIUS INC. -- ERCID -- 020050003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1998	45					1998 58,645 1999 91,883	1999 / 1998 = 1.1	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W58

ACTIVITIES TO IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.

Employed Activity

W58

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity

W58

ACTIVITIES TO IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.

Employed Activity

W58

**Non Numeric Objective:** CONSIDER ALTERNATIVES. COLLECT AND RECYCLE SCRAP AND LOOK FOR WAYS TO MINIMIZE WASTE IN THE METALS USED. REVIEW MATERIAL USES AND CONSIDER WHETHER NUMERICAL REDUCTION GOALS MIGHT BE SET.

**Non Numeric Progress:** MINIMIZING WASTE AND RELEASE OF METALS TO CONSERVE RESOURCES AND COMPLY WITH REQUIREMENTS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	5					1998 29,704 1999 24,005	1999 / 1998 = 1.1	Yes	

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W58 IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.  
Employed Activity W58

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity W58 IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.  
Employed Activity W58

**Non Numeric Objective:** CONSIDER ALTERNATIVES. COLLECT AND RECYCLE SCRAP AND LOOK FOR WAYS TO MINIMIZE WASTE IN THE METALS USED. REVIEW MATERIAL USES AND CONSIDER WHETHER NUMERICAL REDUCTION GOALS MIGHT BE SET.

**Non Numeric Progress:** MINIMIZING WASTE AND RELEASE OF METALS TO CONSERVE RESOURCES AND COMPLY WITH REQUIREMENTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1998	25					1998 26,925 1999 41,445	1999 / 1998 = 1.1	Yes	

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W58 IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.  
Employed Activity W58

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity W58 IMPROVE PRODUCTION EFFICIENCIES AND MINIMIZE WASTE AND RELEASES.  
Employed Activity W58

**Non Numeric Objective:** CONSIDER ALTERNATIVES. COLLECT AND RECYCLE SCRAP AND LOOK FOR WAYS TO MINIMIZE WASTE IN THE METALS USED. REVIEW MATERIAL USES AND CONSIDER WHETHER NUMERICAL REDUCTION GOALS MIGHT BE SET.

**Non Numeric Progress:** MINIMIZING WASTE AND RELEASE OF METALS TO CONSERVE RESOURCES AND COMPLY WITH REQUIREMENTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1998	36000					1998 36,000 1999 45,000	1999 / 1998 = 1.1	Yes	

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST  
Employed Activity  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
**Non Numeric Objective:** EVALUATION OF ALTERNATE ACIDS AND WAYS TO MINIMIZE THE USE OF NITRIC ACID. CONSIDER WAYS TO ELIMINATE OR MINIMIZE NITRIC ACID USE WILL BE USEFUL IN REDUCING NITRATE COMPOUNDS.  
**Non Numeric Progress:** NO SUITABLE ALTERNATIVES HAVE BEEN IDENTIFIED, BUT ACTIVITIES HAVE CONTINUED TO ASSURE PH NEUTRALIZATION AND MINIMIZE USE AND RELEASE OF NITRIC ACID AND CREATION OF NITRATE COMPOUNDS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1990	15720					1998 27,030 1999 33,730	1999 / 1998 = 1.1	Yes

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST  
Employed Activity  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
**Non Numeric Objective:** CONSIDER ALTERNATIVES. MAINTAIN PH DISCHARGE COMPLIANCE RESULTING IN ELIMINATION OF THE RELEASE OF NITRIC ACID.  
**Non Numeric Progress:** NO SUITABLE ALTERNATIVES HAVE BEEN IDENTIFIED, BUT ACTIVITIES HAVE CONTINUED TO ASSURE PH NEUTRALIZATION AND MINIMIZE USE AND RELEASE OF NITRIC ACID AND CREATION OF NITRATE COMPOUNDS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1994	12200					1998 13,200 1999 12,400	1999 / 1998 = 1.1	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
Employed Activity  
W19 CHANGES TO MINIMIZE WASTE SOLVENT AND TO PROLONG SOLVENT LIFE.  
**Non Numeric Objective:** CONSIDER ALTERNATIVES, OPERATE AIR EMISSION CONTROL EQUIPMENT TO ASSURE THAT MACT STANDARDS ARE MET. REVIEW OPERATING DATA TO OPTIMIZE PROCESS ACTIVITIES TO MINIMIZE WASTE AND EMISSIONS.  
**Non Numeric Progress:** CONTINUED WORK TO ENSURE PROPER OPERATION OF EQUIPMENT AND CONTROL DEVICES TO OPTIMIZE AND MINIMIZE CHEMICAL USE AND RELEASES.

**Anoka County, City of ANOKA -- LUND INDUSTRIES INC -- ERCID -- 020050050**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1996	108000					123,900	130,195	1999 / 1998 = 0.89	No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

- Intended Activity
  - W74 IMPROVED APPLICATION TECHNIQUES
  - W58 CONTINUE TO EVALUATE ALTERNATIVE TECHNIQUES AND METHODS FOR SPRAY LAY -UP.
  - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

- Employed Activity
  - W90 NOT APPLICABLE

**Non Numeric Objective:** EVALUATION AND IMPLEMENTATION OF NEW PRODUCTION TECHNOLOGIES WHICH EMIT LESS STYRENE, IMPROVED MAINTENANCE SCHEDULE AND PROCEDURES, EVALUATION OF ALTERNATIVE PRODUCTION MATERIALS AND APPLICATION TECHNIQUES.

**Non Numeric Progress:** CLOSED MOLD OPERATIONS TO REDUCE STYRENE EMISSIONS AND ELIMINATE SOME STYRENE PRODUCING MATERIALS. THE TECHNOLOGY IS NOT FEASIBLE FOR LUND'S OPERATIONS AT THIS TIME.

**Barriers to P2:**  
 F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Anoka County, City of ANOKA -- PROFESSIONAL PLATING -- ERCID -- 020050005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1991	29000					28,200	26,900	1999 / 1998 = 1	Yes

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

- Intended Activity
  - W42 SUBSTITUTED RAW MATERIALS
  - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

- Employed Activity
  - W42 SUBSTITUTED RAW MATERIALS
  - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**ANOKA County, City of BLAINE -- PARKER MOBIL CYLINDER DIV.-MPLS. -- ERCID -- 020200071**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1998	30000	20	26	26	26	30,020	35,026	1999 / 1998 = 1.18	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** POSSIBLE REDUCTION IN STEEL USAGE, POSSIBLE PRODUCT DESIGN CHANGES, OUTSOURCE PRODUCT AND METAL CHIP REDUCTION.

**Non Numeric Progress:** NA

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1998	7000	5	6	6	6	1998 7,005 1999 7,916	1999 / 1998 = 1.18	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W42 SUBSTITUTED RAW MATERIALS  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** POSSIBLE REDUCTION IN STEEL USAGE, POSSIBLE PRODUCT DESIGN CHANGES, OUTSOURCE PRODUCT AND METAL CHIP REDUCTION.

**Non Numeric Progress:** NA

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1998	30000	20	26	25	25	1998 30,020 1999 34,525	1999 / 1998 = 1.18	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W42 SUBSTITUTED RAW MATERIALS  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 Employed Activity  
 W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** POSSIBLE REDUCTION IN STEEL USAGE, POSSIBLE PRODUCT DESIGN CHANGES, OUTSOURCE PRODUCT AND METAL CHIP REDUCTION.

**Non Numeric Progress:** NA

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Anoka County, City of BLAINE -- RMS COMPANY -- ERCID -- 020200067**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1997	22261					1998 21,808 1999 10,351	1999 / 1998 = 0.46	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W58

MINIMIZE SCRAP

Employed Activity

W58

OPTIMIZING MATERIAL REQUIREMENTS THEREBY MINIMIZING SCRAP.

**Non Numeric Objective:** CHANGE IN MIX OF MANUFACTURED PRODUCT RESULTED IN A 48% REDUCTION IN SCRAP FOR 1999. TOTAL SINCE BASELINE ASSESSMENT WAS 47%.

**Non Numeric Progress:** CHANGE IN MIX OF MANUFACTURED PRODUCT RESULTED IN A 48% REDUCTION IN SCRAP FOR 1999. TOTAL SINCE BASELINE ASSESSMENT WAS 47%.

**Anoka County, City of BLAINE -- SAFETY-KLEEN SYSTEMS, INC -- ERCID -- 020200027**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1999	3					1998 95,413 1999 206,954	1999 / 1998 = 2.17	Yes

**Process Code** P36 COLLECTION AND TRANSFER OF WASTE FROM GENERATORS

Intended Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** PLACE CONTAINMENT BUCKETS UNDER HOSE CONNECTIONS AND INSPECTING HOSE COUPLING FOR WEAR

**Non Numeric Progress:** NA - THIS IS OUR BASELINE YEAR.

**Anoka County, City of CIRCLE PINES -- PLASTI DIP INTERNATIONAL -- ERCID -- 020200005**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.93	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1991	1100					834	2,298	No	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
  - Intended Activity
    - W42 SUBSTITUTED RAW MATERIALS
    - W82 MODIFIED DESIGN OR COMPOSITION
  - Employed Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
  - Intended Activity
    - W82 MODIFIED DESIGN OR COMPOSITION
    - W42 SUBSTITUTED RAW MATERIALS
  - Employed Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
  - Intended Activity
    - W42 SUBSTITUTED RAW MATERIALS
    - W82 MODIFIED DESIGN OR COMPOSITION
  - Employed Activity
    - W19

**Non Numeric Objective:** REDUCE THE AMOUNT OF METHYL ETHYL KETONE IN SOME OF OUR PRODUCT LINES. CONTINUE TO SEARCH FOR A SOLVENT THAT DOESN'T CONTAIN METHYL ETHYL KETONE BUT PROVIDES THE SAME QUALITY OF PRODUCT AND IS TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE.

**Non Numeric Progress:** TO IMPROVE BASIC PROCEDURES, IMPROVE OPERATING PRACTICES, AND MAXIMIZE OUR EQUIPMENT.

- Barriers to P2:**
- F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE
  - F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION
  - F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS
  - F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE
  - F10 CURRENTLY NOT ANOTHER CHEMICAL AVAILABLE THAT IS ECONOMICALLY FEASIBLE OR HAS THE SAME QUALITY AS MEK. HAVE ALREADY IMPLEMENTED AS MANY PRACTICES AS WE CAN WITHOUT CHANGING PRODUCT QUALITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.93	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1995	737					800	2,586	No	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
  - Intended Activity
    - W42 SUBSTITUTED RAW MATERIALS
    - W82 MODIFIED DESIGN OR COMPOSITION
  - Employed Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS



Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19

**Non Numeric Objective:** WILL WORK TO REDUCE THE AMOUNT OF TOLUENE AND CONTINUALLY SEARCH FOR A NEW SUBSTITUTE THAT PRODUCES A QUALITY COATING AT A REASONABLE COST.

**Non Numeric Progress:** IN ORDER TO REDUCE THE AMOUNT OF TOLUENE, WE WILL SUSTITUTE RAW MATERIAL OR CHANGE THE COMPOSITION OF OUR COATING PRODUCTS. WHEN SUCH A SUBSTITUTE BECOMES KNOWN, WE WILL REPLACE TOLUENE WITH IT. AS PRODUCTION INCREASES SO WILL THE AMOUNT OF TOLUENE.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 CURRENTLY NOT ANOTHER CHEMICAL AVAILABLE THAT CAN PRODUCE THE SAME RESULTS AS N-HEXANE. HAVE ALREADY IMPLEMENTED AS MANY PRACTICES AS WE CAN WITHOUT CHANGING PRODUCT QUALITY.

**Anoka County, City of COLUMBIA HEIGHTS -- INVEST CAST, INC. -- ERCID -- 020400013**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1993	861					1998 69,467 1999 68,509	1999 / 1998 = 0.9	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W51

W58

Employed Activity

W51

W58

INSTITUTED RECIRCULATION WITHIN A PROCESS  
CONTINUE TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.

INSTITUTED RECIRCULATION WITHIN A PROCESS  
CONTINUED TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.

**Non Numeric Objective:** CHROMIUM IS A MAIN CONSTITUENT OF METAL ALLOYS AND CANNOT BE REPLACED IN THE PRODUCTION PROCESS AT THIS TIME. HAVE MADE A CONSCIOUS EFFORT TO REDUCE THE AMOUNT OF WASTE AND SCRAP SHIPPED OFF SITE.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES. DUE TO CHROMIUM BEING A MAIN CONSTITUENT OF OUR RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1993	543					1998 17,313 1999 23,615	1999 / 1998 = 0.9	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W58

W51

Employed Activity

W58

W51

CONTINUE TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.  
INSTITUTED RECIRCULATION WITHIN A PROCESS

CONTINUED TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.  
INSTITUTED RECIRCULATION WITHIN A PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** COPPER IS A MAIN CONSTITUENT OF METAL ALLOYS AND CANNOT BE REPLACED IN THE PRODUCTION PROCESS AT THIS TIME. HAVE MADE A CONSCIOUS EFFORT TO REDUCE THE AMOUNT OF WASTE AND SCRAP SHIPPED OFF SITE.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES. DUE TO COPPER BEING A MAIN CONSTITUENT OF OUR RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1993	861					1998 53,432	1999 53,408	1999 / 1998 = 0.9	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W58

W51

Employed Activity

W51

W58

CONTINUE TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.  
INSTITUTED RECIRCULATION WITHIN A PROCESS

INSTITUTED RECIRCULATION WITHIN A PROCESS  
CONTINUED TO IMPROVE PRODUCTION PROCESSES TO INCREASE THE YIELD OF FINISHED PARTS OVER THE SCRAP PRODUCED.

**Non Numeric Objective:** NICKEL IS A MAIN CONSTITUENT OF METAL ALLOYS AND CANNOT BE REPLACED IN THE PRODUCTION PROCESS AT THIS TIME. HAVE MADE A CONSCIOUS EFFORT TO REDUCE THE AMOUNT OF WASTE AND SCRAP SHIPPED OFF SITE.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES. DUE TO NICKEL BEING A MAIN CONSTITUENT OF OUR RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**ANOKA County, City of FRIDLEY -- CARTER-DAY INTERNATIONAL INC. -- ERCID -- 020550075**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1998	4530					1998 4,530	1999 7,164	1999 / 1998 = 0.93	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W49

Employed Activity

W49

WILL CONTINUE TO RESEARCH ALTERNATIVE MATERIALS.

CONTINUED TO RESEARCH ALTERNATIVE MATERIALS.

**Non Numeric Objective:** WILL CONTINUE OUR RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY TO REDUCE OUR CHROMIUM USE AND EMISSIONS.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. ON AN ONGOING BASIS, WE CONTINUE TO RESEARCH ALTERNATIVES TO AND REDUCTION TECHNIQUES FOR CHROMIUM.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Anoka County, City of FRIDLEY -- DUGAS BOWERS PLATING COMPANY -- ERCID -- 020550070**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Cyanide Compounds</i>	1996	11	10,307	12,767	15,950	19,950	1998 10,307 1999 12,767	1999 / 1998 = 1.25	Yes

**Process Code** P10

ELECTROPLATING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Process Code** P33

WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity

W58

IMPROVE THE OXIDATION ABILITY OF THE CHEMICAL DESTRUCTION PROCESS IN THE WATER TREATMENT SYSTEM.

Employed Activity

W58

IMPROVING THE CYANIDE DESTRUCTION PROCESS IN THE WATER TREATMENT SYSTEM WITHOUT REDUCING PRODUCTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	8297	8,297	10,214	12,770	15,960	1999 10,214	1999 / 1998 = 1.25	Yes

**Process Code** P05

CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W71

EMPLOYEES TRAINED ON A REGULAR BASIS TO IMPROVE HOUSEKEEPING AND REDUCE RELEASES. USE AQUEOUS CLEANERS OVER SOLVENTS.

Employed Activity

W71

EMPLOYEES TRAINED ON A REGULAR BASIS TO IMPROVE HOUSEKEEPING AND REDUCE RELEASES. USE AQUEOUS CLEANERS OVER SOLVENTS.

**Process Code** P33

WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity

W19

EMPLOYEES TRAINED ON A REGULAR BASIS TO IMPROVE HOUSEKEEPING AND REDUCE RELEASES. USE AQUEOUS CLEANERS OVER SOLVENTS.

Employed Activity

W19

EMPLOYEES TRAINED ON A REGULAR BASIS TO IMPROVE HOUSEKEEPING AND REDUCE RELEASES. USE AQUEOUS CLEANERS OVER SOLVENTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1995	17,540	83,914	81,755	100,000	125,000	1998 83,914 1999 81,754	1999 / 1998 = 1.25	Yes

**Process Code** P05

CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W90 NOT APPLICABLE  
 Employed Activity W71 USE AQUEOUS CLEANERS OVER SOLVENTS AS APPROPRIATE.  
**Process Code** P10 ELECTROPLATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W19 EMPLOYEES TRAINED ON A REGULAR BASIS TO IMPROVE HOUSEKEEPING AND REDUCE RELEASES. USE AQUEOUS CLEANERS OVER SOLVENTS.

**Anoka County, City of FRIDLEY -- ECO FINISHING COMPANY -- ERCID -- 020550069**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Cyanide Compounds</i>	1998	196265					1998 2,693 1999 3,472	1999 / 1998 = 1.3	No

**Process Code** P10 ELECTROPLATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W33 INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F10 PRODUCTION HAS INCREASED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1998	1999					1998 2,461 1999 1,510	1999 / 1998 = 1.42	No

**Process Code** P10 ELECTROPLATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 INCREASED PRODUCTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	45482					1999 33,690	1999 / 1998 = 0.84	No

**Process Code** P10 ELECTROPLATING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W33 INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** BY REDUCING THE AMOUNT OF REWORK, WE WILL REDUCE THE AMOUNT OF NITRATE COMPOUNDS PRODUCED.

**Non Numeric Progress:** BY REDUCING THE AMOUNT OF REWORK, WE WILL REDUCE THE AMOUNT OF NITRATE COMPOUNDS PRODUCED.

**Barriers to P2:** F10 GROWTH ON PLATING LINE CAPACITY AND THROUGHPUT CAUSED A GROWTH IN NITRATE COMPOUNDS PRODUCED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	40000					1998 40,000 1999 33,690	1999 / 1998 = 0.84	No

**Process Code** P10 ELECTROPLATING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** WILL DRAG-OUT OUR PLATING TANKS FOR LOST PARTS. THESE LOST PARTS AFFECT THE PH AND CAUSE US TO USE MORE NITRIC ACID. BY GETTING PARTS OUT EARLY, WE WILL USE LESS ACID.

**Non Numeric Progress:** WILL DRAG-OUT OUR PLATING TANKS FOR LOST PARTS. THESE LOST PARTS AFFECT THE PH AND CAUSE US TO USE MORE NITRIC ACID. BY GETTING PARTS OUT EARLY, WE WILL USE LESS ACID.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 INCREASE IN PRODUCTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1998	224015					1998 38,685 1999 19,579	1999 / 1998 = 1.16	No

**Process Code** P10 ELECTROPLATING

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 PRODUCTION HAS INCREASED.

**Anoka County, City of FRIDLEY -- KURT MANUFACTURING CO. -- ERCID -- 020550071**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Nitric Acid							1998 37,198 1999 40,918	1999 / 1998 = 1.36	Yes

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W64 IMPROVED DRAINING PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W64 IMPROVED DRAINING PROCEDURES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT

**Non Numeric Objective:** BASKET DRIP TIMES ARE BEING EXPERIMENTED WITH TO REDUCE DRAG OUT WHICH RESULTS IN LESS CHEMICAL USAGE. IN ADDITION, ALL SPENT NITRIC ACID IS NEUTRALIZED OFF SITE, WITH THE EXCEPTION OF TRACE AMOUNTS IN THE RINSE BATH.

**Non Numeric Progress:** ALL NITRIC ACID USED WAS NEUTRALIZED AND THERE WERE NO RELEASES TO THE ENVIRONMENT.

**Anoka County, City of FRIDLEY -- KURT MANUFACTURING DIE CAST -- ERCID -- 020550014**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Aluminum (fume or dust)							1999 25,163	1999 / 1998 = 1.67	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W64 IMPROVED DRAINING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W78 CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.

Employed Activity W78 CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.  
SMELTING

**Process Code** P28  
Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CREATE A POLLUTION PLAN FOR ALUMINUM. BEFORE 1999 WE DID NOT EXCEED THE SARA FORM R REPORTING THRESHOLD.

**Non Numeric Progress:** CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.

**Barriers to P2:** F10 THE AMOUNT OF ALUMINUM RELEASED IS DEPENDENT UPON THE AMOUNT OF ALUMINUM ALLOY PROCESSED IN RESPONSE TO THE PRODUCTION DEMANDS ON THE FACILITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.67	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper							65,322	102,792		

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W64 IMPROVED DRAINING PROCEDURES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W78 CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.

Employed Activity W78 CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.

**Process Code** P28  
Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CURTAIL RELEASES AT THE SOURCES, INCLUDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS.

**Non Numeric Progress:** CONTINUE TO IMPLEMENT PRACTICES TO REDUCE EMISSIONS FROM MELTING AND HOLDING FURNACES, DIE CAST MACHINES, AND FINISHING OPERATIONS INCLUDING SANDING, GRINDING, AND PELLETIZING. REPLACE OLD FURNACES.

**Barriers to P2:** F10 THE AMOUNT OF COPPER RELEASED IS DEPENDENT SOLELY UPON THE AMOUNT OF COPPER IN THE ALUMINUM ALLOY PROCESSED AND THE PRODUCTION DEMANDS ON THE FACILITY.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Anoka County, City of FRIDLEY -- KWIK-FILE, LLC -- ERCID -- 020550066**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1995	16696					1998 17,344 1999 12,293	1999 / 1998 = 0.98	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W42

SUBSTITUTED RAW MATERIALS

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W58

BY MID 2000, REDUCE THE NEED FOR THE ELECTROSTATIC PAINT LINE BY USING PRE-PAINTED STEEL FOR SOME PARTS AND PRODUCT LINES.

Employed Activity

W42

SUBSTITUTED RAW MATERIALS

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W58

BEGAN TO USE PRE-PAINTED STEEL FOR SOME PARTS AND PRODUCT LINES. WORK TOWARDS A MORE EFFECTIVE PAINT LINE.

**Non Numeric Objective:**

CONTINUE RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY TO REDUCE EMISSIONS. GRADUALLY SWITCHING OVER TO AN ELECTROSTATIC LINE WHICH IS MORE EFFICIENT AND WILL USE LESS PAINT.

**Non Numeric Progress:**

CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. GRADUALLY SWITCHING OVER TO AN ELECTROSTATIC LINE WHICH IS MORE EFFICIENT AND WILL USE LESS PAINT. RELEASES REDUCED DUE TO A CHANGE IN HAP FREE PAINT. SOME PRE-PAINTED STEEL BEING USED.

**Anoka County, City of FRIDLEY -- LARSEN'S MFG. CO. -- ERCID -- 020550053**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1991	37006					1998 14,537 1999 17,172	1999 / 1998 = 1.03	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W64

IMPROVED DRAINING PROCEDURES

Employed Activity

W64

IMPROVED DRAINING PROCEDURES

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W19

OTHER CHANGES IN OPERATION PROCEDURES INCLUDES BETTER OPERATOR AWARENESS REGARDING POLLUTION PREVENTION EFFORTS.

**Barriers to P2:**

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

F10 PRODUCTION LEVELS INCREASED AT A GREATER THAN EXPECTED RATE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Anoka County, City of FRIDLEY -- MINNCAST, INC. -- ERCID -- 020550056**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1991	1990					1998 2,200 1999 1,340	1999 / 1998 = 0.89	No

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W19 NO NUMERIC SOURCE REDUCTION OBJECTIVE WAS SET FOR CHROMIUM. MINNCAST WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.  
Employed Activity W19 MINNCAST WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.

**Non Numeric Objective:** TO REUSE AS MUCH CHROMIUM AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Non Numeric Progress:** TO REUSE AS MUCH CHROMIUM AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1991	1575					1998 1,650 1999 1,100	1999 / 1998 = 0.89	No

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W19 NO NUMERIC SOURCE REDUCTION OBJECTIVE WAS SET FOR MANGANESE. WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.  
Employed Activity W19 WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.

**Non Numeric Objective:** TO REUSE AS MUCH MANGANESE AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Non Numeric Progress:** TO REUSE AS MUCH MANGANESE AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1991	320					1998 1,270 1999 760	1999 / 1998 = 0.89	No

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W19 NO NUMERIC SOURCE REDUCTION OBJECTIVE WAS SET FOR NICKEL. WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.  
Employed Activity W19 WILL CONTINUE TO USE SOUND OPERATING AND MAINTENANCE PRACTICES.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** TO REUSE AS MUCH NICKEL AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Non Numeric Progress:** TO REUSE AS MUCH NICKEL AS POSSIBLE THEREBY MINIMIZING THE AMOUNT TRANSFERRED OFFSITE. STAY CURRENT ON TECHNOLOGY AND INDUSTRY CHANGES. CONTINUE TO EVALUATE DIFFERENT PROCESSES AND EQUIPMENT BOTH TECHNICALLY AND ECONOMICALLY.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Anoka County, City of FRIDLEY -- ONAN CORP. -- ERCID -- 020550009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1997	27,500	26,125	24,819	24,819	24,819	1998 39,500 1999 23,600		1999 / 1998 = 1.16	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1997	13500	12,825	12,184	11,575	10,800	1998 11,000 1999 12,000		1999 / 1998 = 1.16	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W75 CHANGED FROM SPRAY TO OTHER SYSTEM

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1997	9088	8,634	8,202	7,792	7,270	1998 16,300 1999 26,300		1999 / 1998 = 1.7	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W58 REPLACE "DIP & BAKE" VARNISH IMPREGNATION PROCESS WITH TRICKLE IMPREGNATION PROCESS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W58 REPLACE "DIP & BAKE" VARNISH IMPREGNATION PROCESS WITH TRICKLE IMPREGNATION PROCESS.  
W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.16	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1997	61900	58,805	55,865	53,072	49,520	52,001	48,702		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
W78 CHANGE FROM SOLVENT-BORNE INSULATING RESIN TO 100% SOLIDS RESINS.  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
W78 CHANGE FROM SOLVENT-BORNE INSULATING RESIN TO 100% SOLIDS RESINS.

**Anoka County, City of FRIDLEY -- SPEC PLATING CORPORATION -- ERCID -- 020550072**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.3	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1999	44665					42,240	46,791		

**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F10 CONTINUALLY LOOKING FOR SMARTER AND MORE EFFICIENT USE OF THE CHEMICAL.

**Anoka County, City of FRIDLEY -- STYLARK, INC. -- ERCID -- 020550016**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1995	92,628	30,703	28,668	35,835	44,794	1998 30,703 1999 28,668	1999 / 1998 = 1.04	Yes

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1994	22,289	23,777	22,480	28,100	35,125	1998 23,777 1999 22,480	1999 / 1998 = 1.04	Yes

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
 Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Anoka County, City of RAMSEY -- LIFE FITNESS CONSUMER DIV. -- ERCID -- 020950015**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1998	2026					1998 2,026 1999 5,677	1999 / 1998 = 1.07	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W29 ALL PROCESSING WILL BE MOVED TO A SINGLE SITE, WHICH WILL ALLOW FOR MORE EFFICIENT CONTROL OF STEEL (MANGANESE).  
 W19 ALL PROCESSING WILL BE MOVED TO A SINGLE SITE, WHICH WILL ALLOW FOR MORE EFFICIENT CONTROL OF STEEL (MANGANESE).  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- Non Numeric Objective:** MAXIMIZE THE AMOUNT OF STEEL USED, MINIMIZING WASTE, AND RECYCLE ALL SCRAP STEEL.
- Non Numeric Progress:** CONTINUE TO IMPLEMENT OUR OBJECTIVES. AS LONG AS PRODUCTION CONTINUES TO RISE, REDUCTION WILL NOT DROP.
- Barriers to P2:**  
 F10 AS LONG AS PRODUCTION CONTINUES TO RISE, REDUCTION OF EMISSIONS IS IMPOSSIBLE.  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Anoka County, City of RAMSEY -- V. E. LENS INC. 4-RAM1 -- ERCID -- 020950019**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,3-dichloro-1,1,2,2,3-pentafluoropropane	1998	20,898	20,898	41,365	37,521	37,515	1998 25,235	1999 / 1998 = 1.2	Yes
							1999 25,985		

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
3,3-dichloro-1,1,1,2,2-pentafluoropropane	1998	16917	16,917	33,485	30,373	30,369	1998 20,428	1999 / 1998 = 1.2	Yes
							1999 21,036		

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Methanol	1998	37874	37,874	74,966	72,533	73,220	1998 38,353	1999 / 1998 = 1.2	No
							1999 121,092		

- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W32 EMPLOYED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W90 NOT APPLICABLE

**Barriers to P2:** F10 IMPLEMENTATION OF AN ADDITIONAL PROCESS UTILIZING THIS CHEMICAL

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1998	39735	39,735	78,650	58,740	59,107	1998 39,734 1999 57,158	1999 / 1998 = 1.2	Yes

**Process Code** P05 INTENDED ACTIVITY: CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

W42 EMPLOYED ACTIVITY: SUBSTITUTED RAW MATERIALS

W90 EMPLOYED ACTIVITY: NOT APPLICABLE

**Process Code** P21 INTENDED ACTIVITY: ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

W13 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 EMPLOYED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W13 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Beltrami County, City of SOLWAY -- NORTHWOOD PANELBOARD CO. -- ERCID -- 041850001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formaldehyde</i>	1991	165000					1998 14,000 1999 14,637	1999 / 1998 = 1.01	No

**Process Code** P08 INTENDED ACTIVITY: DRYING

W58 EMPLOYED ACTIVITY: DESIGNED A NEW SECOND-GENERATION FLAT LINE DRYER FOR USE IN SOUTH CAROLINA. IF IT IMPROVES THROUGHPUT, WE WILL USE THEM HERE.

W49 EMPLOYED ACTIVITY: CONTINUE TO EXERT PRESSURE ON RESIN SUPPLIERS TO REDUCE UNREACTED FORMALDEHDE.

**Non Numeric Objective:** FORMALDEHYDE EMISSIONS HAVE BEEN DRASTICALLY REDUCED WITH OUR LOW TEMPERATURE FLAT LINE DRYER, AND RUNNING THE OLD DRYERS AT REDUCED CAPACITIES.

**Non Numeric Progress:** NO SIGNIFICANT PROGRESS SINCE THE DRASTIC IMPROVEMENT IN 1996 AND 1997. CONTINUE TO MAXIMIZE THROUGHPUT THROUGH THE NEW DRYER. SUPPLIERS ARE ALWAYS TRYING TO IMPROVE THEIR RESINS. WE RECYCLE WOOD WAFERS TO USE AS RAW MATERIAL IN OUR PRODUCT.

**Barriers to P2:** F10 DEVELOPED A NEW DRYING PROCESS WHICH EMITS LESS THAN 1% FORMALDEHYDE AS COMPARED TO OUR OLD DRYERS. STUDYING FEASIBILITY OF REPLACING ROTARY DRYERS WITH A NEW FLAT LINE DRYER.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.01	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1998	60000					60,000	169,454		No

**Process Code** P08 DRYING  
 Intended Activity W58 LOW TEMPERATURE CONVEYOR DRYER AND CONVENTIONAL DIRECT FIRE ROTARY DRYERS.  
 Employed Activity W58 DESIGNED A NEW SECOND-GENERATION FLAT LINE DRYER FOR USE IN SOUTH CAROLINA. IF IT IMPROVES THROUGHPUT, WE WILL USE THEM HERE.  
**Non Numeric Objective:** LAST YEAR WE OVERLOOKED DOING METHANOL EMISSIONS FROM THE PRESS. THAT IS WHY WE SHOWED A LARGE INCREASE THIS YEAR. HOPE TO JUSTIFY ANOTHER FLAT LINE DRYER TO ELIMINATE OUR ROTARY DRYERS.  
**Non Numeric Progress:** CONTINUE TO MAXIMIZE THROUGHPUT THROUGH THE NEW DRYER. SUPPLIERS ARE ALWAYS TRYING TO IMPROVE THEIR RESINS. WE RECYCLE WOOD WAFERS TO USE AS RAW MATERIAL IN OUR PRODUCT.  
**Barriers to P2:** F10 DEVELOPED A NEW DRYING PROCESS THAT DRASTICALLY REDUCES VOC EMISSIONS AND METHANOL. STUDY FEASIBILITY OF REPLACING ROTARY DRYERS WITH ANOTHER FLAT LINE DRYER.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.01	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phenol</i>	1991	15000					160	159		No

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
 Intended Activity W49 RESIN MANUFACTURERS CONTINUALLY ATTEMPTING TO REDUCE FREE PHENOL.  
 Employed Activity W49 RESIN MANUFACTURERS CONTINUALLY ATTEMPTING TO REDUCE FREE PHENOL.  
**Non Numeric Objective:** IN 1997, ACTUAL STACK TESTING SHOWED A SIGNIFICANT REDUCTION IN PHENOL AS COMPARED TO PRIOR YEARS CALCULATIONS.  
**Non Numeric Progress:** NO FURTHER REDUCTION IN 1999. 1999 EMISSIONS BASED ON 1997 STACK TEST.  
**Barriers to P2:** F10 CONTINUE TO EXERT PRESSURE ON RESIN SUPPLIERS TO REDUCE FREE PHENOL IN PRODUCT.

**Benton County, City of FOLEY -- GORECKI MFG., INC. -- ERCID -- 050100015**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 3.8	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1999	2870					800	2,878		Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W33 INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
 Employed Activity W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W33 INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P03      CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W33                      INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
 Employed Activity  
 W33                      INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
**Non Numeric Objective:** TO REDUCE THE AMOUNT OF SPENT BARREL LINERS BY USE OF DEDICATED MIXING DRUMS FOR REPEATED BATCHES. INSTALL AN OVERFLOW ALARM SYSTEM AND AUTOMATIC WATER SHUT-OFF TO PREVENT FILL OVERFLOW.  
**Non Numeric Progress:** INSTALLATION OF A SPILL ALARM SYSTEM INCLUDING BOTH AUDIO AND VISUAL INDICATORS OF PENDING SPILLS. INSTALLATION OF AN AUTOMATIC WATER SHUT-OFF TO PREVENT OVERFLOW. USE OF DEDICATED MIXING DRUMS FOR REPEATED BATCHES TO REDUCE SPENT BARREL LINER WASTE.

**Benton County, City of RICE -- CENTRAL MARBLE PRODUCTS, INC. -- ERCID -- 050550002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1998	13005	13,005	14,408	15,848	17,433	1998	13,005	1999 / 1998 = 1.1	No
							1999	14,408		

**Process Code** P01      CASTING ANY MATERIAL  
 Intended Activity  
 W74                      IMPROVED APPLICATION TECHNIQUES  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W74                      IMPROVED APPLICATION TECHNIQUES  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:**      F10 INCREASED PRODUCTION TO MEET THE INCREASED BUSINESS IN 1999. AN INCREASE IN PRODUCTION CAUSES AN INCREASE IN STYRENE EMISSIONS.

**Benton County, City of SARTELL -- CHAMPION INTERNATIONAL CORP. -- ERCID -- 050720001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Hydrochloric Acid (aerosol forms only)	1990	2000					1998	246,360	1999 / 1998 = 0.99	Yes
							1999	249,980		

**Process Code** P22      PAPER MANUFACTURING  
 Intended Activity  
 W19                      TRAINING TAKES PLACE AT VARIOUS TIMES THROUGHOUT THE YEAR. RECORDS ARE KEPT ON CONTENT AND ATTENDEES.  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W19                      EMPLOYEES COMPLETED THE NECESSARY TRAINING AND MET REQUIREMENTS TO MAINTAIN THEIR BOILER LICENSES.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE SEARCHING FOR MORE EFFICIENT POLLUTION CONTROL EQUIPMENT AND TECHNOLOGY AND COMPLY WITH OUR AIR PERMIT. MORE STACK TESTING MAY BE DONE IN THE FUTURE. SINCE HCL IS A NATURAL BYPRODUCT OF COMBUSTION, FUTURE REDUCTIONS ARE NOT ANTICIPATED.

**Non Numeric Progress:** CONTINUED TO SEARCH FOR MORE EFFICIENT AND ECONOMICALLY FEASIBLE EQUIPMENT AND TECHNOLOGY. OPERATORS HAVE BEEN TESTED AND RECEIVED THEIR BOILER OPERATOR LICENSES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1995	43000	24,953	24,422	21,000	20,000	1998 43,020 1999 43,595	1999 / 1998 = 1.01	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity

W58

W13

Employed Activity

W13

A REGENERATIVE THERMAL OXIDIZER (RTO) WAS INSTALLED ON THE TMP HIGH GRADE HEAT RECOVERY EXHAUST VENTS.  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** CONTINUE TO COMPLY WITH OUR AIR PERMIT. MORE STACK TESTING MAY BE DONE IN THE FUTURE. SINCE METHANOL IS A NATURAL BYPRODUCT FROM THE DIGESTION OF WOOD, FUTURE REDUCTIONS ARE NOT ANTICIPATED.

**Non Numeric Progress:** EMPLOYEES HAVE ATTENDED THE NECESSARY TRAINING TO ENSURE PROPER OPERATION OF THE WOODROOM AND TMP EQUIPMENT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Sulfuric Acid (aerosol forms only)</i>	1990	36000	28,749	28,146	29,000	29,000	1998 28,749 1999 28,146	1999 / 1998 = 0.99	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity

W13

W19

Employed Activity

W13

W19

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
CONTINUE TO TRAIN EMPLOYEES IN APPROPRIATE SOP'S TO ENSURE PROPER OPERATION AND MAINTENANCE OF THE BOILERS AND ALL POLLUTION CONTROL EQUIPMENT.

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

EMPLOYEES COMPLETED THE NECESSARY TRAINING AND MET THE REQUIREMENTS TO MAINTAIN THEIR BOILER OPERATOR LICENSES.

**Non Numeric Objective:** CONTINUE SEARCHING FOR MORE EFFICIENT POLLUTION CONTROL EQUIPMENT AND TECHNOLOGY AND COMPLY WITH OUR AIR PERMIT. MORE STACK TESTING MAY BE DONE IN THE FUTURE. SINCE HCL IS A NATURAL BYPRODUCT OF COMBUSTION, FUTURE REDUCTIONS ARE NOT ANTICIPATED.

**Non Numeric Progress:** CONTINUED TO SEARCH FOR MORE EFFICIENT AND ECONOMICALLY FEASIBLE EQUIPMENT AND TECHNOLOGY. OPERATORS HAVE BEEN TESTED AND RECEIVED THEIR BOILER OPERATOR LICENSES.

**Benton County, City of SAUK RAPIDS -- X-CEL OPTICAL CO. -- ERCID -- 050730002**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	1999		
<i>Dichloromethane</i>	1991	49000					1999	5,940	1999 / 1998 = 1.2	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Trichloroethylene</i>	1995	29700					1998	22,020	1999 / 1998 = 1.2	No
							1999	20,520		

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Blue Earth County, City of MANKATO -- ARCHER DANIELS MIDLAND CO. -- ERCID -- 071000001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium</i>	1997	47039	47,000	51,950	51,000	51,000			No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 Employed Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Barriers to P2:** F10 HAD A HIGHER RATE OF COAL CONSUMPTION IN 1999 WHICH HAS RAISED THE AMOUNT OF BARIUM REPORTED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1996	660000	235,286	159,498	159,000	159,000	1998 235,286	1999 159,497	1999 / 1998 = 1	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1999	8600	0	8,600	8,600	8,600	1998 8,600	1999 8,600	1999 / 1998 = 1.36	Yes

**Process Code** P25 REFINING  
 Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Blue Earth County, City of MANKATO -- CENEX HARVEST STATES -- ERCID -- 071000005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>	1999	200					1998 16,200	1999 12,600	1999 / 1998 = 1	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** OUR GOAL IS TO KEEP LEVELS BELOW THE DETECTION LIMITS OF THE TESTING EQUIPMENT BY ADDING A DECHLORINATION CHEMICAL.

**Non Numeric Progress:** OUR RESIDUAL CHLORINE IN THE WATER AFTER DECHLORINATION IS BELOW THE DETECTION LIMITS OF EXISTING TESTING EQUIPMENT. THIS COULD MEAN THAT THE RESIDUAL IS "ZERO" EVEN THOUGH WE'RE SHOWING A SMALL RELEASE BASED ON OTHER DATA.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.04	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1995	1100000	730,000	540,000	540,000	540,000	1998 730,600	1999 540,600		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W49 HEXANE WITH A LOWER N-HEXANE COMPONENT WAS UTILIZED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1987	44,000					1998 17,000	1999 19,000		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Activity W90 NOT APPLICABLE  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** RECLAIM NICKEL FROM SPENT CATALYST.

**Non Numeric Progress:** OTHER CATALYSTS COULD PRODUCE A SIMILAR REACTION, SUCH AS PLATINUM, AT A GREATER EXPENSE WITH A RESULTING INFERIOR UNSTABLE PRODUCT. WILL CONTINUE TO LOOK FOR WAYS TO REDUCE AND INCREASE PRODUCT QUANTITY AND QUALITY.

**Blue Earth County, City of MANKATO -- CROWN BEVERAGE PACKING -- ERCID -- 071000004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.08	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1992	218,000	100,000	54,000	0	0	1998 100,000	1999 54,000		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity W90 NOT APPLICABLE

**Blue Earth County, City of MANKATO -- MGA GRAPHICS, INC. -- ERCID -- 071000010**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1991	200	164	165	165	165	1998 14,580 1999 14,136	1999 / 1998 = 0.96	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 W60 CHANGED TO MECHANICAL STRIPPING / CLEANING DEVICES (FROM SOLVENTS OR OTHER MATERIALS)  
**Non Numeric Objective:** IMPROVING TRAINING AND EQUIPMENT MAINTENANCE TO REDUCE AND MINIMIZE DISCHARGES AND SPILLS.  
**Non Numeric Progress:** REDUCTION IN REPORTING OF NITRIC ACID SOLUTION ON FORM R REPORTING DUE TO CONCENTRATION DIFFERENCES. HENCE, REDUCED PERCEIVED AMOUNTS OF NITRIC ACID AND NITRATE COMPOUNDS PRODUCED/OTHERWISE USED.  
**Barriers to P2:**  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Blue Earth County, City of MANKATO -- MIDWEST ELECTRIC PRODUCTS -- ERCID -- 07100011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1991						1998 36 1999 182,036	1999 / 1998 = 1.24	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 CONTINUE RELATIONSHIP WITH "NEW" USED OIL VENDOR THAT RECYCLES THE COPPER SCRAP MIXED IN WITH THE WASTE OIL ABSORBENT.  
 Employed Activity W19 CONTINUE RELATIONSHIP WITH "NEW" USED OIL VENDOR THAT RECYCLES THE COPPER SCRAP MIXED IN WITH THE WASTE OIL ABSORBENT.  
**Non Numeric Objective:** NA  
**Non Numeric Progress:** TRAIN EQUIPMENT OPERATORS IN THE PROPER CLEAN-UP AND DISPOSAL OF COPPER PARTICULATES AND SCRAP SO THAT MINIMAL TO NO COPPER WILL BE DISPOSED OF IN A DUMPSTER.

**Blue Earth County, City of MANKATO -- THE DOTSON COMPANY, INC. -- ERCID -- 07100082**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1994	3954					1998 15,378 1999 13,390	1999 / 1998 = 0.99	Yes

**Process Code** P01 CASTING ANY MATERIAL

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 CONTINUE TO TRAIN EMPLOYEES TO REDUCE WASTE.

Employed Activity  
W19 CONTINUE TO TRAIN EMPLOYEES TO REDUCE WASTE.  
W58 CONTINUE TO USE CALIBRATED ACCURATE SCALES.

**Non Numeric Objective:** WILL CONTINUE OUR RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN INDUSTRY IN AN ATTEMPT TO REDUCE OUR COPPER. HOPE TO REDUCE OUR USAGE WITH VARIOUS POLLUTION PREVENTION ACTIVITIES.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. DUE TO COPPER BEING A MAIN COMPONENT OF OUR RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES. WERE ABLE TO DECREASE RELEASES FROM 1998 TO 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1997	230					1998 24,990 1999 40,171	1999 / 1998 = 0.99	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W19 CONTINUE TO REDUCE MANGANESE EMISSIONS BY TRAINING EMPLOYEES IN PROPER JOB MANAGEMENT TO REDUCE EXCESS USE/LOSS OF SHOT BLAST.  
W58 CONTINUE TO RESEARCH NEW WAYS TO REUSE SAND AND LANDFILL MATERIALS.

Employed Activity  
W19 CONTINUE TO REDUCE MANGANESE EMISSIONS BY TRAINING EMPLOYEES IN PROPER JOB MANAGEMENT TO REDUCE EXCESS USE/LOSS OF SHOT BLAST.  
W58 CONTINUE TO RESEARCH NEW WAYS TO REUSE SAND AND LANDFILL MATERIALS.

**Non Numeric Objective:** WILL CONTINUE OUR RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN INDUSTRY IN AN ATTEMPT TO REDUCE OUR MANGANESE. HOPE TO REDUCE OUR USAGE WITH VARIOUS POLLUTION PREVENTION ACTIVITIES.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. DUE TO MANGANESE BEING A MAIN COMPONENT OF OUR RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. A SIGNIFICANT AMOUNT WAS RECYCLED INSTEAD OF LANDFILLED.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1996	1859					1998 30,755 1999 26,783	1999 / 1998 = 0.99	Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W19 CONTINUE TO REDUCE NICKEL EMISSIONS BY TRAINING EMPLOYEES IN PROPER JOB MANAGEMENT TO REDUCE EXCESS USE/LOSS OF SHOT BLAST.  
W58 CONTINUE TO RESEARCH NEW WAYS TO REDUCE MATERIAL USAGE AND WASTE.

Employed Activity  
W58 CONTINUED RESEARCHING NEW WAYS TO REUSE MATERIALS.  
W19 CONTINUE TO REDUCE NICKEL EMISSIONS BY TRAINING EMPLOYEES IN PROPER JOB MANAGEMENT TO REDUCE EXCESS USE/LOSS OF SHOT BLAST.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** WILL CONTINUE OUR RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN INDUSTRY IN AN ATTEMPT TO REDUCE OUR NICKEL. HOPE TO REDUCE OUR USAGE WITH VARIOUS POLLUTION PREVENTION ACTIVITIES.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. DUE TO NICKEL BEING A MAIN COMPONENT OF OUR RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES. WERE ABLE TO DECREASE RELEASES FROM 1998 TO 1999.

**Brown County, City of NEW ULM -- 3M - ELECTRICAL PRODUCTS DIVISION -- ERCID -- 080800003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,1-dichloro-1-fluoroethane	1998	37000	44,000	10,000	0	0	1998	37,360	1999 / 1998 = 1 No
							1999	13,200	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Barriers to P2:**  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 OUR GOAL WAS TO ELIMINATE USAGE BY 1/99. ACTUAL DATE WAS 6/12/99. BECAUSE OF SOME DESIGN OF EXPERIMENTS AND PROCESS PROBLEMS, WE DIDN'T MEET THE PLANNED DATE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Antimony Compounds	1998	12800	10,400	9,700	20,000	20,000	1998	12,800	1999 / 1998 = 1.07 No
							1999	16,400	

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code** P11 EXTRUDING ANY MATERIAL  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code P16** LAMINATING/PRESSING ANY MATERIAL  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 THE MAJOR PORTION OF OUR USAGE IS AN INGREDIENT IN POLY VINYL CHLORIDE MATERIAL WE USE IN MOLDING AND CABLE MAKING. WE'VE NOTED A COMPOUND USAGE INCREASED BASED ON INCREASED RECYCLING ON AND OFF-SITE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1998	7300	4,900	4,600	14,000	14,000	1998 7,250	1999 / 1998 = 1.18	No
							1999 13,300		

**Process Code P11** EXTRUDING ANY MATERIAL  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 MAJOR PORTION OF THE REPORTING QUANTITY COMES FROM ONSITE REBLENDING. REBLENDING TAKES OFF-SPEC MATERIAL AND BLENDS INTO GOOD MATERIAL ALLOWING US TO SALVAGE MATERIAL RATHER THAN CONSIDER IT AS WASTE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1998	192000	320,000	320,000	1,200,000	1,200,000	1998 189,520	1999 / 1998 = 2.85	No
							1999 540,570		

**Process Code P20** MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 WITH THE RECENT ACQUISITION OF A TERMINAL CONNECTOR BUSINESS, OUR USAGE HAS INCREASED SIGNIFICANTLY. ALL BYPRODUCTS ARE SENT TO RECYCLERS FOR RECLAIM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.95	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Decabromodiphenyl Oxide</i>	1998	7300	2,900	2,600	7,300	7,300	1998 7,510 1999 4,500			

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1998	1400	800	800	1,400	1,400	1998	1,400	1999 / 1998 = 0.82	Yes
							1999	500		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1998	17000	18,000	16,000	26,000	26,000	1998	17,000	1999 / 1998 = 1.13	No
							1999	21,300		

**Process Code** P11 EXTRUDING ANY MATERIAL  
 Intended Activity  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Barriers to P2:**  
 F10 OUR MAJOR USAGE FOR THIS COMPOUND IS AS STABILIZERS IN PVC COMPOUNDS. THERE ARE NO DIRECT REPLACEMENTS AVAILABLE AT THE TIME.  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 2	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1998	11000					10,700	21,700	Yes	

- Process Code** P11 EXTRUDING ANY MATERIAL
  - Intended Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
  - Employed Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- Process Code** P16 LAMINATING/PRESSING ANY MATERIAL
  - Intended Activity
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
  - Employed Activity
    - W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)
  - Intended Activity
    - W68 IMPROVED RINSE EQUIPMENT OPERATION
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - Employed Activity
    - W68 IMPROVED RINSE EQUIPMENT OPERATION
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** NUMERICAL GOALS WILL BE IMPLEMENTED IN THE YEAR 2000 P2 PLAN UPDATE.

**Non Numeric Progress:** CONTINUE TO LOOK AT WAYS TO MINIMIZE WASTE. IMPLEMENTED A MANAGEMENT OF CHANGE PROGRAM THAT HELPS TO TRACK CHANGES THAT MAY TAKE PLACE IN PROCESS OPERATIONS AND INGREDIENTS. NUMERIC GOALS HAVE BEEN IMPLEMENTED IN THE YEAR 2000 P2 PLAN UPDATE.

**Brown County, City of SPRINGFIELD -- COLEMAN POWERMATE COMPRESSORS -- ERCID -- 081050012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.46	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Xylene (mixed isomers)	1997	27621					26,199	39,535	No	

- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
  - Intended Activity
    - W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
    - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
    - W75 CHANGED FROM SPRAY TO OTHER SYSTEM
  - Employed Activity
    - W41 INCREASED PURITY OF RAW MATERIALS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** ELIMINATED PAINTING SINGLE-STAGE AND TWO-STAGE ALUMINUM PUMPS. EVALUATING THE POSSIBILITY OF NOT PAINTING PUMPS/MOTORS ON CONTRACTOR UNITS. CONVERSION TO A POWDER-COAT PAINT SYSTEM.
- Non Numeric Progress:** CONTINUE TO CONSOLIDATE COLOR RUNS, AND INCREASE WHERE POSSIBLE, SO COLOR CHANGES OCCUR LESS FREQUENTLY. CHANGE TO A PAINT FORMULA CONTAINING MORE SOLIDS SO LESS PAINT IS WASTED ON OVERSPRAY.
- Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 IT IS DIFFICULT TO IMPOSSIBLE TO PREDICT THE PRODUCT MIX FROM YEAR TO YEAR.

**Carlton County, City of CARLTON -- CHEMSTAR PRODUCTS CO. -- ERCID -- 090350002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Propylene Oxide</i>	1994	1500					1998 750	1999 750	1999 / 1998 = 0.75	No

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W42 SUBSTITUTED RAW MATERIALS
- Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Non Numeric Objective:** INSTALL NEW PROCESS VESSELS TO ELIMINATE FUGITIVE EMISSIONS AND DECREASE OTHER RELEASES THROUGH LARGER BATCH SIZES AND MORE EFFICIENT REACTION.
- Non Numeric Progress:** CONTINUED TO EVALUATE MATERIALS WHICH ARE COMPATIBLE WITH THE PROCESS.
- Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Carlton County, City of CLOQUET -- POTLATCH CORP. -- ERCID -- 090400003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Acetaldehyde</i>	1994	18199					1998 17,282	1999 37,489	1999 / 1998 = 0.92	Yes

- Process Code** P22 PAPER MANUFACTURING
- Intended Activity  
 W39 PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.
- W58 PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.
- Employed Activity  
 W58 PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.
- W39 PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.

**Non Numeric Progress:** OPERATION OF THE PULP MILL SYSTEM CONTINUES TO IMPROVE WHICH HAS REDUCED THE BLACK LIQUOR LOSSES TO THE SEWER. NON-CONDENSIBLE GAS COLLECTION AND TREATMENT SYSTEM HAS WORKED VERY EFFICIENTLY WITH MINIMAL VENTING EPISODES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1994	37883					1998 172,441 1999 160,085	1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W58

NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES.

W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity  
W58

NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES.

W31 IMPROVED STORAGE OR STACKING PROCEDURES

**Non Numeric Objective:** NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.

**Non Numeric Progress:** OPERATION OF THE PULP MILL SYSTEM CONTINUES TO IMPROVE WHICH HAS REDUCED BLACK LIQUOR LOSSES TO THE SEWER. NON-CONDENSIBLE GAS COLLECTION AND TREATMENT SYSTEM AND FOUL CONDENSATE STRIPPER HAS WORKED EFFICIENTLY TO REDUCE AMMONIA SENT FOR TREATMENT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1999						1998 44,448 1999 43,256	1999 / 1998 = 1.07	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W42

SUBSTITUTED RAW MATERIALS

W42 SUBSTITUTED RAW MATERIALS

**Non Numeric Objective:** BARIUM COMPOUNDS ARE RELEASED PRIMARILY DUE TO LANDFILLING BOILER ASH. SINCE THE COMPOUNDS ARE PRESENT IN THE PRIMARY FUELS USED IN THE BOILER, REDUCTION OF RELEASES IS DIFFICULT.

**Non Numeric Progress:** COAL BURNING IN 1999 WAS 2,378 TONS. THIS IS MUCH LOWER THAN HISTORICAL RATES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Catechol</i>	1991	14770					1998 140,411 1999 145,132	1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES.

Employed Activity  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES.

**Non Numeric Objective:** NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.

**Non Numeric Progress:** OPERATION OF THE PULP MILL SYSTEM CONTINUES TO IMPROVE WHICH HAS REDUCED BLACK LIQUOR LOSSES TO THE SEWER. NON-CONDENSIBLE GAS COLLECTION AND TREATMENT SYSTEM AND FOUL CONDENSATE STRIPPER HAS WORKED EFFICIENTLY .

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Chlorine	1991	21000					1998 631 1999 514		1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
**Non Numeric Objective:** IN MARCH 1994, THE MILL ELIMINATED THE USE OF ELEMENTAL CHLORINE AS A BLEACHING CHEMICAL BY SWITCHING TO AN ELEMENTAL CHLORINE FREE (ECF) PROCESS EMPLOYING CHLORINE DIOXIDE. THIS HAS RESULTED IN AN ESTIMATED 98% REDUCTION IN CHLORINE EMISSIONS.

**Non Numeric Progress:** COMPLETED STACK TESTING TO ESTIMATE CHLORINE EMISSIONS WHICH WERE ZERO FROM THE BLEACH PLANT WET SCRUBBER.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Chlorine Dioxide	1991	39000					1998 15,898 1999 12,763		1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity  
W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE  
W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE  
Employed Activity  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** STARTING AN OXYGEN DELIGNIFICATION SYSTEM WHICH IMPROVED THE BRIGHTNESS OF THE UNBLEACHED PULP THEREFORE REDUCING THE AMOUNT OF CHLORINE DIOXIDE NEEDED TO BLEACH F PULP. A MORE EFFICIENT BLEACH PLANT WAS STARTED AND A NEW SCRUBBER ADDED.

**Non Numeric Progress:** STARTING AN OXYGEN DELIGNIFICATION SYSTEM WHICH IMPROVED THE BRIGHTNESS OF THE UNBLEACHED PULP THEREFORE REDUCING THE AMOUNT OF CHLORINE DIOXIDE NEEDED TO BLEACH F PULP. A MORE EFFICIENT BLEACH PLANT WAS STARTED AND A NEW SCRUBBER ADDED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrochloric Acid (aerosol forms only)</i>	1991	192000					1998 41,962 1999 28,945	1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W19 THE DECREASE ACHIEVED RESULTED FROM USE OF AN IMPROVED METHOD OF CALCULATING HYDROCHLORIC EMISSIONS FROM OUR RECOVERY FURNACE.  
Employed Activity W19 THE DECREASE ACHIEVED RESULTED FROM USE OF AN IMPROVED METHOD OF CALCULATING HYDROCHLORIC EMISSIONS FROM OUR RECOVERY FURNACE.  
**Non Numeric Objective:** HYDROCHLORIC ACID AEROSOLS ARE PRODUCED AS A BYPRODUCT DURING LIQUOR COMBUSTION, COAL AND WOOD COMBUSTION AND PULP BLEACHING. SINCE THE COMPOUNDS ARE PRESENT IN THE PRIMARY FUELS USED IN THE BOILER, REDUCTION IS DIFFICULT.

**Non Numeric Progress:** CONTINUED TO DECREASE THE AMOUNT OF COAL BURNED IN THE POWER BOILERS AND IN 1999, COAL WILL BE COMPLETELY ELIMINATED FROM THIS SITE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1999	N/A					1998 79,453 1999 66,589	1999 / 1998 = 1.07	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS  
**Non Numeric Objective:** MANGANESE COMPOUNDS ARE RELEASED PRIMARILY DUE TO LANDFILLING BOILER ASH. SINCE THE COMPOUNDS ARE PRESENT IN THE PRIMARY FUELS USED IN THE BOILER, REDUCTION OF RELEASES IS DIFFICULT. COMMITTED TO MINIMIZING COAL BURNING AND MAXIMIZING WOOD BURNING.

**Non Numeric Progress:** COAL BURNING IN 1999 WAS 2,378 TONS. THIS IS MUCH LOWER THAN HISTORICAL RATES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1996	4207926					1998 5,406,400 1999 9,400,469	1999 / 1998 = 0.92	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE  
Employed Activity W31 IMPROVED STORAGE OR STACKING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58 SEE NON-NUMERIC PROGRESS/OBJECTIVE  
**Non Numeric Objective:** NEW KRAFT PULP MILL WAS STARTED UP ON 12-2-96. PROCESS INCLUDES A SPILL COLLECTION AND RECLAIM SYSTEM WHICH REDUCES BLACK LIQUOR LOSSES AND A COLLECTION SYSTEM FOR NON-CONDENSIBLE GASES. GASES ARE COLLECTED AND SENT TO ONE OF TWO POWER BOILERS.  
**Non Numeric Progress:** OPERATION OF THE PULP MILL SYSTEM CONTINUES TO IMPROVE WHICH HAS REDUCED BLACK LIQUOR LOSSES TO THE SEWER. NON-CONDENSIBLE GAS COLLECTION AND TREATMENT SYSTEM AND FOUL CONDENSATE STRIPPER HAS WORKED EFFICIENTLY TO REDUCE AMMONIA SENT FOR TREATMENT.

**Carlton County, City of CLOQUET -- USG INTERIORS, INC. -- ERCID -- 090400005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Formaldehyde	1999	14080	12,472	14,080	0	0	1998 12,472 1999 14,080	1999 / 1998 = 1.13	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W73 SUBSTITUTED COATING MATERIALS USED  
 W41 INCREASED PURITY OF RAW MATERIALS  
 Employed Activity  
 W73 SUBSTITUTED COATING MATERIALS USED

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 HAVE NOT BEEN SUCCESSFUL IN THE REFORMULATION OF THE COATINGS MAKEUP AND SO DID NOT MEET THE 30% REDUCTION TARGETED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Vinyl Acetate	1999	2147	11,942	2,147	3,000	3,000	1998 11,942 1999 2,147	1999 / 1998 = 1.07	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W41 INCREASED PURITY OF RAW MATERIALS  
 W73 SUBSTITUTED COATING MATERIALS USED  
 Employed Activity  
 W41 INCREASED PURITY OF RAW MATERIALS  
 W73 SUBSTITUTED COATING MATERIALS USED

**Barriers to P2:** F10 HAVE NOT BEEN SUCCESSFUL IN THE TOTAL REFORMULATION OF THE COATINGS MAKEUP AND SO DID NOT MEET THE 100% REDUCTION TARGETED.  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Carver County, City of CHANHASSEN -- ROBERTS AUTOMATIC PRODUCTS -- ERCID -- 100300009**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methylene Chloride</i>	1990	32000	12,800	12,800	12,800	12,800		Yes	
<b>Process Code</b> P05	CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)								
Intended Activity W90	NOT APPLICABLE								
Employed Activity W59	MODIFIED STRIPPING / CLEANING EQUIPMENT								
W71	RUN DEGREASER 24/7. CUT YEARLY SOLVENT USE TO 11,750 LBS.								

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Carver County, City of CHANHASSEN -- ROSEMOUNT, INC. -- ERCID -- 100300008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1993	22560					1998 29,976	1999 49,254	1999 / 1998 = 0.88	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** WHATEVER REMAINS AFTER PROCESSING IS BENEFICIALLY RECYCLED OFF-SITE AS SCRAP METAL. WASTE MINIMIZATION CONTINUES TO BE DISCUSSED DURING EMPLOYEE TRAINING SESSIONS AND UPPER MANAGEMENT MEETINGS.  
**Non Numeric Progress:** THERE ARE NO FEASIBLE METHODS TO FURTHER REDUCE THE USAGE. IT IS NOT A VIABLE OPTION TO RECYCLE SCRAP METAL ON-SITE OR DECREASE THE USAGE OF CHROMIUM IN OUR PRODUCT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1993	45823					1998 52,758	1999 47,499	1999 / 1998 = 0.88	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** THERE IS A VERY SMALL AMOUNT OF NICKEL IN OUR WASTEWATER (MILLIGRAM/LITER RANGE).THERE IS NOTHING ECONOMICALLY FEASIBLE TO DECREASE THOSE CONCENTRATIONS.

**Non Numeric Progress:** CONTINUE TO MONITOR THE AMOUNT OF INCOMING NICKEL AND THE AMOUNT RECYCLED OFF-SITE. THERE ARE NO FEASIBLE METHODS TO FURTHER REDUCE THE USAGE.

**Carver County, City of CHASKA -- LAKE REGION MFG. CO. -- ERCID -- 100350017**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyclohexane</i>	1997	21,620	19,721	32,694	0	0	1998 23,522	1999 32,694	1999 / 1998 = 1.07	No

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity W19 BETTER MATERIAL CONTROL

- Barriers to P2:**
- F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES
  - F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Carver County, City of CHASKA -- LIFECORE BIOMEDICAL, INC. -- ERCID -- 100350038**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1998	52646					1998 52,643	1999 61,088	1999 / 1998 = 1.32	Yes

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)
- Process Code** P08 DRYING
- Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Carver County, City of CHASKA -- MAMMOTH INCORPORATED -- ERCID -- 100350041**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1995						1998 21,693 1999 17,427	1999 / 1998 = 0.87	Yes
<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)								
Intended Activity									
W73	SUBSTITUTED COATING MATERIALS USED								
W72	MODIFIED SPRAY SYSTEMS OR EQUIPMENT								
Employed Activity									
W72	MODIFIED SPRAY SYSTEMS OR EQUIPMENT								
W73	SUBSTITUTED COATING MATERIALS USED								
<b>Non Numeric Objective:</b>	WORKING WITH VENDORS TO REDUCE VOC OR HAP IN THE PAINT. HAS ALSO PUT FORTH EFFORT TO FIND SUBSTITUTES. INSTALLED PAINT PROPORTIONERS TO REGULATE USAGE. IMPLEMENTED A P2 TRAINING PROGRAM.								
<b>Non Numeric Progress:</b>	NA								

**Carver County, City of CHASKA -- MCLAUGHLIN GORMLEY KING CO. -- ERCID -- 100350008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1997	3828					1998 1,575 1999 3,356	1999 / 1998 = 1.28	No
<b>Process Code</b> P25	REFINING								
Intended Activity									
W90	NOT APPLICABLE								
Employed Activity									
W90	NOT APPLICABLE								
<b>Non Numeric Objective:</b>	CONTINUE TO INVESTIGATE NEW OPPORTUNITIES FOR POLLUTION PREVENTION, SUCH AS IMPROVED AND CONTINUED EFFICIENCIES OF CONDENSING/DISTILLATION EQUIPMENT.								
<b>Non Numeric Progress:</b>	NONE								
<b>Barriers to P2:</b>	F09 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE FEASIBLE DUE TO PERMITTING REQUIREMENTS								

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methylene Chloride</i>	1993	33300							Yes
<b>Process Code</b> P05	CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)								
Intended Activity									
W90	NOT APPLICABLE								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W68 IMPROVED RINSE EQUIPMENT OPERATION  
**Non Numeric Objective:** CONTINUE TO INVESTIGATE REUSE AND REDISTILLATION AND LOOK AT ENHANCED PREVENTIVE MAINTENANCE TECHNIQUES AND DISTILLATION OPPORTUNITIES.  
**Non Numeric Progress:** CONTINUE TO INVESTIGATE REUSE AND REDISTILLATION AND LOOK AT ENHANCED PREVENTIVE MAINTENANCE TECHNIQUES AND DISTILLATION OPPORTUNITIES.

**Carver County, City of CHASKA -- QUALI TECH, INC. (DIVISION 1) -- ERCID -- 100350031**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1994	66					1998 5,676 1999 5,449	1999 / 1998 = 0.96	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W58 CONTINUE TO MONITOR FILTER PRESSURES.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 CONTINUE TO USE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE AS REPORTED BY A NEW MONITORING SYSTEM.  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W58 CONTINUED TO MONITOR FILTER PRESSURES.  
W19 INSTALLED AN ELECTRONIC DISCHARGE MONITORING SYSTEM.  
**Non Numeric Objective:** REDUCE TOTAL RELEASES BY ONE PERCENT.  
**Non Numeric Progress:** RELEASES WERE SIGNIFICANTLY REDUCED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1994	247	9,320	10,239	10,239	10,239	1998 9,320 1999 10,252	1999 / 1998 = 1.1	No

**Process Code** P02  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 CONTINUE TO USE THE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE AS REPORTED BY THE NEWLY INSTALLED ELECTRONIC DISCHARGE MONITORING SYSTEM.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W58 CONTINUE TO MONITOR FILTER PRESSURES.  
W19 USE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE AS REPORTED BY AN ELECTRONIC DISCHARGE MONITORING SYSTEM.  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58 INSTALLED AN ELECTRONIC DISCHARGE MONITORING SYSTEM, WHICH HELPS US DETERMINE THE PROPER PARAMETERS.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W58 CONTINUE TO MONITOR FILTER PRESSURES.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 INSTALLED AN ELECTRONIC DISCHARGE MONITORING SYSTEM.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 PRODUCTION INCREASED, THEREFORE RELEASES INCREASED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1994	652	11,982	32,352	32,352	32,352	1998 1999	11,982 32,352	1999 / 1998 = 2.7	No

**Process Code P02**  
Intended Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 CONTINUE TO MONITOR FILTER PRESSURES TO MINIMIZE AIRBORNE RELEASES.  
W19 CONTINUE TO USE THE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W58 CONTINUE TO MONITOR FILTER PRESSURES.  
W19 USE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE AS REPORTED BY AN ELECTRONIC DISCHARGE MONITORING SYSTEM.

Employed Activity

W58 CONTINUED TO MONITOR FILTER PRESSURES TO MINIMIZE AIRBORNE RELEASES.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 CONTINUE TO USE THE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W58 CONTINUED TO MONITOR FILTER PRESSURES.  
W19 USE PARAMETERS THAT DETERMINE THE PROPER SHUTDOWN FOR EXCESSIVE DISCHARGE AS REPORTED BY AN ELECTRONIC DISCHARGE MONITORING SYSTEM.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 PRODUCTION INCREASED, THEREFORE RELEASES INCREASED.

Carver County, City of CHASKA -- SUPER RADIATOR COILS -- ERCID -- 100350047

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1997	738					1999 10,737	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W58 EVALUATE AND MAKE CHANGES AS NEEDED
- W19 RESEARCH WAYS TO REDUCE SCRAP.
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

- W19 RESEARCH WITH EMPLOYEES WAYS TO REDUCE SCRAP.
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W58 CONTINUE TO EVALUATE AND MAKE CHANGES AS NEEDED.
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

**Non Numeric Objective:** DECREASING SCRAP BY 4-5%

**Non Numeric Progress:** DIFFICULT TO DECREASE WHILE PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1993	27129	50,432	138,440	138,440	138,440	1998 16,810 1999 138,440	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

- W19 RESEARCH WITH EMPLOYEES TO REDUCE SCRAP.
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

- W31 IMPROVED STORAGE OR STACKING PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W19 CONTINUE RESEARCH WITH EMPLOYEES TO REDUCE SCRAP.

**Non Numeric Objective:** DECREASE SCRAP BY 4 TO 5%.

**Non Numeric Progress:** DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 NOT FEASIBLE TO DECREASE THE AMOUNT USED AS PRODUCTION CONTINUES TO INCREASE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1998	2580					1999 8,051	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 RESEARCH WITH EMPLOYEES TO REDUCE SCRAP.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 EVALUATE AND MAKE CHANGES TO PROCEDURES AS NEEDED.

Employed Activity  
W19 RESEACH WITH EMPLOYEES TO REDUCE SCRAP.  
W58 CONTINUED TO EVALUATE AND MAKE CHANGES TO PROCESSES.  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** NOT FEASIBLE TO REDUCE USE AS PRODUCTION INCREASES.

**Non Numeric Progress:** NOT FEASIBLE TO REDUCE USE AS PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Tetrachloroethylene</i>	1993	145166					1998 107,461 1999 69,021	1999 / 1998 = 1.17	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W58 IN THE PROCESS OF DESIGNING AND PURCHASING A SMALLER SECONDARY "DONKEY STILL"  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 CHANGED PROCESS TO A MORE EFFICIENT AND CLOSED SYSTEM.

**Non Numeric Objective:** REDUCE USAGE BY ALTERING PROCESS. INSTALL A "DONKEY STILL" TO REDUCE EMISSIONS.

**Non Numeric Progress:** ALTERED PROCESS IS HOPED TO BE MORE EFFICIENT AND REDUCE RELEASES BECAUSE IT IS A CLOSED SYSTEM. HOPE TO INSTALL A "DONKEY STILL" TO REDUCE EMISSIONS. CONTINUALLY WORKING TO REDUCE EMISSIONS.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Carver County, City of WACONIA -- MANUS PRODUCTS INC -- ERCID -- 101000019**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1996	5560	6,900	3,370	3,000	3,000	1999 3,370	1999 / 1998 = 0.92	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P03      CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W58                        SOLVENT IS PUMPED DIRECTLY INTO MIXING DRUMS, ELIMINATING SMALL CONTAINERS USED FOR CHEMICAL TRANSFERS.  
Employed Activity  
W58                        NONE

**Barriers to P2:**  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Carver County, City of WACONIA -- MEDALLION KITCHENS OF MN -- ERCID -- 101000008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1991	79,323	13,040	9,378	8,600	8,600	1998 13,045 1999 9,378		1999 / 1998 = 1.03	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42                        SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42                        SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1991	NA	16,638	11,233	8,600	8,600	1998 16,643 1999 11,233		1999 / 1998 = 1.03	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42                        SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42                        SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1991	119,121	15,312	17,038	13,100	13,100	1998 15,317 1999 17,038		1999 / 1998 = 1.03	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	161,929	72,861	45,201	33,000	33,000	1998 72,866	1999 45,201	1.03	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

**Carver County, City of WACONIA -- PRO-TECH, INC. -- ERCID -- 101000001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1995	21356					1998 18,554	1999 24,533	1.45	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W19 ISO 9002 IMPLEMENTATION PROGRAM TO LOWER PROCESS VARIATION, SCRAP RATE AND THE RESULTING RERUNNING OF ADDITIONAL PRODUCT.  
W78 REDUCED ETCH RATES IN MICRO ETCHES.  
Employed Activity  
W19 ISO 9002 IMPLEMENTATION PROGRAM TO LOWER PROCESS VARIATION, SCRAP RATE AND THE RESULTING RERUNNING OF ADDITIONAL PRODUCT.  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W78 REDUCED ETCH RATES IN MICRO ETCHES.

**Cass County, City of BACKUS -- EVELAND'S INC. -- ERCID -- 110100004**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.67	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1993	3975					4,030	6,725		

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
**Non Numeric Objective:** PLAN ON USING DIFFERENT SPRAY EQUIPMENT WHICH WILL CUT EMISSIONS BUT OPEN MOLDING PROCEDURES DO REQUIRE A CERTAIN AMOUNT OF STYRENE LOSS DURING THE CURING PROCESS.  
**Non Numeric Progress:** SOUGHT TO FIND BETTER EQUIPMENT TRANSFER SYSTEMS WHICH DID NOT OCCUR IN 1999, BUT IS NOW OCCURRING IN 2000.  
**Barriers to P2:**  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Chisago County, City of WYOMING -- SUNRISE FIBERGLASS -- ERCID -- 131050003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.2	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1993	10448					30,661	30,031		

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W19 EVERY OTHER YEAR WE HAVE EMPLOYEE TRAINING ON CONTROLLED SPRAY TECHNIQUES TO REDUCE OVER SPRAY, EMISSIONS AND EMPLOYEE EXPOSURE.  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W19 EVERY OTHER YEAR WE HAVE EMPLOYEE TRAINING ON CONTROLLED SPRAY TECHNIQUES TO REDUCE OVER SPRAY, EMISSIONS, AND EMPLOYEE EXPOSURE.  
 W82 MODIFIED DESIGN OR COMPOSITION  
**Non Numeric Objective:** LIMITING HAP EMISSIONS TO LESS THAN 90 LBS PER TON OF RESIN USED, USE PROCESS CONTROLS AND HVLP GUNS, TRAINING ON PROPER APPLICATION TECHNIQUES, AND USE NON-ATOMIZED SPRAY EQUIPMENT.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. DUE TO STYRENE BEING A MAIN COMPONENT OF OUR RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Clay County, City of MOORHEAD -- AMERICAN CRYSTAL SUGAR CO. - MOORHEAD -- ERCID -- 141450014**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1991	88000					198,700	208,200	1999 / 1998 = 1.02	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W41 INCREASED PURITY OF RAW MATERIALS  
 Employed Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 W41 INCREASED PURITY OF RAW MATERIALS  
**Non Numeric Objective:** CONTINUING TO REDUCE THE AMINE CONTENT OF THE SUGARBEET THROUGH AN INCENTIVES PROGRAM, WHICH PAYS GROWERS FOR HIGHER PURITY BEETS. INSTALL AN AMMONIA VENT COLLECTION SYSTEM.  
**Non Numeric Progress:** CONTINUING GROWER PRACTICES PROGRAM AND INSTALLING AMMONIA VENT COLLECTION SYSTEM.  
**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1991	500					130,500	208,127	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W71  
 Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W71  
**Non Numeric Objective:** SWITCH TO NON-FUMING GRADE OF HCl, USE DESCALER ADDITIVES IN THE JUICE, USE JUICE SOFTENING SYSTEM AND PROVIDE INSTRUMENT CONTROL FOR CARBONATION PROCESS.  
**Non Numeric Progress:** CONTINUING TO USE DESCALER ADDITIVES.  
**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Clay County, City of MOORHEAD -- AMOCO OIL CO. -- ERCID -- 141450005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1999	4130					3,820	4,130	1999 / 1998 = 1.04	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity W29  
 W35  
 W19  
 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 INSTALLED VAPOR RECOVERY SYSTEMS  
 SEE POLLUTION PREVENTION PROGRESS REPORT.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Benzene</i>	1999	9875					1998 8,985 1999 9,876		1999 / 1998 = 1.04	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W35 INSTALLED VAPOR RECOVERY SYSTEMS  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1999	3340					1998 3,100 1999 3,341		1999 / 1998 = 1.04	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W35 INSTALLED VAPOR RECOVERY SYSTEMS  
W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1999	9835					1998 8,868 1999 9,835		1999 / 1998 = 1.04	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Toluene	1999	28140					1998 25,580	1999 / 1998 = 1.04	Yes
							1999 28,155		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Xylene (mixed isomers)	1999	16625					1998 15,443	1999 / 1998 = 1.04	Yes
							1999 16,626		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** TRAINING. EVALUATE INTERNAL FLOATING ROOF STORAGE TANK ROOF FITTINGS/SEALS. INVESTIGATE ELIMINATION OF A GAS STORAGE TANK AT THE TERMINAL, IMPROVING VAPOR RECOVERY UNIT EFFICIENCY AND REPLACE VAPOR COMBUSTION UNIT, AND TANK DEGASSING CONTROLS.  
**Non Numeric Progress:** NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Crow Wing County, City of BRAINERD -- ACROMETAL -- ERCID -- 180150007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1990	4745					1998 994 1999 746	1999 / 1998 = 0.57	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W82

MODIFIED DESIGN OR COMPOSITION

**Non Numeric Objective:**

CONDUCT A REVIEW OF LITERATURE, CONSULT WITH INDUSTRY REPRESENTATIVES TO DETERMINE WHETHER ANY STATE OF THE AAT TECHNOLOGIES MIGHT APPLY TO OUR PRODUCT.

**Non Numeric Progress:**

IMPROVED PROCESS MODIFICATIONS, OPERATING CONTROLS, AND PRODUCT MANAGEMENT.

**Crow Wing County, City of BRAINERD -- LARCO, INC. -- ERCID -- 180150008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Di(2-ethylhexyl) Phthalate</i>	1992	190					1998 3,294 1999 3,213	1999 / 1998 = 1.05	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

W49

CONTINUED EFFORT WAS PUT INTO BETTER PRODUCT HANDLING TO REDUCE SPILLAGE.

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:**

CONDUCT A REVIEW OF LITERATURE AND CONSULT WITH INDUSTRY REPRESENTATIVES TO DETERMINE WHETHER ANY STATE OF THE ART TECHNOLOGIES MIGHT APPLY TO OUR PRODUCT.

**Non Numeric Progress:**

CONTINUED EFFORT WAS PUT INTO BETTER PRODUCT HANDLING TO REDUCE SPILLAGE.

**Crow Wing County, City of BRAINERD -- NORTH STAR PLATING CO. -- ERCID -- 180150001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1992	6620					1998 9,262 1999 12,359	1999 / 1998 = 1.07	Yes

**Process Code** P10 ELECTROPLATING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** FIND TECHNICALLY AND ECONOMICALLY APPLICABLE WAYS TO REDUCE OUR TRANSFERS AND RELEASES OF NICKEL FROM OUR PLATING BATHS. CONTINUALLY SEEK INFORMATION FROM SUPPLIERS AND TRADE ORGANIZATIONS REGARDING THIS PROBLEM.

**Non Numeric Progress:** NO PROGRESS HAS BEEN MADE.

**Crow Wing County, City of DEERWOOD -- PARKER HANNIFIN CORP. -- ERCID -- 180540001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1997	54089	56,935	53,625	50,000	48,000	1998 56,937 1999 53,627	1999 / 1998 = 0.94	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W81 CHANGED PRODUCT SPECIFICATIONS

Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Crow Wing County, City of DEERWOOD -- TRUS JOIST MACMILLAN -- ERCID -- 180540008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Diisocyanates</i>	1992	22490	33,210	37,140	45,000	45,000	1998 34,215 1999 41,550	1999 / 1998 = 1.06	No

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 INVESTIGATING ALTERNATIVE NOZZLE LOCATIONS.

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** NA

**Non Numeric Progress:** WATCHING THE DEVELOPMENT OF NEW RESINS.  
CHANGED SUPPLIERS OF RESIN.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Dakota County, City of BURNSVILLE -- NSP - BLACK DOG PLANT -- ERCID -- 190060002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	150,000					1998 150,000 1999 180,000	1999 / 1998 = 0.93	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W90 NOT APPLICABLE

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. FIND AND USE MARKETS TO UTILIZE ASH.

Employed Activity W49 SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE/ IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE GENERATION EFFICIENCIES AND ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSUMER CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY WHICH HELPED CUSTOMERS CONSERVE APPROX. 155,800,000 KWH OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999. THE P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	6,200					1998 31,200 1999 27,500	1999 / 1998 = 0.93	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. FIND AND USE MARKETS TO UTILIZE ASH.

Employed Activity W49 SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE/ IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE GENERATION EFFICIENCIES AND ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSUMER CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY WHICH HELPED CUSTOMERS CONSERVE APPROX. 155,800,000 KWH OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999. THE P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrogen Fluoride</i>	1998	25,000					1998 50,000 1999 34,000	1999 / 1998 = 0.93	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P36      ELECTRICITY GENERATION  
 Intended Activity  
 W49      PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. FIND AND USE MARKETS TO UTILIZE ASH.  
 Employed Activity  
 W49      SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:**      INVESTIGATE/ IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE GENERATION EFFICIENCIES AND ASH UTILIZATION.  
 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSUMER CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.  
**Non Numeric Progress:**      PURCHASED 1709 MW OF RENEWABLE ENERGY WHICH HELPED CUSTOMERS CONSERVE APPROX. 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, AND PARTICULATE EMISSIONS.  
**Barriers to P2:**      F10 NO OBJECTIVES FOR 1999. THE P2 PLAN COVERS YEARS 2000-2002.

**Dakota County, City of BURNSVILLE -- PRINCESS MARBLE COMPANY -- ERCID -- 190060075**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1997	17600	22,800	16,700	17,600	18,400	1998 24,750 1999 16,700	1999 / 1998 = 1.19	Yes

**Process Code** P01      CASTING ANY MATERIAL  
 Intended Activity  
 W42      SUBSTITUTED RAW MATERIALS  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W42      SUBSTITUTED RAW MATERIALS  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W73      SUBSTITUTED COATING MATERIALS USED  
 Employed Activity  
 W73      SUBSTITUTED COATING MATERIALS USED

**Dakota County, City of EAGAN -- BO-DECOR METAL FINISHING INC -- ERCID -- 190250104**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1999	5850	0	5,850	5,024	4,024	1998 3,630 1999 12,024	1999 / 1998 = 0.8	Yes

**Process Code** P10      ELECTROPLATING  
 Intended Activity  
 W66      MODIFIED OR INSTALLED RINSE SYSTEMS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Dakota County, City of EAGAN -- GOPHER RESOURCE CORP. -- ERCID -- 190250016**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Antimony</i>	1991	22,864	23,000	25,000	27,000	26,000	1998 3,122,000 1999 3,972,000	1999 / 1998 = 1.27	Yes

**Process Code** P28 SMELTING  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Arsenic</i>	1991	6983	13,000	15,000	16,000	16,000	1998 723,000 1999 913,000	1999 / 1998 = 1.27	Yes

**Process Code** P28 SMELTING  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1993	16184	50,000	59,000	65,000	66,000	1998 333,000 1999 411,000	1999 / 1998 = 1.27	Yes

**Process Code** P28 SMELTING  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead</i>	1991	182236	290,000	320,000	350,000	360,000	1998 160,290,000 1999 180,270,000	1999 / 1998 = 1.27	Yes

**Process Code** P28 SMELTING  
Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity W90 NOT APPLICABLE

**Dakota County, City of EAGAN -- KIK MINNESOTA -- ERCID -- 190250015**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1996	1072	966	851	851	851	1998 966 1999 851	1999 / 1998 = 0.74	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 CONTINUE RESEARCH THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY. CONTINUE EMPLOYEE TRAINING.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W19 CONTINUE RESEARCH THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY. CONTINUE EMPLOYEE TRAINING.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Dakota County, City of EAGAN -- WATER HEATER INNOVATIONS, INC. -- ERCID -- 190250027**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1992	11203	12,905	11,927	13,204	14,525	1998 12,905 1999 11,918	1999 / 1998 = 1.02	No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Dakota County, City of FARMINGTON -- DUO PLASTICS, INC. -- ERCID -- 190400024**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Di(2-ethylhexyl) Phthalate</i>	1997	24227					1998 15,798 1999 9,069		1999 / 1998 = 0.57	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity  
W49 CONTINUE RESEARCH EFFORTS.  
W19 CONTINUE EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 CONTINUE EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.  
W49 CONTINUE RESEARCH EFFORTS.

**Non Numeric Objective:** HOPE TO MAXIMIZE RECYCLING TECHNIQUES SO THAT ALL OUR RAW MATERIAL BECOMES PRODUCT. THIS WOULD DECREASE USAGE AND RELEASES.

**Non Numeric Progress:** BY IMPLEMENTING POLLUTION PREVENTION ACTIVITIES, WE WERE ABLE TO SIGNIFICANTLY DECREASE USAGE FROM 1998-1999.

**Dakota County, City of FARMINGTON -- MARIGOLD FOODS, INC. -- ERCID -- 190400002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1998	18000					1998 20,611 1999 31,166		1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Intended Activity  
W19 NARROW DOWN THE CHEMICAL STRENGTH FOR NITRIC ACID.  
W71 USING A CHEMICAL RE-USE PROCESS TO REDUCE NITRATE COMPOUNDS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** PROJECTED PRODUCTION VOLUMES WILL INCREASE AND NECESSITATE AN INCREASE IN CHEMICAL USAGE FOR CLEANING TO MEET STATE AND FEDERAL SANITATION STANDARDS.

**Non Numeric Progress:** ADJUSTED CHEMICAL STRENGTH DOWN TO A STRENGTH THAT WOULD STILL MAINTAIN EQUIPMENT CLEANLINESS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F06 SPECIFIC REGULATORY / PERMIT BURDENS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1996	16458					1998 20,914 1999 31,625	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Intended Activity  
W19 NARROW DOWN THE CHEMICAL STRENGTH RANGES FOR NITRIC ACID.  
W71 USE A CHEMICAL RE-USE PROCESS TO REDUCE NITRIC ACID USE.

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** PROJECTED PRODUCTION VOLUMES WILL INCREASE AND NECESSITATE AN INCREASE IN CHEMICAL USAGE FOR CLEANING TO MEET STATE AND FEDERAL SANITATION STANDARDS.

**Non Numeric Progress:** ADJUSTED CHEMICAL STRENGTH DOWN TO A STRENGTH THAT WOULD STILL MAINTAIN EQUIPMENT CLEANLINESS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F06 SPECIFIC REGULATORY / PERMIT BURDENS

**Dakota County, City of HASTINGS -- CON AGRA FLOUR MILLING CO. -- ERCID -- 190600001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Bromomethane</i>							1998 12,000 1999 10,213	1999 / 1998 = 0.85	Yes

**Process Code** P29 STERILIZING (FUMIGATING, DISINFECTING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** BROMOMETHANE CANNOT BE TOTALLY ELIMINATED OR REDUCED. IT IS AN ESSENTIAL PART OF OUR PEST MANAGEMENT PROGRAM. WE WILL TAKE ADVANTAGE OF ANY NEW FUMIGATION PROCEDURES AS THEY BECOME AVAILABLE. WE APPLY ACCORDING TO THE LABEL.

**Non Numeric Progress:** BROMOMETHANE CANNOT BE TOTALLY ELIMINATED OR REDUCED. IT IS AN ESSENTIAL PART OF OUR PEST MANAGEMENT PROGRAM. WE WILL TAKE ADVANTAGE OF ANY NEW FUMIGATION PROCEDURES AS THEY BECOME AVAILABLE. WE APPLY ACCORDING TO THE LABEL.

**Dakota County, City of INVER GROVE HEIGHTS -- KOCH PETROLEUM GROUP -- ERCID -- 191450005**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,2,4-trimethylbenzene	1990	27000					1998 8,180	1999 9,618	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

- W29 EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W39 UPGRADED PUMPS AND CONDUCTED LEAK TESTING.
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

- W29 CONTINUING TO EVALUATE INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 UPGRADED PUMPS AD CONDUCTED LEAK TESTING.

**Non Numeric Objective:**

DEVELOP/IMPLEMENT AN EMS. EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.

**Non Numeric Progress:**

DEVELOPED KEMS, TRAINING, INVENTORY CONTROL OF PAINT AND LAB CHEMICALS, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS.CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Ammonia	1990	15000					1998 64,019	1999 40,017	1999 / 1998 = 0.89	Yes

**Process Code** P25

REFINING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W42 SUBSTITUTED RAW MATERIALS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W49 INSTITUTED TARGET VALUES FOR AMMONIA INJECTIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W19 INSTITUTED TARGET VALUES FOR AMMONIA INJECTIONS.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS, SPILLS THROUGH TRAINING, AND IMPACT OF SHUTDOWN/ MAINTENANCE PROCEDURES ON WWTP. IMPROVE SLUDGE RECYCLING PROCESS AT WWTP.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, INSTITUTED WASTE MGMT. PLANS FOR MAINTENANCE PERIODS, EFFICIENT PROCESSING OF WASTEWATER SLUDGES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Anthracene</i>	1990	150					1998 41 1999 57	1999 / 1998 = 0.9	Yes

**Process Code** P25 REFINING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39 INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, AND INSTALL CORROSION PROTECTION. CONDUCT INSPECTIONS.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, UPGRADED PUMPS TO DUAL MECHANICAL SEALS, REROUTED LINES ABOVEGROUND AND INSTALLED CATHODIC PROTECTION ON UNDERGROUND LINES, INSTALLED LINERS, PERFORMED TRACER TESTING AND REPLACED FLOATING ROOF FITTING AND SEALS ON TANKS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1990	3208					1998 8,811 1999 7,412	1999 / 1998 = 0.89	Yes

**Process Code** P25 REFINING  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS, SPILLS THROUGH TRAINING, AND IMPACT OF SHUTDOWN/ MAINTENANCE PROCEDURES ON WWTP. IMPROVE SLUDGE RECYCLING PROCESS AT WWTP.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, INSTITUTED WASTE MGMT. PLANS FOR MAINTENANCE PERIODS, EFFICIENT PROCESSING OF WASTEWATER SLUDGES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Benzene</i>	1990	182930					1998 119,680 1999 75,124		1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity  
W19 CONTINUE TO CLOSE THE LANDFARM  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 UPGRADED PUMPS AND CONDUCTED INSPECTIONS.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W19 INCREASED TILLING OF THE LANDFARM.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** IMPLEMENT EMS, IMPROVE DESIGN OF THERMAL OXIDIZER TO IMPROVE START-UP TIME AFTER SHUTDOWNS, INSTALL/START-UP BACKUP TO AT WWTP, CONNECT LAB DRAINS TO DEDICATED BENZENE SEWER SYSTEM, RELOCATE LINES ABOVEGROUND, INSTALL LINERS AND GAUGING SYSTEMS.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS. CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Biphenyl</i>	1990	850					1998 1,100 1999 1,300	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W39 INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS AND UPGRADED PUMPS AND CONDUCTED INSPECTIONS.

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS AND UPGRADED PUMPS AND CONDUCTED LEAK TESTING.
- W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS AND UPGRADED PUMPS AND CONDUCTED LEAK TESTING.

**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS., IMPROVE DESIGN OF THERMAL OXIDIZER, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, UPGRADED PUMPS TO DUAL MECHANICAL SEALS, REROUTED LINES ABOVEGROUND AND INSTALLED CATHODIC PROTECTION ON UNDERGROUND LINES, INSTALLED LINERS, PERFORMED TRACER TESTING AND REPLACED FLOATING ROOF FITTING AND SEALS ON TANKS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Carbonyl Sulfide</i>	1990						1998 400,700 1999 360,620	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS, IMPROVE RELIABILITY IN THE SULFUR RECOVERY UNITS TO REDUCE UNPLANNED SHUTDOWNS AND REDUCE SO2/H2S EMISSIONS.

**Non Numeric Progress:** DEVELOPED KEMS, ENVIRONMENTAL AWARENESS TRAINING, IMPROVED RELIABILITY IN THE 45 AND 26 SULFUR RECOVERY UNITS DURING TURNAROUND, IMPROVED CONTROL SYSTEMS AND BLOWER RELIABILITY RESULTING IN REDUCED UNPLANNED SHUTDOWNS AND REDUCED SO2/H2S EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chlorine	1990	210					1998 2,400	1999 / 1998 = 0.94	Yes
							1999 2,500		

**Process Code** P25

REFINING

Intended Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W49 REDUCE THE AMOUNT OF MATERIALS STORED ON-SITE.
- W58 EVALUATE REDUCING OPERATING SEVERITY AND/OR THROUGHPUT AND SCRUBBING OFF-GAS AT PLATFORMER AND POWERFORMER.
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W49 REDUCED THE AMOUNT OF CHLORINE STORED ON-SITE.

**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE INSTEAD OF PARTIAL BURN MODE TO INCREASE OPERATING EFFICIENCY, REDUCE HCL AND CL2 EMISSIONS AT THE PLATFORMER AND POWERFORMER, TRAINING, REDUCE AMOUNT STORED.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, AND IMPROVED CONTROLS ON ESP.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Cobalt Compounds	1990	532					1998 13,220	1999 / 1998 = 0.9	Yes
							1999 24,540		

**Process Code** P25

REFINING

Intended Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**W13** IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS AND SPILLS THROUGH TRAINING. IMPROVE DESIGN OF THERMAL OXIDIZER AND INSTALL A BACK-UP THERMAL OXIDIZER AT THE WWTP.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, INSTITUTED WASTE MANAGEMENT PLANS FOR MAINTENANCE PERIODS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	224		
<i>Cumene</i>	1990	2					1999	224	1999 / 1998 = 0.9	Yes

**Process Code** P25      **REFINING**  
Intended Activity  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39      INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W29      EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.  
Employed Activity  
W29      CONTINUING TO EVALUATE INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.  
W39      INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, INVENTORY CONTROL OF PAINT AND LAB CHEMICALS, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS.CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	41,000		
<i>Cyclohexane</i>	1990	45000					1998	41,000	1999 / 1998 = 0.9	Yes
							1999	29,600		

**Process Code** P25      **REFINING**  
Intended Activity  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19      CONTINUE TO CLOSE THE LANDFARM.  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39      INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- W13 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 INTENDED ACTIVITY: MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 INTENDED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W19 INTENDED ACTIVITY: INCREASED TILLING OF THE LANDFARM.
- W13 INTENDED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 INTENDED ACTIVITY: INSTALL CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.
- Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.
- Non Numeric Progress:** DEVELOPED KEMS, TRAINING, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, GAUGING SYSTEMS, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS. CONDUCTED TRACER TESTING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Ethylbenzene	1990	76130					20,515	23,617	1999 / 1998 = 0.9	Yes

- Process Code P25** INTENDED ACTIVITY: REFINING
- W52 INTENDED ACTIVITY: MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 INTENDED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W29 INTENDED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W32 INTENDED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 INTENDED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 INTENDED ACTIVITY: INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.
- W13 INTENDED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W19 INTENDED ACTIVITY: CONTINUE TO CLOSE THE LANDFARM.
- W52 INTENDED ACTIVITY: MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 INTENDED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- EMPLOYED ACTIVITY: IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W32 EMPLOYED ACTIVITY: INCREASED TILLING OF THE LANDFARM.
- W19 EMPLOYED ACTIVITY: MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W29 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 EMPLOYED ACTIVITY: UPGRADED PUMPS AND CONDUCTED LEAK TESTING.
- W13 EMPLOYED ACTIVITY: IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.
- Non Numeric Progress:** DEVELOPED KEMS AND TRAINING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylene</i>	1990	3800					150,980	56,530	1999 / 1998 = 0.9	Yes
<b>Process Code</b> P25	REFINING									
Intended Activity	W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity	W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
<b>Non Numeric Objective:</b>	DEVELOP/IMPLEMENT AN EMS. REDUCE FLARING THROUGH IMPROVED FLARE MANAGEMENT PRACTICES TO REDUCE EMISSIONS. REDUCE POTENTIAL FOR FLARING DURING COKER BLOWDOWNS. REDUCE HAZARDOUS WASTE SPILLS THROUGH TRAINING.									
<b>Non Numeric Progress:</b>	DEVELOPED KEMS, TRAINING, IMPROVED FLARE MANAGEMENT PRACTICES TO REDUCE EMISSIONS, INCREASED AWARENESS TO ENSURE THAT BLOWDOWNS OCCUR AT OPTIMUM TIMES FOR REDUCED FLARING. DEVELOPED NEW HAZARDOUS WASTE TRAINING PROGRAM FOR EMPLOYEES AND CONTRACTORS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylene Glycol</i>	1990	23000					23,000	23,000	1999 / 1998 = 0.9	Yes
<b>Process Code</b> P25	REFINING									
Intended Activity	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
	W19 CONTINUE TO CLOSE THE LANDFARM.									
Employed Activity	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
<b>Non Numeric Objective:</b>	DEVELOP/IMPLEMENT AN EMS. EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.									
<b>Non Numeric Progress:</b>	DEVELOPED KEMS, COMPLETED ENVIRONMENTAL AWARENESS TRAINING AND A REFINED PROGRAM FOR IMPLEMENTATION. CONTINUE TO EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1990	47000					42,000	41,000	1999 / 1998 = 0.94	Yes
<b>Process Code</b> P25	REFINING									
Intended Activity	W58 EVALUATE REDUCING OPERATING SEVERITY AND/OR THROUGHPUT AND SCRUBBING OFF-GAS AT THE PLATFORMER AND POWERFORMER.									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM. REDUCE HCL AND CL2 EMISSIONS AT THE PLATFORMER AND POWERFORMER.

**Non Numeric Progress:** DEVELOPED KEMS AND COMPLETED ENVIRONMENTAL AWARENESS TRAINING AND REFINED THE PROGRAM FOR IMPLEMENTATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1990	474					1998 31,680 1999 41,920		1999 / 1998 = 0.89	Yes

**Process Code** P25

REFINING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS, SPILLS THROUGH TRAINING, AND IMPACT OF SHUTDOWN/ MAINTENANCE PROCEDURES ON WWT SYSTEM. IMPROVE SLUDGE RECYCLING PROCESS AT WWTP.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, INSTITUTED WASTE MGMT. PLANS FOR MAINTENANCE PERIODS, EFFICIENT PROCESSING OF WASTEWATER SLUDGES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1990	22000					1998 49,000 1999 47,000		1999 / 1998 = 0.94	Yes

**Process Code** P25

REFINING

Intended Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W39 UPGRADED PUMPS AND CONDUCTED LEAK TESTING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. EVALUATE ALTERNATIVE, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, UPGRADED PUMPS TO DUAL MECHANICAL SEALS, REROUTED LINES ABOVEGROUND AND INSTALLED CATHODIC PROTECTION ON UNDERGROUND LINES, INSTALLED LINERS, PERFORMED TRACER TESTING AND REPLACED FLOATING ROOF FITTING AND SEALS ON TANKS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1990	167000					1998 164,000 1999 150,000	1999 / 1998 = 0.9	Yes	

**Process Code** P25 REFINING  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 UPGRADED PUMPS AND CONDUCTED INSPECTIONS.  
W19 CONTINUE TO CLOSE THE LANDFARM.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 INCREASED TILLING OF THE LANDFARM.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
**Non Numeric Objective:** IMPLEMENT EMS, IMPROVE DESIGN OF THERMAL OXIDIZER TO IMPROVE START-UP TIME AFTER SHUTDOWNS, INSTALL/START-UP BACKUP TO AT WWTP, RELOCATE LINES ABOVEGROUND, AND INSTALL LINERS AND GAUGING SYSTEMS.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, IMPROVE RELIABILITY OF THERMAL OXIDIZER TO IMPROVE START-UP TIME AFTER SHUTDOWNS, INSTALL/START-UP BACKUP TO AT WWTP, RELOCATE LINES ABOVEGROUND, INSTALL LINERS AND GAUGING SYSTEMS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Naphthalene</i>	1990	10451					1998 12,470 1999 15,255	1999 / 1998 = 0.9	Yes	

**Process Code** P25 REFINING  
Intended Activity  
W39 INSTALL CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W29 EVALUATE OPTIONS FOR BETTER INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.

Employed Activity

W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.  
W29 CONTINUING TO EVALUATE INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:**

IMPLEMENT EMS, IMPROVE DESIGN OF THERMAL OXIDIZER TO IMPROVE START-UP TIME AFTER SHUTDOWNS, INSTALL/START-UP BACKUP TO AT WWTP, RELOCATE LINES ABOVEGROUND, INSTALL LINERS AND GAUGING SYSTEMS.

**Non Numeric Progress:**

DEVELOPED KEMS, TRAINING, INVENTORY CONTROL OF PAINT AND LAB CHEMICALS, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS.CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1990	5526					1998 39,700 1999 11,260	1999 / 1998 = 1.01	Yes

**Process Code** P25

REFINING

Intended Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS AND SPILLS THROUGH TRAINING.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, AND INSTITUTED WASTE MANAGEMENT PLANS FOR MAINTENANCE PERIODS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1990	600,000					1998 600,000 1999 830,000	1999 / 1998 = 0.89	Yes

**Process Code** P25

REFINING

Intended Activity

- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. IMPROVE THE SLUDGE RECYCLING PROCESS AT THE WWTP. REDUCE THE AMOUNT OF AMMONIA DISCHARGED BY INCREASED NITRIFICATION. REDUCE THE IMPACT ON SHUTDOWN AND MAINTENANCE PROCEDURES ON THE WASTE TREATMENT SYSTEM.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, EFFICIENT PROCESSING OF WASTEWATER SLUDGES, INCREASED OXYGEN CAPACITY, IMPROVED MANAGEMENT OF ALKALINITY REQUIREMENTS AND FEED TO THE WWTP, AND INSTALLING NEW DESALTER EQUIPMENT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1990	59386					1998 122,850 1999 110,862	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

Employed Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS. REDUCE THE AMOUNT OF WASTE DURING TURNAROUNDS, REDUCE SPILLS THROUGH TRAINING, IMPROVE THE SLUDGE RECYCLING PROCESS AT THE WWTP, REDUCE THE IMPACT ON SHUTDOWN AND MAINTENANCE PROCEDURES ON THE WASTE TREATMENT SYSTEM.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, INSTITUTED WASTE MANAGEMENT PLANS FOR MAINTENANCE PERIODS, EFFICIENT PROCESSING OF WASTEWATER SLUDGES AND HYDROCARBON RESIDUALS ARE REMOVED PRIOR TO DISCHARGE OF VESSELS TO THE OILY WATER SEWER.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Polycyclic Aromatic Compounds</i>	1990	135					1999 180	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE INSTEAD OF PARTIAL BURN MODE TO INCREASE OPERATING EFFICIENCY.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, AND IMPROVED CONTROLS ON ESP.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Propylene</i>	1990	76000					1998 720,000 1999 422,000	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** IMPLEMENT EMS, IMPROVE DESIGN OF THERMAL OXIDIZER TO IMPROVE START-UP TIME AFTER SHUTDOWNS, INSTALL/START-UP BACKUP TO AT WWTP. REDUCED FLARING THROUGH IMPROVED FLARE MANAGEMENT PRACTICES, POTENTIAL FOR FLARING DURING COKER BLOWDOWNS, AND SPILLS.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, IMPROVED RELIABILITY OF PRIMARY THERMAL OXIDIZER TO REDUCE START-UP TIME, INSTALLED BACKUP TO, IMPROVED FLARE MANAGEMENT PRACTICES, AND INCREASED AWARENESS TO ENSURE THAT BLOWDOWNS OCCUR AT OPTIMUM TIMES FOR REDUCED FLARING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.01	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Selenium Compounds</i>	1990	691					8,000	6,020		

**Process Code** P25

REFINING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE TO INCREASE EFFICIENCY, REDUCE WASTE DURING TURNAROUNDS, SPILLS THROUGH TRAINING, AND IMPACT OF SHUTDOWN/ MAINTENANCE PROCEDURES ON WWTP. IMPROVE SLUDGE RECYCLING PROCESS AT WWTP.

**Non Numeric Progress:**

DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, INSTITUTED WASTE MGMT. PLANS FOR MAINTENANCE PERIODS, EFFICIENT PROCESSING OF WASTEWATER SLUDGES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.9	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1999	97		
<i>Tert-butyl Alcohol</i>	1990									

**Process Code** P25

REFINING

Intended Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 INSTALL CORROSION PROTECTION ON LIGHT PRODUCT TANKS.

Employed Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W39 INSTALLED CATHODIC PROTECTION SYSTEM ON 32 LIGHT PRODUCT TANKS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION, AND CONDUCT INSPECTIONS ON TANKS AND LINES.

**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, REROUTED LINES ABOVEGROUND AND INSTALLED CATHODIC PROTECTION ON UNDERGROUND LINES, INSTALLED LINERS, PERFORMED TRACER TESTING AND REPLACED FLOATING ROOF FITTING AND SEALS ON TANKS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Tetrachloroethylene</i>	1990	0					1998 4,300 1999 4,200	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W58

EVALUATE REDUCING OPERATING SEVERITY AND/OR THROUGHPUT AND SCRUBBING OFF-GAS AT PLATFORMER AND POWERFORMER.

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM. REDUCE HCL AND CL2 EMISSIONS AT THE PLATFORMER AND POWERFORMER.

**Non Numeric Progress:** DEVELOPED KEMS AND COMPLETED ENVIRONMENTAL AWARENESS TRAINING AND REFINED THE PROGRAM FOR IMPLEMENTATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1990	447420					1998 203,050 1999 183,402	1999 / 1998 = 0.9	Yes

**Process Code** P25

REFINING

Intended Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W39

UPGRADED PUMPS AND CONDUCTED INSPECTIONS.

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W19

CONTINUE TO CLOSE THE LANDFARM.

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W39

UPGRADED PUMPS AND CONDUCTED LEAK TESTING.

W19

INCREASED TILLING OF THE LANDFARM.

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W29 CONTINUING TO EVALUATE INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS., IMPROVE DESIGN OF THERMAL OXIDIZER, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, INVENTORY CONTROL OF PAINT AND LAB CHEMICALS, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS.CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1990	360781					1998 133,082 1999 156,127	1999 / 1998 = 0.9	Yes

**Process Code** P25  
Intended Activity  
REFINING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39 UPGRADED PUMPS AND CONDUCTED INSPECTIONS.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 CONTINUE TO CLOSE THE LANDFARM.  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W29 CONTINUING TO EVALUATE INVENTORY CONTROL OF PAINT AND LAB CHEMICALS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39 UPGRADED PUMPS AND CONDUCTED LEAK TESTING.  
W19 INCREASED TILLING OF THE LANDFARM.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** DEVELOP/IMPLEMENT AN EMS., IMPROVE DESIGN OF THERMAL OXIDIZER, RELOCATE SUBSURFACE LINES TO ABOVEGROUND, INSTALL REMOTE GAUGING SYSTEMS FOR OVERFILL PROTECTION, INSTALL INTERNAL TANK LINERS AND CORROSION PROTECTION. CONDUCT INSPECTIONS.  
**Non Numeric Progress:** DEVELOPED KEMS, TRAINING, INVENTORY CONTROL OF PAINT AND LAB CHEMICALS, RE-ROUTED LINES ABOVEGROUND, INSTALLED CATHODIC PROTECTION, LINERS, LEAK DETECTORS, AND SEAL ENVELOPES ON FLOATING ROOF TANKS.CONDUCTED TRACER TESTING AND A NEW TRAINING PROGRAM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1990	2073					1998 53,200 1999 60,000	1999 / 1998 = 1.01	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P25

REFINING

Intended Activity

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

DEVELOP AN EMS, MODIFY FCC UNIT TO RUN CLOSE TO FULL BURN MODE INSTEAD OF PARTIAL BURN MODE TO INCREASE OPERATING EFFICIENCY, REDUCE AMOUNT OF WASTE DURING TURNAROUNDS, AND REDUCE HAZARDOUS WASTE SPILLS THROUGH TRAINING.

**Non Numeric Progress:**

DEVELOPED KEMS, TRAINING, FCC MODIFIED TO RUN AT PROMOTED BURN, REMOVED STACKS, INSTALLED WATERSEAL EMERGENCY BYPASS STACK, IMPROVED CONTROLS ON ESP, AND INSTITUTED WASTE MANAGEMENT PLANS FOR MAINTENANCE PERIODS.

**Dakota County, City of LAK EVILLE -- CHEMCENTRAL/MINNESOTA -- ERCID -- 190800001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1998	790					1998 790 1999 770	1999 / 1998 = 1.39	Yes

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W64 IMPROVED DRAINING PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Process Code** P03

CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W64 IMPROVED DRAINING PROCEDURES

Employed Activity

W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W64 IMPROVED DRAINING PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1998	1220					1998 1,220 1999 780	1999 / 1998 = 0.92	Yes	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity
- W64 IMPROVED DRAINING PROCEDURES
  - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Employed Activity
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W64 IMPROVED DRAINING PROCEDURES
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
- Intended Activity
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W64 IMPROVED DRAINING PROCEDURES
- Employed Activity
- W64 IMPROVED DRAINING PROCEDURES
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1998	2170					1998 2,170 1999 1,400	1999 / 1998 = 1.14	Yes	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W64 IMPROVED DRAINING PROCEDURES
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Employed Activity
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W64 IMPROVED DRAINING PROCEDURES
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W64 IMPROVED DRAINING PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1998	2470					1998 2,470 1999 1,540	1999 / 1998 = 1.32	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W64 IMPROVED DRAINING PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Dakota County, City of LAKEVILLE -- CROWN CORK & SEAL CO. -- ERCID -- 190800011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1993	93000	140,000	150,000	150,000	150,000	1998 140,000 1999 150,000	1999 / 1998 = 1.07	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1993	245	270	280	280	280	1998 270 1999 280	1999 / 1998 = 1.07	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1993	96000	170,000	180,000	180,000	180,000	1998 170,000 1999 180,000	1999 / 1998 = 1.07	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Dakota County, City of MENDOTA HEIGHTS -- APPLIED COATING TECHNOLOGY, INC. -- ERCID -- 191050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1991	36000	45,745	24,000	25,000	26,000	1998 66,700 1999 55,200	1999 / 1998 = 1.12	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W73 SUBSTITUTED COATING MATERIALS USED  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W53 USE OF A DIFFERENT PROCESS CATALYST

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 LIMITED TO PAINT USE BASED ON CUSTOMER REQUIREMENTS SO SOLVENT-BASED PAINT WAS USED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1991	25000	21,000	11,000	11,000	12,000	1998 31,200	1999 13,540	1999 / 1998 = 1.12	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST  
W73 SUBSTITUTED COATING MATERIALS USED  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W53 USE OF A DIFFERENT PROCESS CATALYST  
W73 SUBSTITUTED COATING MATERIALS USED

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 LIMITED IN USE OF PAINT BY CUSTOMER REQUIREMENTS, THEREFORE, SOLVENT-BASED PAINT WAS USED.

**Dakota County, City of ROSEMOUNT -- DPC INDUSTRIES, INC. -- ERCID -- 191450018**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>	1995	217	221	229	252	277	1998 221	1999 229	1999 / 1998 = 1.11	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Dakota County, City of ROSEMOUNT -- KOCH SULFUR PRODUCTS COMPANY -- ERCID -- 191450006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Benzene</i>	1994	360					1998 480 1999 490	1999 / 1998 = 1.03	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

**Non Numeric Objective:** REDUCE SPILLS DURING LOADING, RELOCATE SINGLE WALLED UNDERGROUND PIPELINES TO ABOVE GROUND, DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM, AND REDUCE SPILLS AND LEAKS FROM TANKS.

**Non Numeric Progress:** SPENT ACID TRUCK OFFLOAD AREA AND SPENT ATOMIZATION PROCESS AREA WERE ASPHALTED TO MINIMIZE SPILLS TO THE GROUND. UNDERGROUND SULFURIC ACID LINES WERE WELDED AND CAPPED. DEVELOPED KEMS, CLEANED AND INSPECTED ONE SPENT ACID TANK, COMPLETED TRAINING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1995	960					1998 1,200 1999 1,200	1999 / 1998 = 1.03	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W31 IMPROVED STORAGE OR STACKING PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REDUCE SPILLS DURING LOADING, RELOCATE SINGLE WALLED UNDERGROUND PIPELINES TO ABOVE GROUND, DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM, AND REDUCE SPILLS AND LEAKS FROM TANKS.

**Non Numeric Progress:** SPENT ACID TRUCK OFFLOAD AREA AND SPENT ATOMIZATION PROCESS AREA WERE ASPHALTED TO MINIMIZE SPILLS TO THE GROUND. UNDERGROUND SULFURIC ACID LINES WERE WELDED AND CAPPED. DEVELOPED KEMS, CLEANED AND INSPECTED ONE SPENT ACID TANK, COMPLETED TRAINING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Sulfuric Acid (aerosol forms only)</i>	1990	25000					1998 33,000 1999 30,000	1999 / 1998 = 0.91	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W41 INCREASED PURITY OF RAW MATERIALS
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W39 INSTALL CONVERTERS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W39 REPLACED CONVERTERS
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W41 INCREASED PURITY OF RAW MATERIALS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** INSTALL CONVERTERS TO REDUCE SO2/SO3 LEAKS. REDUCE SPILLS DURING LOADING. RELOCATE SINGLE WALLED UNDERGROUND PIPELINES TO ABOVE GROUND. DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM. REDUCE SPILLS AND LEAKS FROM TANKS.

**Non Numeric Progress:** SPENT ACID TRUCK OFFLOAD AREA AND THE SPENT ATOMIZATION PROCESS AREA WERE ASPHALTED TO PREVENT SPILLS TO THE GROUND. TWO UNDERGROUND SULFURIC ACID LINES WERE WELDED AND CAPPED. CLEANED AND INSPECTED ONE SPENT ACID TANK.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1994	1330					1998 1,700 1999 1,800	1999 / 1998 = 1.03	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

- W31 IMPROVED STORAGE OR STACKING PROCEDURES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REDUCE SPILLS DURING LOADING, RELOCATE SINGLE WALLED UNDERGROUND PIPELINES TO ABOVE GROUND, DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM, AND REDUCE SPILLS AND LEAKS FROM TANKS.

**Non Numeric Progress:** SPENT ACID TRUCK OFFLOAD AREA AND SPENT ATOMIZATION PROCESS AREA WERE ASPHALTED TO MINIMIZE SPILLS TO THE GROUND. UNDERGROUND SULFURIC ACID LINES WERE WELDED AND CAPPED. DEVELOPED KEMS, CLEANED AND INSPECTED ONE SPENT ACID TANK, COMPLETED TRAINING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1994	1096					1998 1,400 1999 1,700	1999 / 1998 = 1.03	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W31 IMPROVED STORAGE OR STACKING PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W31 IMPROVED STORAGE OR STACKING PROCEDURES
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** REDUCE SPILLS DURING LOADING, RELOCATE SINGLE WALLED UNDERGROUND PIPELINES TO ABOVE GROUND, DEVELOP AND IMPLEMENT AN ENVIRONMENTAL MANAGEMENT SYSTEM, AND REDUCE SPILLS AND LEAKS FROM TANKS.

**Non Numeric Progress:** SPENT ACID TRUCK OFFLOAD AREA AND SPENT ATOMIZATION PROCESS AREA WERE ASPHALTED TO MINIMIZE SPILLS TO THE GROUND. UNDERGROUND SULFURIC ACID LINES WERE WELDED AND CAPPED. DEVELOPED KEMS, CLEANED AND INSPECTED ONE SPENT ACID TANK, COMPLETED TRAINING.

**Dakota County, City of ROSEMOUNT -- SPECTRO ALLOYS CORP. -- ERCID -- 191450009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Aluminum (fume or dust)</i>		38751	56,540	72,771	83,687	96,240	1998 56,540 1999 72,771	1999 / 1998 = 1.15	Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

- W58 ALL PRODUCTION CHARGING AND MELTING IMPROVEMENTS AND EMISSIONS CAPTURE IMPROVEMENTS WERE MADE IN 1998.

Employed Activity

- W58 SMALL INCREMENTAL IMPROVEMENTS INVOLVED PLANNING AND DESIGNING MAJOR PLANTWIDE IMPROVEMENTS AND MODIFICATIONS THAT WILL BE INSTALLED UNDER OUR 2000 P2 PLAN.

**Non Numeric Objective:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

**Non Numeric Progress:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>		30					22	25		

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1995	1067					2,370	3,051		

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity  
 W58 ALL PRODUCTION CHARGING AND MELTING IMPROVEMENTS AND EMISSIONS CAPTURE IMPROVEMENTS WERE MADE IN 1998.  
 Employed Activity  
 W58 SMALL INCREMENTAL IMPROVEMENTS INVOLVED PLANNING AND DESIGNING MAJOR PLANTWIDE IMPROVEMENTS AND MODIFICATIONS THAT WILL BE INSTALLED UNDER OUR 2000 P2 PLAN.  
**Non Numeric Objective:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1994	634					64,785	79,016		

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>		63					1998 90 1999 115		1999 / 1998 = 1.15	Yes

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W58 ALL PRODUCTION CHARGING AND MELTING IMPROVEMENTS AND EMISSIONS CAPTURE IMPROVEMENTS WERE MADE IN 1998.  
Employed Activity W58 SMALL INCREMENTAL IMPROVEMENTS INVOLVED PLANNING AND DESIGNING MAJOR PLANTWIDE IMPROVEMENTS AND MODIFICATIONS THAT WILL BE INSTALLED UNDER OUR 2000 P2 PLAN.  
**Non Numeric Objective:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** REFER TO 1999 POLLUTION PREVENTION PROGRESS REPORT

**DAKOTA County, City of ROSEMOUNT -- WASTEQUIP/RAYFO -- ERCID -- 191450051**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	2000		
<i>Toluene</i>		20,563					1999 20,652		1999 / 1998 = 1.01	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W74 IMPROVED APPLICATION TECHNIQUES  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W74 IMPROVED APPLICATION TECHNIQUES  
**Non Numeric Objective:** REDUCE THE AMOUNT OF TOLUENE THROUGH BETTER OPERATOR TRAINING IN THE MIXING OF PAINT AND XYLENE AND THE USE OF ELECTROSTATIC PAINT GUNS TO INCREASE THE DEPOSITION EFFICIENCY. WE ARE CURRENTLY PHASING OUT THE USE OF TOLUENE.  
**Non Numeric Progress:** IN THE FIRST 6 MONTHS OF 1999, WE HAD PROBLEMS MAINTAINING QUALITY PAINTERS. IN THE LAST 6 MONTHS OF 1999, WE MADE GOOD PROGRESS IN THE REDUCTION OF TOLUENE THROUGH OPERATOR TRAINING AND USING NEW ELECTROSTATIC PAINT GUNS.  
**Barriers to P2:** F10 THE INABILITY TO MAINTAIN QUALITY PAINTERS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>		56,647					1998 19,138 1999 56,647		1999 / 1998 = 1.01	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
**Non Numeric Objective:** REDUCE THE AMOUNT OF XYLENE THROUGH BETTER OPERATOR TRAINING IN THE MIXING OF PAINT AND XYLENE AND THE USE OF NEW ELECTROSTATIC PAINT GUNS TO INCREASE THE DEPOSITION EFFICIENCY.  
**Non Numeric Progress:** IN THE FIRST 6 MONTHS OF 1999, WE HAD PROBLEMS MAINTAINING QUALITY PAINTERS. IN THE LAST 6 MONTHS OF 1999, WE MADE GOOD PROGRESS IN THE REDUCTION OF XYLENE THROUGH OPERATOR TRAINING AND USING NEW ELECTROSTATIC PAINT GUNS.  
**Barriers to P2:** F10 THE INABILITY TO MAINTAIN QUALITY PAINTERS.

**Dakota County, City of SOUTH ST. PAUL -- TWIN CITY TANNING COMPANY, LLP -- ERCID -- 191550005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1992	436771					1998 108,815 1999 71,840	1999 / 1998 = 1.02	No

**Process Code** P31 TANNING  
 Intended Activity  
 W90 NOT APPLICABLE  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** NO REDUCTION IS PLANNED.

**Non Numeric Progress:** NO REDUCTION IS PLANNED.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1992	3166					1998 81,206 1999 15,506	1999 / 1998 = 1.02	No

**Process Code** P31 TANNING  
 Intended Activity  
 W90 NOT APPLICABLE  
 Employed Activity  
 W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** NO REDUCTION IS PLANNED.

**Non Numeric Progress:** NO REDUCTION IS PLANNED.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>							1998 67,383	1999 / 1998 = 1.03	No
							1999 61,000		

**Process Code** P31 TANNING  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NO REDUCTION IS PLANNED. AUTOMATED FEED EQUIPMENT HAS BEEN INSTALLED TO ENSURE THE GREATEST USAGE EFFICIENCY.

**Non Numeric Progress:** NO REDUCTION IS PLANNED. AUTOMATED FEED EQUIPMENT HAS BEEN INSTALLED TO ENSURE THE GREATEST USAGE EFFICIENCY.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F06 SPECIFIC REGULATORY / PERMIT BURDENS

**Dakota County, City of SOUTH ST. PAUL -- VAN HOVEN CO., INC. -- ERCID -- 191550003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>							1998 10,022	1999 / 1998 = 1.07	Yes
							1999 10,050		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** THE QUANTITY OF AMMONIA GENERATED IS LARGELY A FUNCTION OF THE TYPE OF RAW MATERIAL AND ITS THERMAL HISTORY OVER WHICH THE FACILITY HAS LITTLE OR NO CONTROL.

**Non Numeric Progress:** THE QUANTITY OF AMMONIA GENERATED IS LARGELY A FUNCTION OF THE TYPE OF RAW MATERIAL AND ITS THERMAL HISTORY OVER WHICH THE FACILITY HAS LITTLE OR NO CONTROL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chlorine</i>	1991	301					1998 612	1999 / 1998 = 1.21	Yes
							1999 704		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W58 ELIMINATED CHLORINE GAS AS OF 6/99 AND ARE USING SODIUM HYPOCHLORITE.  
Employed Activity  
W58 ELIMINATED CHLORINE GAS AS OF 6/99 AND ARE USING SODIUM HYPOCHLORITE.  
**Non Numeric Objective:** ELIMINATED CHLORINE GAS AS OF 6/99 AND ARE USING SODIUM HYPOCHLORITE.  
**Non Numeric Progress:** ELIMINATED CHLORINE GAS AS OF 6/99 AND ARE USING SODIUM HYPOCHLORITE.

**Dakota County, City of SOUTH ST. PAUL -- WATEROUS CO. -- ERCID -- 191550013**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1991	27,000					1998 59,800 1999 63,700	1999 / 1998 = 1.17	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** PLANS REMAIN TO IMPROVE OUR PAINT SYSTEM. SEVERAL LARGE PROJECTS HAVE DELAYED THE PAINT PROJECT. IT HAS NOT BEEN RESCHEDULED.  
**Non Numeric Progress:** OUR XYLENE USE FOR 1999 INCREASED 6.3% OVER 1998 DESPITE A 17% PRODUCTIVITY RATIO FOR PAINTED PARTS OVER THE SAME PERIOD.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Dodge County, City of DODGE CENTER -- MCNEILUS TRUCK & MFG., INC. -- ERCID -- 200300001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1997	160000					1998 150,310 1999 180,340	1999 / 1998 = 1.25	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** STRIVE TO FABRICATE METAL COMPONENTS/TRUCK BODIES WHILE GENERATING THE LEAST AMOUNT OF SCRAP POSSIBLE. SINCE METAL USAGE IS A DIRECT FUNCTION OF PRODUCTS PRODUCED, REDUCTION OBJECTIVES ARE NOT FEASIBLE.

**Non Numeric Progress:** STRIVE TO FABRICATE METAL COMPONENTS/TRUCK BODIES WHILE GENERATING THE LEAST AMOUNT OF SCRAP POSSIBLE. SINCE METAL USAGE IS A DIRECT FUNCTION OF PRODUCTS PRODUCED, REDUCTION OBJECTIVES ARE NOT FEASIBLE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1996	94000					1998 126,000 1999 155,000	1999 / 1998 = 1.25	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED

Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED

**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.

**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. OUR PRIMARY PAINT SUPPLIER HAS TESTED AND INTRODUCED ALTERNATIVE LOWER VOC PAINT PRODUCTS THAT WE USE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1996	15000					1998 18,600 1999 39,900	1999 / 1998 = 1.25	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED

Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED

**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.

**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. OUR PRIMARY PAINT SUPPLIER HAS TESTED AND INTRODUCED ALTERNATIVE LOWER VOC PAINT PRODUCTS THAT WE USE.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1996	33000					1998 38,200 1999 47,700	1999 / 1998 = 1.25	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
W74 IMPROVED APPLICATION TECHNIQUES

Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED

**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.

**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. OUR PRIMARY PAINT SUPPLIER HAS TESTED AND INTRODUCED ALTERNATIVE LOWER VOC PAINT PRODUCTS THAT WE USE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1997	86000					1998 31,001 1999 54,001	1999 / 1998 = 1.25	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** STRIVE TO FABRICATE METAL COMPONENTS/TRUCK BODIES WHILE GENERATING THE LEAST AMOUNT OF SCRAP POSSIBLE. SINCE METAL USAGE IS A DIRECT FUNCTION OF PRODUCTS PRODUCED, REDUCTION OBJECTIVES ARE NOT FEASIBLE.

**Non Numeric Progress:** STRIVE TO FABRICATE METAL COMPONENTS/TRUCK BODIES WHILE GENERATING THE LEAST AMOUNT OF SCRAP POSSIBLE. SINCE METAL USAGE IS A DIRECT FUNCTION OF PRODUCTS PRODUCED, REDUCTION OBJECTIVES ARE NOT FEASIBLE.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1996	8700					1999 12,900	1999 / 1998 = 1.25	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED  
**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.  
**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. OUR PRIMARY PAINT SUPPLIER HAS TESTED AND INTRODUCED ALTERNATIVE LOWER VOC PAINT PRODUCTS THAT WE USE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Xylene (mixed isomers)	1996	15000					1998 24,900	1999 / 1998 = 1.25	No
							1999 38,900		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED  
 Employed Activity  
 W73 SUBSTITUTED COATING MATERIALS USED  
 W74 IMPROVED APPLICATION TECHNIQUES  
**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.  
**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. OUR PRIMARY PAINT SUPPLIER HAS TESTED AND INTRODUCED ALTERNATIVE LOWER VOC PAINT PRODUCTS THAT WE USE.

**Barriers to P2:**  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Zinc Compounds	1996	41000					1998 65,000	1999 / 1998 = 1.25	Yes
							1999 50,000		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** SEEKS PAINT PRODUCTS FROM VENDORS WITH THE LOWEST CONCENTRATION OF VOC'S, HAPS, AND FORM R REPORTABLE CHEMICALS. TRAIN EMPLOYEES IN THE MOST EFFICIENT PAINT APPLICATION TECHNIQUES TO MINIMIZE OVERSPRAY OF PRIMER MATERIAL.

**Non Numeric Progress:** EMPLOYEES AND CONTRACTORS HAVE RECEIVED TRAINING ON PROPER PAINTING TECHNIQUES TO MINIMIZE OVERSPRAY OF PAINT AND PRIMER PRODUCTS. SINCE PRIMER USAGE IS A DIRECT FUNCTION OF THE NUMBER OF UNITS PRODUCED, P2 OPPORTUNITIES ARE LIMITED.

**Douglas County, City of ALEXANDRIA -- 3M - ABRASIVES SYS. DIV. -- ERCID -- 210050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>2-ethoxyethanol</i>	1996	15000	13,000	4,000	12,000	12,000	1998 13,700 1999 13,700	1999 / 1998 = 1.14	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formaldehyde</i>	1996	26000	20,000	25,000	25,000	20,000	1998 21,200 1999 11,600	1999 / 1998 = 1.14	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W41 INCREASED PURITY OF RAW MATERIALS  
Employed Activity W41 INCREASED PURITY OF RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1996	16000	11,000	20,000	20,000	15,000	1998 15,800 1999 11,600	1999 / 1998 = 1.14	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W67 IMPROVED RINSE EQUIPMENT DESIGN  
W41 INCREASED PURITY OF RAW MATERIALS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W67 IMPROVED RINSE EQUIPMENT DESIGN

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1996	46000	38,000	45,000	45,000	40,000	1998 39,200 1999 30,900	1999 / 1998 = 1.14	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
Employed Activity  
W41 INCREASED PURITY OF RAW MATERIALS

**Douglas County, City of ALEXANDRIA -- DOUGLAS MACHINE -- ERCID -- 210050019**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	20814					1998 20,814 1999 17,037	1999 / 1998 = 1.43	Yes

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W19 INSTALLATION OF A HIGH EFFICIENCY HEATING SYSTEM.  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** OPERATOR TRAINING TO OPTIMIZE THE LIFE OF THE STRIPPING SOLUTION AND PROPER RINSING TECHNIQUES TO REDUCE CONTAMINATION OF PROCESS CHEMISTRIES.  
INSTALLATION OF A HIGH EFFICIENCY HEATING SYSTEM TO REDUCE START-UP TIME AND NICKEL "PLATE-OUT".

**Non Numeric Progress:** TRAINING TAKES PLACE PERIODICALLY THROUGHOUT THE YEAR. NEW PARTS RACK DESIGN AND PURCHASE TO REDUCE DRAG-OUT/DRAG-IN OF CHEMICALS. INSTALLATION OF A HIGH EFFICIENCY HEATING SYSTEM HAS REDUCED TANK CHANGEOVERS AND THUS THE AMOUNT OF NITRIC GENERATED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1998	5632					1998 5,632 1999 4,946	1999 / 1998 = 1.43	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P10 ELECTROPLATING  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** CONTINUE TRAINING OF OPERATORS TO MINIMIZE SQUARE FOOT UTILIZATION OF PLATING TANKS TO REDUCE THE NUMBER OF LOADS GOING IN AND OUT OF THE TANK.  
 CONTINUED TRAINING OF PROPER RINSING TECHNIQUES TO REDUCE CONTAMINATION OF PROCESS CHEMISTRIES.  
**Non Numeric Progress:** TRAINING TAKES PLACE PERIODICALLY THROUGHOUT THE YEAR. NEW PARTS RACK DESIGN AND PURCHASE TO REDUCE DRAG-OUT/DRAG-IN OF CHEMICALS. ZINC COMPOUND MATERIAL IS SENT TO A RECOVERY FACILITY WHERE THE ZINC IS PROCESSED AND REINTRODUCED INTO THE MARKET.

**Faribault County, City of ELMORE -- ELMORE TRUCK ACCESSORIES, INC. -- ERCID -- 220390003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Styrene	1998	12400					1998 12,400 1999 12,182	1999 / 1998 = 1.12	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
 W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
 Employed Activity  
 W90 NOT APPLICABLE

**Faribault County, City of WINNEBAGO -- CORN PLUS -- ERCID -- 221100019**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Ammonia	1998	826					1998 950 1999 1,045	1999 / 1998 = 1.1	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W19  
 Employed Activity  
 W19  
 W24 INSTITUTED BETTER LABELING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CHANGED THE COOKING PROCESS IN 1999 TO USE LESS AMMONIA BY USING LESS RECYCLE WATER. OVERALL EMISSIONS WERE GREATER BECAUSE OF HIGHER PLANT PRODUCTION. IF ETHANOL PRODUCTION WAS THE SAME IN 1999 VS. 1998, EMISSIONS WOULD HAVE BEEN LESS.

**Non Numeric Progress:** REDUCED THE AMOUNT OF LOW PH WATER THAT THE CORN IS COOKED WITH. BY DOING THIS, THE AMOUNT OF AMMONIA USED WAS REDUCED. EMISSIONS WERE HIGHER ONLY BECAUSE OF PLANT INCREASED THROUGHPUT.

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
F10 THE PLANTS TOTAL ETHANOL PRODUCTION WAS HIGHER THAN IN 1998.

**Fillmore County, City of CHATFIELD -- STRONGWELL - CHATFIELD DIVISION -- ERCID -- 230500002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Antimony Compounds</i>	1999	380					1998 350 1999 380	1999 / 1998 = 1.32	No	

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W58 IMPROVED MEASUREMENT OF EMISSIONS.  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** IMPROVE VERIFICATION OF MEASUREMENTS USED FOR EMISSIONS REPORTING.

**Non Numeric Progress:** NO PROGRESS.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Decabromodiphenyl Oxide</i>	1999	1860					1998 1,740 1999 1,860	1999 / 1998 = 1.32	No	

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W83 MODIFIED PACKAGING  
W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** IMPROVE MEASUREMENT OF EMISSIONS. PURCHASE PRODUCT IN RETURNABLE CONTAINERS INSTEAD OF THROWAWAY BAGS.

**Non Numeric Progress:** NO PROGRESS.

**Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.32	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1999	15500					13,970	15,500		No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity W73 SUBSTITUTED COATING MATERIALS USED  
 W78 IMPROVED MEASUREMENT OF EMISSIONS.  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** PROCESS IMPROVEMENTS AND SUBSTITUTION OF ALTERNATE MATERIALS.

**Non Numeric Progress:** NO PROGRESS.

**Barriers to P2:** F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.32	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-methyl-2-pyrrolidone</i>	1999	26126					24,420	26,126		No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity W64 IMPROVED DRAINING PROCEDURES  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** ALTHOUGH MATERIAL SUBSTITUTION HAS BEEN SUCCESSFUL, THE OVERALL USAGE HAS INCREASED. IMPROVE PROCESS EFFICIENCY BY EXTENDING LIFE OF THE SOLVENT BY MANUALLY PRE-CLEANING EQUIPMENT AND TOOLING.

**Non Numeric Progress:** NO PROGRESS.

**Barriers to P2:** F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.32	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phenol</i>	1999	16330					16,330			No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity W90 NOT APPLICABLE



Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P10      ELECTROPLATING  
 Intended Activity  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W58                    USE OF COUNTER FLOW RINSES TO REDUCE ZINC COMPOUNDS FROM ENTERING SLUDGE OR POTW EFFLUENT. NEW EQUIPMENT INCREASED EFFICIENCY.  
 Employed Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Freeborn County, City of ALBERT LEA -- FARMLAND FOODS INC -- ERCID -- 240050050**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1995	33430	16,240	3,918	4,000	4,000	1998 16,240 1999 3,918	1999 / 1998 = 1.3	Yes	

**Process Code** P26      REFRIGERATING/FREEZING  
 Intended Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Freeborn County, City of ALBERT LEA -- PROGRESS CASTING GROUP - ALBERT LEA -- ERCID -- 240050044**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Aluminum (fume or dust)</i>	1997	50000	56,906	32,669	0	0	1998 56,906 1999 32,669	1999 / 1998 = 0.54	Yes	

**Process Code** P18      MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Freeborn County, City of ALBERT LEA -- STREATER, INC. -- ERCID -- 240050002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1991	7762	11,846	16,519	16,958	15,262	1998 1999	11,846 16,519	1999 / 1998 = 1.2	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
   W42                      SUBSTITUTED RAW MATERIALS  
   W75                      CHANGED FROM SPRAY TO OTHER SYSTEM  
 Employed Activity  
   W14                      CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1991	71978	83,723	97,005	59,363	56,360	1998 1999	83,723 97,005	1999 / 1998 = 1.2	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
   W74                      IMPROVED APPLICATION TECHNIQUES  
 Employed Activity  
   W73                      SUBSTITUTED COATING MATERIALS USED

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1991	56920	17,806	23,839	17,597	17,218	1998 1999	20,426 23,839	1999 / 1998 = 1.2	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
   W72                      MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
 Employed Activity  
   W36                      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1991	78095	63,149	70,547	70,560	67,031	63,149	70,547	1999 / 1998 = 1.2	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
   W74                    IMPROVED APPLICATION TECHNIQUES  
 Employed Activity  
   W73                    SUBSTITUTED COATING MATERIALS USED

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	49999	25,065	25,336	31,980	31,464	25,065	25,336	1999 / 1998 = 1.2	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
   W51                    INSTITUTED RECIRCULATION WITHIN A PROCESS  
   W72                    MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
 Employed Activity  
   W72                    MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
   W75                    CHANGED FROM SPRAY TO OTHER SYSTEM

**Goodhue County, City of CANNON FALLS -- CANNON EQUIPMENT COMPANY -- ERCID -- 250250002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1990	3630	2,624	1,611	1,500	1,500	2,624	1,611	1999 / 1998 = 1.28	No

**Process Code** P10      ELECTROPLATING  
 Intended Activity  
   W49                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
   W49                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1990	10927	19,945	9,757	10,000	10,000	1998 19,945	1999 9,757	1999 / 1998 = 1.28	No

**Process Code** P10

ELECTROPLATING

Intended Activity

W49

W13

Employed Activity

W49

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Goodhue County, City of CANNON FALLS -- THE BERGQUIST COMPANY -- ERCID -- 250250008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	109,497		
<i>Ethylbenzene</i>				109,497	82,005	82,005	1999 109,497		1999 / 1998 = 0.98	No

**Process Code** P36

SILICONE RUBBER/ELECTRONIC COMPONENTS MANUFACTURING

Intended Activity

W58

W13

W19

Employed Activity

W42

W81

W82

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

SUBSTITUTED RAW MATERIALS

CHANGED PRODUCT SPECIFICATIONS

MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	1999 / 1998 =		
<i>Glycol Ethers</i>			9,224	15,112	14,500	14,500	1999	15,112	1999 / 1998 = 0.98	No

**Process Code** P36 SILICONE RUBBER/ELECTRONIC COMPONENTS MANUFACTURING  
 Intended Activity  
 W19  
 W58  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W81 CHANGED PRODUCT SPECIFICATIONS  
 W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999 / 1998 =		
<i>Toluene</i>	1991	14431	26,183	24,140	8,805	8,105	1998	26,183	1999 / 1998 = 0.98	No
							1999	24,140		

**Process Code** P36 SILICONE RUBBER/ELECTRONIC COMPONENTS MANUFACTURING  
 Intended Activity  
 W19  
 W58  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W81 CHANGED PRODUCT SPECIFICATIONS  
 W42 SUBSTITUTED RAW MATERIALS  
 W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999 / 1998 =		
<i>Xylene (mixed isomers)</i>	1991	28594	556,127	437,962	388,000	388,000	1998	556,127	1999 / 1998 = 0.98	No
							1999	437,967		

**Process Code** P36 SILICONE RUBBER PRODUCTS MANUFACTURING/ ELECTRONIC COMPONENTS MANUFACTURING  
 Intended Activity  
 W19  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58  
Employed Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W42 SUBSTITUTED RAW MATERIALS  
W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Goodhue County, City of KENYON -- FOLDCRAFT COMPANY -- ERCID -- 250790015**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1994	3062	7,721	2,790	2,790	0	1998 7,721 1999 2,790	1999 / 1998 = 0.96	No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F10 CONVERSION FROM FIBERGLASS TO POLYURETHANE IS STILL IN THE PROCESS OF CHANGEOVER. IF THE RESEARCH AND DEVELOPMENT AND INDUSTRIAL ENGINEER WERE ASSIGNED OTHER PROJECTS, THE COMPLETION COULD BE DELAYED.

**Goodhue County, City of PINE ISLAND -- LAND O'LAKES, INC. -DAIRY PRODUCTION DIV. -- ERCID -- 250990001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1996	533					1998 42,713 1999 22,556	1999 / 1998 = 3.57	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** TO CONTROL NITRATE COMPOUNDS GENERATION, THE SOURCE CHEMICAL WILL BE USED ONLY AS REQUIRED BY THE FDA. EXCESSIVE USE OF THE NITRATE COMPOUND PRODUCING CHEMICALS WILL BE AVOIDED. CHANGES WILL BE IMPLEMENTED WHEN TECHNICALLY AND ECONOMICALLY FEASIBLE.

**Non Numeric Progress:** TO CONTROL NITRATE COMPOUNDS GENERATION, THE SOURCE CHEMICAL WILL BE USED ONLY AS REQUIRED BY THE FDA. THE WASTEWATER TREATMENT FACILITY WILL BE RUN AS EFFICIENTLY ASS POSSIBLE. REDUCTION IS NOT TECHNICALLY OR ECONOMICALLY FEASIBLE AT THS TIME.

**Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Goodhue County, City of RED WING -- ARCHER DANIELS MIDLAND CO. -- ERCID -- 251100005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1995	540014					1998 325,654	1999 / 1998 = 1.07	Yes
							1999 248,112		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Intended Activity

W52

W14

W13

Employed Activity

W13

W52

W14

MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** TO CONTINUE TO REDUCE THE AMOUNT OF N-HEXANE USED BY BETTER MAINTENANCE OF PUMPS, PIPING, CONVEYORS AND DISTILLATION EQUIPMENT AND BY HAVING FEWER BREAKDOWNS, SWITCH OVERS AND START UPS.

**Non Numeric Progress:** EVEN THOUGH OUR TONNAGE PROCESSED WAS HIGHER IN 1999 THAN IN 1998, OUR USE OF N-HEXANE WAS LESS BECAUSE OF BETTER MAINTENANCE AND MORE CONSISTENT PROCESSING.

**Goodhue County, City of RED WING -- DAYCO PTI INC. -- ERCID -- 251100010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1998	2634					1998 2,634	1999 / 1998 = 0.9	Yes
							1999 1,430		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W52

Employed Activity

W90

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** WILL REVIEW USE AND LOOK AT WAYS OF REDUCING USE.

**Non Numeric Progress:** WILL REVIEW USE AND LOOK AT WAYS OF REDUCING USE.

**Goodhue County, City of RED WING -- RED WING SHOES CO. - PLANT 1 -- ERCID -- 251100008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1999	17261	15,764	17,261	14,976	14,227	1998 15,764 1999 17,261	1999 / 1998 = 0.77	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Goodhue County, City of RED WING -- RED WING SHOES CO. - PLANT II -- ERCID -- 251100001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1999	12741	12,505	12,741	11,880	11,286	1998 12,505 1999 12,741	1999 / 1998 = 0.85	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Goodhue County, City of RED WING -- S.B. FOOT TANNING -- ERCID -- 251100002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1993	48008					1998 72,944 1999 59,886	1999 / 1998 = 0.97	No

**Process Code** P31 TANNING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** A POSSIBILITY OF DEVELOPING A PRODUCT WITH PHOENIX BIOCOSMOSIS EXISTS AND WE ARE INTERESTED, BUT NOTHING DEFINITE IS IN THE PIPELINE.

**Non Numeric Progress:** A POSSIBILITY OF DEVELOPING A PRODUCT WITH PHOENIX BIOCOSMOSIS EXISTS AND WE ARE INTERESTED, BUT NOTHING DEFINITE IS IN THE PIPELINE.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formic Acid</i>	1994	10649					1998 9,094 1999 10,202	1999 / 1998 = 0.97	No

**Process Code** P31 TANNING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** ALL AQUEOUS FORMIC ACID IS NEUTRALIZED.

**Non Numeric Progress:** NO PLAN TO REDUCE THE EMISSIONS.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1993	82982					1998 92,580 1999 122,600	1999 / 1998 = 0.97	No

**Process Code** P31 TANNING  
Intended Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** USAGE HAS INCREASED AS WE MOVED TO WATER BASED FINISHES. FASHION IN FOOTWEAR CALLS FOR ANILINE OR NON-PIGMENTED FINISHED LEATHERS. THIS REQUIRES DYES TO BE MIXED WITH GLYCOL ETHER TO CARRY THE DYE INTO THE LEATHER.

**Non Numeric Progress:** USAGE HAS INCREASED AS WE MOVED TO WATER BASED FINISHES. FASHION IN FOOTWEAR CALLS FOR ANILINE OR NON-PIGMENTED FINISHED LEATHERS. THIS REQUIRES DYES TO BE MIXED WITH GLYCOL ETHER TO CARRY THE DYE INTO THE LEATHER.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Goodhue County, City of RED WING -- USG INTERIORS, INC. -- ERCID -- 251100009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Carbonyl Sulfide</i>	1996	279273					1998 282,820 1999 385,233	1999 / 1998 = 0.74	Yes

**Process Code** P36 MANUFACTURE OF MINERAL FIBER  
Intended Activity  
W58 ALTERNATIVES FOR REDUCTION WERE INVESTIGATED.

Employed Activity  
W58 A THERMAL OXIDIZER FOR EXHAUST GASES WAS INSTALLED.

**Non Numeric Objective:** INVESTIGATE AND COMPLETE EVALUATION OF THE OPTIONS FOR REDUCTION BY 12-1-98. CONDUCT FEASIBILITY STUDY OF USING ALTERNATIVE TECHNOLOGIES, AND BEGIN INVESTIGATING ALTERNATIVE PROCESS METHODS AND POSSIBLE MODIFICATIONS TO POLLUTION CONTROL EQUIPMENT.

**Non Numeric Progress:** A THERMAL OXIDIZER FOR EXHAUST GASES WAS PLACED IN OPERATION IN JUNE 1999.

**Grant County, City of BARRETT -- TWF INDUSTRIES, INC. -- ERCID -- 260100004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1993	19891					1998 15,128 1999 15,703	1999 / 1998 = 1.04	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W39 CONTINUE EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.  
W49 CONTINUE RESEARCHING SUBSTITUTING HIGH VOC SOLVENT WITH POWDER COATING.  
W49 CONTINUE RESEARCHING SUBSTITUTING HIGH VOC SOLVENT WITH POWDER COATING.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W58 CONTINUE TO INCREASE USE OF THE CONVEYOR AND REDUCE THE AMOUNT OF BATCH PAINTING.  
W42 SUBSTITUTED RAW MATERIALS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W39 CONTINUE EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W49 CONTINUED RESEARCHING SUBSTITUTING HIGH VOC SOLVENT WITH POWDER COATING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- W42 SUBSTITUTED RAW MATERIALS
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W39 CONTINUED EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.
- W49 CONTINUE RESEARCHING SUBSTITUTING HIGH VOC SOLVENT WITH POWDER COATING.
- W58 CONTINUED TO INCREASE USE OF THE CONVEYOR AND REDUCE THE AMOUNT OF BATCH PAINTING.
- W39 CONTINUE EMPLOYEE TRAINING IN PROPER JOB MANAGEMENT AND MATERIAL HANDLING.

**Non Numeric Objective:** PLAN TO CONTINUE IN THE ATTEMPT TO DECREASE OUR EMISSIONS OF METHYL ETHYL KETONE BY 1.5% PER YEAR OVER THE NEXT THREE YEARS.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. BY IMPLEMENTING POLLUTION PREVENTION ACTIVITIES, WE WERE ABLE TO DECREASE METHYL ETHYL KETONE USE BY APPROXIMATELY 4%.

**Barriers to P2:** F10 AS PRODUCTION INCREASES, SO DOES THE AMOUNT OF METHYL ETHYL KETONE USED AND EMITTED.

**Hennepin County, City of BLOOMINGTON -- CENTURY MANUFACTURING CO. -- ERCID -- 270050112**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1997	10100	7,700	5,500	5,200	5,000	1998 7,700	1999 5,500	1999 / 1998 = 1.12	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

- W19 CONTINUES UTILIZING EMPLOYEE AWARENESS PROGRAMS TO ADDRESS PROCESS AND REWORK ISSUES.
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W42 SUBSTITUTED RAW MATERIALS

Employed Activity

- W19 CONTINUES TO WORK WITH VENDORS TO ACCURATELY ORDER AND SIZE ROLLS OF MAGNET WIRE.
- W42 SUBSTITUTED RAW MATERIALS

**Hennepin County, City of BLOOMINGTON -- CHEMREX INC. -- ERCID -- 270050008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1996	6256	5,945	5,632	5,632	5,319	1998 10,200	1999 34,350	1999 / 1998 = 1.16	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W42 SUBSTITUTED RAW MATERIALS
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Employed Activity

- W90 NOT APPLICABLE

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 IMPROVED, IMPLEMENTED AND CLOSELY MONITORED SOLVENT USAGE FOR CLEANING AND HANDLING PRACTICES.  
Employed Activity  
W31 IMPROVED STORAGE OR STACKING PROCEDURES

**Barriers to P2:** F10 PRODUCTION INCREASED 16% FROM 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	2000		
<i>Xylene (mixed isomers)</i>	1996	870	866	861	856	856	1999	5,470	1999 / 1998 = 1.16	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS  
W68 IMPROVED RINSE EQUIPMENT OPERATION  
W49 PRODUCT REFORMULATED USING LESS SOLVENT TO MEET A.I.M. VOC REGULATIONS.

Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F10 LARGE INCREASE IN PRODUCT DEMAND AFTER REFORMULATIONS, WHICH IMPROVED QUALITY AND MET PRODUCT V.O.C. REQUIREMENTS.  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES

**Hennepin County, City of BLOOMINGTON -- CYPRESS SEMICONDUCTOR -- ERCID -- 270050010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1998	38	38	10	12	12	1998	26,860	1999 / 1998 = 0.82	No
							1999	10,114		

**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W58 REDUCE THE CONCENTRATION OF THE STRIPPING BATH (LOWER EMISSIONS).  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Hennepin County, City of BLOOMINGTON -- FLAME METALS, PLANT #3 -- ERCID -- 270050080**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Tetrachloroethylene</i>	1995	60668	39,100	24,100	0	0	1998 39,100 1999 24,100	1999 / 1998 = 0.96	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Hennepin County, City of BLOOMINGTON -- PRINTED CIRCUITS, INC. -- ERCID -- 270050007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1997	9900					1998 3,633 1999 4,724	1999 / 1998 = 1.07	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity W58 REVIEW CURRENT PROCESSES AND LOOK AT WAYS TO REDUCE DRAGOUTS AND CONTAINERS WITH RESIDUAL COMPOUNDS.  
 Employed Activity W58 CHANGE SOME PROCESSES SLIGHTLY AND NOTICED A REDUCTION OF TREATMENT CHEMICALS USED.  
**Non Numeric Objective:** INSTITUTE TIGHTER PROCESSING LIMITS TO REDUCE THE AMOUNT GOING TO PRE-TREATMENT. TRY TO REDUCE THE AMOUNT OF SCRAP PRODUCT BEING SENT FOR RECLAMATION.  
**Non Numeric Progress:** INSTITUTE TIGHTER PROCESSING LIMITS TO REDUCE THE AMOUNT GOING TO PRE-TREATMENT. TRY TO REDUCE THE AMOUNT OF SCRAP PRODUCT BEING SENT FOR RECLAMATION.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of BLOOMINGTON -- SEAGATE TECHNOLOGY, INC. -- ERCID -- 270050005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1996	19203	33,139	29,370	33,000	33,000	1998 33,139 1999 29,370	1999 / 1998 = 0.87	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W53 USE OF A DIFFERENT PROCESS CATALYST  
Employed Activity W53 USE OF A DIFFERENT PROCESS CATALYST

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-methyl-2-pyrrolidone</i>	1996	295898	533,722	483,144	500,000	500,000	1998 533,722 1999 483,144	1999 / 1998 = 0.87	No

**Process Code** P30 STRIPPING ANY COATING  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of BLOOMINGTON -- THERMO KING CORP. -- ERCID -- 270050009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1995	34000					1998 50,003 1999 7,605	1999 / 1998 = 1	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** NO NUMERIC OBJECTIVE. PRODUCTION DEMANDS FLUCTUATES. WE ARE NOT EXPECTING A SIGNIFICANT REDUCTION IN THE UTILIZATION OF COPPER FOR THE NEXT YEAR.

**Non Numeric Progress:** NO NON-NUMERIC OBJECTIVE.

**Hennepin County, City of BLOOMINGTON -- VTC, INC. D.B.A. POLARFAB -- ERCID -- 270050011**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.55	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1995	13436					14,646	15,849	No	

**Process Code** P04  
Intended Activity  
W58

CHEMICAL MILLING (ETCHING)

ENGINEERS WILL INVESTIGATE THE USE OF MORE DILUTE HF ACID ETCH MIXTURES. PLANNING THE INSTALLATION OF NEW SPRAY ACID TOOLS WHICH SHOULD BETTER CONTROL THE USE OF HF ACID.

Employed Activity  
W90

NOT APPLICABLE

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.55	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-methyl-2-pyrrolidone</i>	1995	19755					43,370	54,887	No	

**Process Code** P30  
Intended Activity  
W39

STRIPPING ANY COATING

INSTALLED DEDICATED WASTE SOLVENT DRAIN LINES DIRECTLY TO WASTE STORAGE UNITS. THIS MODIFICATION VIRTUALLY ELIMINATES SPILLS, LEAKS, AND PROBLEMS ASSOCIATED WITH SOLVENT WASTE COLLECTION/DISPOSAL.

Employed Activity  
W90

NOT APPLICABLE

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Hennepin County, City of BROOKLYN PARK -- MEDTRONIC INC., PERFUSION SYSTEMS -- ERCID -- 270150084**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.37	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	16,000		
<i>Diisocyanates</i>			22,000	29,000	29,000	29,000	16,000		Yes	

**Process Code** P02  
Intended Activity  
W13

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W90

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1992	86200	22,000	29,000	29,000	29,000	1998 24,330	1999 31,330	1999 / 1998 = 1.2	No

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES

**Hennepin County, City of BROOKLYN PARK -- PEARL MANUFACTURING, INC. -- ERCID -- 270150003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1998	149531	149,531	155,397	187,000	224,000	1998 149,531	1999 155,397	1999 / 1998 = 1.11	No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W49 CONTINUE TO LOOK TOWARDS LOWER STYRENE CONTAINING RESINS, AND WE WILL ADOPT THEM WHEN THEY BECOME FINANCIALLY AVAILABLE.  
 Employed Activity W49 CONTINUE TO LOOK TOWARDS LOWER STYRENE CONTAINING RESINS, AND WE WILL ADOPT THEM WHEN THEY BECOME FINANCIALLY AVAILABLE.  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of BROOKLYN PARK -- THOMAS ENGINEERING CO. -- ERCID -- 270150033**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1991	28,601					91,400	52,928	1999 / 1998 = 0.98	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS  
 Employed Activity W81 CHANGED PRODUCT SPECIFICATIONS

**Non Numeric Objective:** CONTINUE TO WORK FOR BETTER DESIGNS AND NEW TOOLING TO REDUCE THE AMOUNT OF BURR ON OUR PRODUCTS. CONTINUOUSLY LOOKING AT WAYS TO ELIMINATE BURRS ENTIRELY.

**Non Numeric Progress:** DESIGN AND MAINTAIN TOOLING WHICH GENERATES THE BURRS TO MINIMIZE THEIR SIZE AS MUCH AS POSSIBLE. WORK WITH CUSTOMERS TO INCREASE ALLOWABLE BURRS ON THEIR PRODUCTS. 1999 LBS RELEASED WAS 12.

**Barriers to P2:** F10 REDUCE OR ELIMINATE RELEASES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1991	388,015					588,327	484,139	1999 / 1998 = 0.98	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS  
 Employed Activity W81 CHANGED PRODUCT SPECIFICATIONS

**Non Numeric Objective:** CONTINUE TO WORK FOR BETTER DESIGNS AND NEW TOOLING TO REDUCE THE AMOUNT OF BURR ON OUR PRODUCTS. CONTINUOUSLY LOOKING AT WAYS TO ELIMINATE BURRS ENTIRELY.

**Non Numeric Progress:** DESIGN AND MAINTAIN TOOLING WHICH GENERATES THE BURRS TO MINIMIZE THEIR SIZE AS MUCH AS POSSIBLE. WORK WITH CUSTOMERS TO INCREASE ALLOWABLE BURRS ON THEIR PRODUCTS. 1999 LBS RELEASED WAS 15.

**Barriers to P2:** F10 REDUCE OR ELIMINATE RELEASES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1991	13,301					25,648	26,458	1999 / 1998 = 0.98	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS  
 Employed Activity W81 CHANGED PRODUCT SPECIFICATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE TO WORK FOR BETTER DESIGNS AND NEW TOOLING TO REDUCE THE AMOUNT OF BURR ON OUR PRODUCTS. CONTINUOUSLY LOOKING AT WAYS TO ELIMINATE BURRS ENTIRELY.

**Non Numeric Progress:** DESIGN AND MAINTAIN TOOLING WHICH GENERATES THE BURRS TO MINIMIZE THEIR SIZE AS MUCH AS POSSIBLE. WORK WITH CUSTOMERS TO INCREASE ALLOWABLE BURRS ON THEIR PRODUCTS. 1999 LBS RELEASED WAS 1.

**Barriers to P2:** F10 REDUCE OR ELIMINATE RELEASES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1991	15,230					1998 37,591 1999 24,930	1999 / 1998 = 0.98	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W61

CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

Employed Activity

W61

CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Non Numeric Objective:** REDUCE USE AS MUCH AND AS QUICKLY AS POSSIBLE. HAVE REPLACED 4 SOLVENT DEGREASING UNITS WITH AQUEOUS UNITS.

**Non Numeric Progress:** HAVE BEEN CONVERTING TO AN AQUEOUS CLEANING METHOD.

**Hennepin County, City of EDEN PRAIRIE -- APPLIED COATING TECHNOLOGY, INC. -- ERCID -- 270560004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	60390					1998 39,042 1999 32,034	1999 / 1998 = 0.61	Yes

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** NONE

**Non Numeric Progress:** WE WERE CALCULATING THE VOLUME WRONG IN THE PAST. WE USED THE TOTAL VOLUME @ 100% WHEN ACTUALLY THE CONCENTRATION WAS ONLY 65%.

**Hennepin County, City of EDEN PRAIRIE -- DOUGLAS CORPORATION -- ERCID -- 270560076**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1998	11000	11,000	11,600	11,000	11,000	1998 11,000 1999 11,600	1999 / 1998 = 1.11	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 PART OF RAW MATERIAL (PAINT).

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1998	371200	371,200	279,300	205,000	200,000	1998 371,200 1999 283,200	1999 / 1998 = 1.11	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1998	12366	12,366	15,146	12,000	12,000	1998 12,400 1999 18,600	1999 / 1998 = 1.11	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 CONSTITUENT OF THE RAW MATERIAL FORMULATION (PAINT).

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1998	60070	60,070	32,295	35,000	35,000	1998 60,100 1999 35,600	1999 / 1998 = 1.11	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W89 SWITCHED FROM TOLUENE AS A PAINT REDUCER TO MEK ON SOME PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1998	10213	8,800	10,213	7,000	7,000	1999 12,800	1999 / 1998 = 1.11	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 CONSTITUENT OF THE RAW MATERIAL (PAINT).

**Hennepin County, City of EDEN PRAIRIE -- EATON CORP. - HYDRAULICS DIV. -- ERCID -- 270560020**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1996	39418					1998 31,464 1999 7,556	1999 / 1998 = 0	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W49 INVESTIGATE NEW MATERIALS THAT MEET PRODUCT AND CUSTOMERS REQUIREMENTS.  
 Employed Activity W58 OUTSIDE CONTRACT MACHINING FOR SELECT COMPONENTS.  
**Non Numeric Objective:** 99% OF THIS WASTE IS RECYCLED. IT WOULD NOT BE FEASIBLE TO ATTEMPT RECOVERY OF THIS SMALL REMAINING AMOUNT THAT MAY BE RELEASED.  
**Non Numeric Progress:** 99% OF THIS WASTE IS RECYCLED. IT WOULD NOT BE FEASIBLE TO ATTEMPT RECOVERY OF THIS SMALL REMAINING AMOUNT THAT MAY BE RELEASED.  
**Barriers to P2:** F10 INCREASE IN PRODUCTION LEVELS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Hennepin County, City of EDEN PRAIRIE -- GUSTAFSON, INC. -- ERCID -- 270560069**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1993	4527					1998 5,891 1999 7,863	1999 / 1998 = 0.8	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W19

LESS PRODUCTION

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W90

NOT APPLICABLE

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W19

LESS PRODUCTION

Employed Activity

W90

NOT APPLICABLE

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity

W19

LESS PRODUCTION

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** WILL BE REUSING WASHWATER TO REDUCE THE NEED TO RELEASE IT TO THE POTW. ANY FURTHER REDUCTION WOULD BE DUE TO AN ACTUAL REDUCTION IN MANUFACTURING.

**Non Numeric Progress:** A PLASMA CUTTING MACHINE WAS PURCHASED IN 1996 WHICH CUT THE METAL MORE PRECISELY AND REDUCED THE AMOUNT OF SCRAP. PLAN TO CONTINUE TO RESEARCH WAYS TO FURTHER REDUCE EMISSIONS.

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 UNTIL A COMPARABLE METAL WITHOUT CHROMIUM IS DEVELOPED, P2 IS LIMITED.

**Hennepin County, City of EDINA -- FILMTEC CORP. -- ERCID -- 270600002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>1,3-phenylenediamine</i>	1998	18000					1998 18,000 1999 35,449	1999 / 1998 = 1.47	Yes

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL

Intended Activity

W90

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** USAGE IS DIRECTLY RELATED TO PRODUCTION. WE ARE EXAMINING BETTER CONTAINMENT, MAINTAINING PRODUCTION RATIO AND BETTER USE BY REDUCING VARIABILITY AND IMPROVED OPERATING DISCIPLINE.  
**Non Numeric Progress:** EXAMINED METHODS FOR BETTER CONTAINMENT AND MORE CONTROLLED MAINTENANCE OF CONCENTRATION USED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1991	23200					1998 18,217 1999 36,135		1999 / 1998 = 1.47	Yes

**Process Code** P15 HEAT TREATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** METHANOL USAGE IS DRIVEN BY CUSTOMER DEMAND AND IS DETERMINED BY SALES/PRODUCTION QUANTITIES OF CERTAIN TYPES OF PRODUCT. TEST YIELDS/PRODUCT PERFORMANCE ALSO AFFECTS USAGE.  
**Non Numeric Progress:** WE HAVE BEEN EXAMINING WAYS TO REDUCE AND/OR ELIMINATE THE USE OF METHANOL AND EXAMINING ALTERNATIVES TO REPLACE METHANOL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N,n-dimethylformamide</i>	1995	759600					1998 1,289,482 1999 2,029,093		1999 / 1998 = 1.47	Yes

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** INVESTIGATE/RESEARCH TECHNOLOGICAL FEASIBILITY FOR RECYCLING DMF FOR OUR PROCESS.  
**Non Numeric Progress:** HAVE EXAMINED THE TECHNOLOGY INVOLVED IN RECYCLING AS WELL AS THE COST TO IMPLEMENT AND MAINTAIN A RECYCLING PROCESS FOR DMF. ENGINEERS HAVE BEEN ASSIGNED TO INVESTIGATE.

**Hennepin County, City of GOLDEN VALLEY -- HONEYWELL -- ERCID -- 270700001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1990	12250	300	295	290	285	1998 14,497 1999 9,770		1999 / 1998 = 0.98	No

**Process Code** P01 CASTING ANY MATERIAL

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1990	1191197	400	390	380	370	382,074	329,500	1999 / 1998 = 0.98	No

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead</i>	1990	11250	260	255	250	245	10,221	10,487	1999 / 1998 = 0.98	Yes

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity  
W19 BETTER MANAGEMENT OF MATERIALS.  
Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1988	14920	2,474	2,400	2,300	2,200	1998 7,250 1999 7,971	1999 / 1998 = 0.98	No

- Process Code** P15 HEAT TREATING
  - Intended Activity W19 BETTER MANAGEMENT OF MATERIALS.
  - Employed Activity W19 BETTER MANAGEMENT OF MATERIALS.
- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
  - Intended Activity W19 BETTER MANAGEMENT OF MATERIALS.
  - Employed Activity W19 BETTER MANAGEMENT OF MATERIALS.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1992	7033	280	275	270	265	1998 8,300 1999 6,675	1999 / 1998 = 0.98	No

- Process Code** P01 CASTING ANY MATERIAL
  - Intended Activity W19 BETTER MANAGEMENT OF MATERIALS.
  - Employed Activity W19 BETTER MANAGEMENT OF MATERIALS.
- Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)
  - Intended Activity W19 BETTER MANAGEMENT OF MATERIALS.
  - Employed Activity W19 BETTER MANAGEMENT OF MATERIALS.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1988	235000	21,722	21,000	20,000	19,000	1998 26,112 1999 29,162	1999 / 1998 = 0.98	No

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
  - Intended Activity W59 MODIFIED STRIPPING / CLEANING EQUIPMENT
  - W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19 BETTER MANAGEMENT OF MATERIALS

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Hennepin County, City of GOLDEN VALLEY -- TENNANT CO. -- ERCID -- 270700010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1990	31000					1998 40,484 1999 36,950	1999 / 1998 = 0.96	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
W49 OTHER RAW MATERIAL MODIFICATIONS.

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** EVALUATE THE AVAILABLE OPTIONS RELATIVE TO OPERATIONAL AND BUSINESS NEEDS AND DEMANDS. OUR "PAINT FINISHING GROUP" IS CURRENTLY REVIEWING SEVERAL PAINTING ALTERNATIVES.

**Non Numeric Progress:** ADDITIONAL OPTIONS TO SIGNIFICANTLY REDUCE XYLENE EMISSIONS FROM THE EXISTING PAINT OPERATIONS ARE MINIMAL AT BEST. CHANGING THE PAINTING TECHNOLOGY MUST BE CONSIDERED. OUR "PAINT FINISHING GROUP" IS REVIEWING SEVERAL PAINTING ALTERNATIVES.

**Barriers to P2:** F10 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION IN PROCESS.

**Hennepin County, City of HAMEL -- QX, INC. -- ERCID -- 270870008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1996	4038	6,897	6,434	0	0	1998 7,104		Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Hennepin County, City of HOPKINS -- HONEYWELL ADVANCED CIRCUITS -- ERCID -- 270950001**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1991	N/A					1998 35,509 1999 46,437		1999 / 1998 = 1.11	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity W19 MAXIMIZE PART DENSITY PER PANEL AND MINIMIZE EXPOSURE TO COPPER ON PANELS.  
 Employed Activity W19 MAXIMIZE PART DENSITY PER PANEL AND MINIMIZE EXPOSURE TO COPPER ON PANELS.  
**Non Numeric Objective:** CONTINUE TO MAKE EFFICIENT USE OF PRINTED CIRCUIT BOARD PANELS TO REDUCE COPPER GENERATION PER PANEL.  
**Non Numeric Progress:** DESIGN ENGINEERS CONTINUE TO MAXIMIZE PART DENSITY PER BOARD.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1998	12723					1998 13,232 1999 9,537		1999 / 1998 = 1.11	Yes

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
 Intended Activity W19 MAXIMIZE PART DENSITY PER PANEL AND MINIMIZING SCRAP.  
 Employed Activity W19 MAXIMIZE PART DENSITY PER PANEL AND MINIMIZING SCRAP.  
**Non Numeric Objective:** MINIMIZE NICKEL GENERATION BY MAXIMIZING PART DENSITY ON EACH BOARD AND BY REDUCING SCRAP PARTS.  
**Non Numeric Progress:** MINIMIZE NICKEL GENERATION BY MAXIMIZING PART DENSITY ON EACH BOARD AND BY REDUCING SCRAP PARTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1997	66391					1998 137,116 1999 176,563		1999 / 1998 = 1.11	Yes

**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity W58 PLAN ON INSTALLING NEW ELECTROLESS NICKEL TANKS WITH ANODIC LINERS.  
 Employed Activity W58 NEW ELECTROLESS NICKEL TANKS WITH ANODIC LINERS HAVE BEEN PURCHASED.  
**Non Numeric Objective:** NITRIC ACID IS USED TO ETCH NICKEL AND TIN. WE MINIMIZE THE AMOUNT OF NICKEL PLATED TO PROCESS TANKS AND MAXIMIZE THE PART DENSITY ON EACH BOARD.  
**Non Numeric Progress:** NITRIC ACID IS USED TO ETCH NICKEL AND TIN. WE MINIMIZE THE AMOUNT OF NICKEL PLATED TO PROCESS TANKS AND MAXIMIZE THE PART DENSITY ON EACH BOARD.

Hennepin County, City of HOPKINS -- KANGAS ENAMELING -- ERCID -- 270950044

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1996	800					1998 13,520 1999 10,530	1999 / 1998 = 0.93	Yes
<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)								
Intended Activity	W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES								
	W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE								
	W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES								
Employed Activity	W90 NOT APPLICABLE								
<b>Non Numeric Objective:</b>	SPILL AND LEAK PREVENTION; INVENTORY CONTROL; PROCESS MODIFICATION AND OPERATOR TRAINING.								
<b>Non Numeric Progress:</b>	MAINTAIN MONTHLY RECORDKEEPING SYSTEM TO TRACK CHEMICAL USE AND CONTINUE TO INVESTIGATE PROCESS MODIFICATIONS THAT WOULD REDUCE CHEMICAL USE.								

**Hennepin County, City of MAPLE GROVE -- ANCHOR WALL SYSTEMS -- ERCID -- 271150035**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1993	14,871	25,476	19,324	21,126	22,928	1998 25,476 1999 19,324	1999 / 1998 = 0.88	No

<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)								
Intended Activity	W74 IMPROVED APPLICATION TECHNIQUES								
	W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING								
	W42 SUBSTITUTED RAW MATERIALS								
Employed Activity	W49 CONTINUE TO RESEARCH ALTERNATIVE PRODUCTS.								
	W42 SUBSTITUTED RAW MATERIALS								

**Barriers to P2:**  
F10 WATER BASED ALTERNATIVES ARE NOT YET UP TO QUALITY STANDARDS.  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of MAPLE GROVE -- UNIVERSAL CIRCUITS, INC. -- ERCID -- 271150026**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1992	34000					1998 40,727 1999 33,878	1999 / 1998 = 0.91	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity  
W58  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W58 SUBSTITUTION OF RAW MATERIAL (RTF COPPER FOIL). CONVERTED PROCESS LINE FOR CLEANING COPPER FOIL.

**Non Numeric Objective:** REDUCE THE AMOUNT OF COPPER THAT IS NECESSARY TO PRODUCE AN ACCEPTABLE PRODUCT FOR OUR CUSTOMERS, WHILE MINIMIZING THE AMOUNT OF SCRAP GENERATED. CONTINUE TO RECYCLE ALL WASTES PRODUCED IN AN ENVIRONMENTALLY FRIENDLY FASHION.

**Non Numeric Progress:** RTF COPPER FOIL, BECAUSE OF ITS PHYSICAL CHARACTERISTICS, HAS INCREASED YIELDS AND REDUCED THE AMOUNT OF CLEANING REQUIRED. CHEMICAL CLEANING HAS INCREASED YIELDS ALLOWING LESS COVERAGE TO BE REQUIRED, THUS REDUCING THE AMOUNT OF COPPER NEEDED.

**Hennepin County, City of MAPLE GROVE -- UNIVERSAL PLASTICS, INC. -- ERCID -- 271150028**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1992	2649	3,087	3,012	3,450	3,650	1998 3,087	1999 3,012	1999 / 1998 = 0.86	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W78 CONTINUING TO STAY IN TOUCH WITH CONTACTS. PURCHASE OF FLOWCOAT SYSTEM. EVALUATING USE OF LASER TRIMMER.  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Hennepin County, City of MAPLE PLAIN -- ELECTROCHEMICALS, INC. -- ERCID -- 271200010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper Compounds	1996	781	927	2,015	1,608	1,688	1998 927	1999 2,015	1999 / 1998 = 1.91	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 Employed Activity  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 Employed Activity  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
**Process Code** P10 ELECTROPLATING  
 Intended Activity  
 W31 IMPROVED STORAGE OR STACKING PROCEDURES  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Employed Activity  
 W31 IMPROVED STORAGE OR STACKING PROCEDURES  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Barriers to P2:**  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	1,709		
<i>Glycol Ethers</i>	1995	705	316	1,709	1,794	1,884	1999	1,709	1999 / 1998 = 1.51	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 Employed Activity  
 W24 INSTITUTED BETTER LABELING PROCEDURES  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
Employed Activity  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

**Barriers to P2:**  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.97	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-methyl-2-pyrrolidone</i>	1997	758	2,127	837	396	415	2,127	837		

**Process Code P02** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
Employed Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
**Process Code P03** CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
Employed Activity  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
**Process Code P10** ELECTROPLATING  
Intended Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1996	700	787	1,043	1,095	1,150	1998 787 1999 1,043		No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE

Employed Activity  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
Employed Activity  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Hennepin County, City of MINNEAPOLIS -- APPLIED COATING TECHNOLOGY, INC. -- ERCID -- 271350104**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1999	11000					1998 23,100 1999 12,630		No	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W73 SUBSTITUTED COATING MATERIALS USED

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1996	22000	7,100	22,000			1998 35,697 1999 33,600	1999 / 1998 = 1.21	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1999	10000					1998 14,680 1999 13,000	1999 / 1998 = 1.21	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W73 SUBSTITUTED COATING MATERIALS USED

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1999	10000					1998 34,440 1999 22,400	1999 / 1998 = 1.21	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W73 SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of MINNEAPOLIS -- BOKER'S, INC. -- ERCID -- 271350429**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1999	27345					1998 29,047 1999 27,345		1999 / 1998 = 0.94	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity W19 SEE NON-NUMERIC PROGRESS

Employed Activity W19 SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** EFFICIENT USE, PURCHASING AND INVENTORY CONTROLS, SEEK ALTERNATIVES, ATTEND TRADE SHOWS TO KEEP CURRENT WITH IMPROVING TECHNOLOGIES AND EQUIPMENT, AND TRAIN NEW EMPLOYEES TO ACHIEVE MAXIMUM EFFICIENCY IN DESIGN OF TOOLING AND OPERATION OF MACHINES.

**Non Numeric Progress:** EFFICIENT USE, PURCHASING AND INVENTORY CONTROLS, SEEK ALTERNATIVES, ATTEND TRADE SHOWS TO KEEP CURRENT WITH IMPROVING TECHNOLOGIES AND EQUIPMENT, AND TRAIN NEW EMPLOYEES TO ACHIEVE MAXIMUM EFFICIENCY IN DESIGN OF TOOLING AND OPERATION OF MACHINES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1999	75279					1998 63,490 1999 75,279		1999 / 1998 = 1.19	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity W19 SEE NON-NUMERIC PROGRESS

Employed Activity W19 SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** EFFICIENT USE, PURCHASING AND INVENTORY CONTROLS, SEEK ALTERNATIVES, ATTEND TRADE SHOWS TO KEEP CURRENT WITH IMPROVING TECHNOLOGIES AND EQUIPMENT, AND TRAIN NEW EMPLOYEES TO ACHIEVE MAXIMUM EFFICIENCY IN DESIGN OF TOOLING AND OPERATION OF MACHINES.

**Non Numeric Progress:** EFFICIENT USE, PURCHASING AND INVENTORY CONTROLS, SEEK ALTERNATIVES, ATTEND TRADE SHOWS TO KEEP CURRENT WITH IMPROVING TECHNOLOGIES AND EQUIPMENT, AND TRAIN NEW EMPLOYEES TO ACHIEVE MAXIMUM EFFICIENCY IN DESIGN OF TOOLING AND OPERATION OF MACHINES.

**Hennepin County, City of MINNEAPOLIS -- DAVIS-FROST, INC. -- ERCID -- 271350098**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Dicyclopentadiene</i>	1995	11025	1,441	874	865	856	1998 1,441 1999 874		1999 / 1998 = 0.97	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W23                            ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
Employed Activity  
W14                            CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1993	1222	1,579	942	942	942	1998 1,579	1999 942	1999 / 1998 = 0.97	No

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W29                            LARGER BATCH SIZE USED TO REDUCE WASTE AND BETTER UTILIZE THE EQUIPMENT.  
Employed Activity  
W14                            CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1993	6363	28,916	26,591	25,971	25,351	1998 28,916	1999 26,591	1999 / 1998 = 0.97	Yes

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W14                            CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W14                            CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1993	10430	52,385	58,285	56,342	54,399	1998 52,385	1999 58,285	1999 / 1998 = 0.97	No

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W90                            NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19 IN 1999, WE MOVED PRODUCTION FROM MINNESOTA TO OKLAHOMA.

**Barriers to P2:** F10 WITH AN INCREASE IN PRODUCTION, THE REDUCTION OF XYLENE IS IMPOSSIBLE.

**Hennepin County, City of MINNEAPOLIS -- DIAMOND VOGEL-NORTH, INC. -- ERCID -- 271350079**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1998	250	250	1,311	1,300	1,300	1998 19,247 1999 16,322	1999 / 1998 = 0.97	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluenediisocyanate (mixed isomers)</i>	1998	4282	4,282	2,391	2,300	2,200	1998 4,282 1999 2,391	1999 / 1998 = 0.56	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1998	103480	103,480	8,913	8,000	8,000	1998	103,480	1999 / 1998 = 0.75	No
							1999	88,099		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:**  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of MINNEAPOLIS -- DOUGLAS CORP. -- ERCID -- 271350570**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1998	94400	94,400	106,400	100,000	100,000	1998	94,400	1999 / 1998 = 1.11	No
							1999	106,500		

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W90 NOT APPLICABLE  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:**  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

**Hennepin County, City of MINNEAPOLIS -- ELECTRIC MACHINERY -- ERCID -- 271350109**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1989	45000					15,010	56,025	1999 / 1998 = 0.5	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** THE COPPER THIS COMPANY USES IS IN THE RAW MATERIAL STATE AS WIRE, FORGINGS, AND BAR STOCK. ITS FORMED BY BENDING, CUTTING AND MACHINING. CURRENTLY THERE ARE NO REPLACEMENTS FOR COPPER FOR THIS TYPE OF INDUSTRY.

**Non Numeric Progress:** USES BAG FILTERS WHICH POSSESS A 90-95% EFFICIENCY TO CAPTURE COPPER PARTICULATES. SCRAP PIECES OF COPPER ARE RECYCLED.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1989	15000	1,000	1,000	1,000	1,000	12,460	13,080	1999 / 1998 = 1.2	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 W81 CHANGED PRODUCT SPECIFICATIONS  
 Employed Activity W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity W90 NOT APPLICABLE

**Hennepin County, City of MINNEAPOLIS -- GLOBE TOOL & MFG. CO. -- ERCID -- 271350187**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Trichloroethylene</i>	1995	40000					16,104	24,600	1999 / 1998 = 1.09	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W90 NOT APPLICABLE  
Employed Activity W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
W71 INSTALLED AND BEGAN OPERATING A NEW BATCH VAPOR DEGREASER. THIS UNIT HAS GREATLY REDUCED THE RATIO OF EMISSIONS TO THE NUMBER OF PARTS PRODUCED.

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
F10 THE FACILITY BUSINESS HAS GROWN AND INCREASES IN PRODUCTION LEVELS MAY SHOW INCREASES IN FACILITY EMISSIONS.

**Hennepin County, City of MINNEAPOLIS -- GRACO, INC. -- ERCID -- 271350027**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1995	3					1998 62,015 1999 50,007	1999 / 1998 = 0.94	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** CHROMIUM IS PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF GRACO PRODUCTS.

**Non Numeric Progress:** CHROMIUM IS PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 CHROMIUM IS PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF GRACO PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1995	7					1998 71,041 1999 70,023	1999 / 1998 = 0.94	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Non Numeric Progress:** COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Manganese	1995	3					1998 28,001 1999 28,000	1999 / 1998 = 0.94	No	

**Process Code P18** MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** MANGANESE IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Non Numeric Progress:** MANGANESE IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 MANGANESE IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Nickel	1995	1					1998 39,004 1999 36,002	1999 / 1998 = 0.94	No	

**Process Code P18** MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Non Numeric Progress:** NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1995	40000	26,000	31,000	31,000	31,000	26,200	30,600	1999 / 1998 = 0.94	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W73 SUBSTITUTED COATING MATERIALS USED  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:**  
 F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F10 CHANGES TO LOW VOC COATINGS AND BETTER USE AND CAPTURE OF FLUSH SOLVENT HAS RESULTED IN REDUCED USE AND RELEASES/TRANSFERS. EFFORTS TO FIND A LESS HAZARDOUS SOLVENT TO REPLACE XYLENE CONTINUE.

**Hennepin County, City of MINNEAPOLIS -- HARD CHROME, INC. -- ERCID -- 271350029**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium Compounds</i>	1997	258	72	192	150	150	420	581	1999 / 1998 = 0.99	Yes

**Process Code** P10 ELECTROPLATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyanide Compounds</i>	1992	2018	1,500	1,500	1,000	1,000	17,700	24,310	1999 / 1998 = 0.99	Yes

**Process Code** P10 ELECTROPLATING  
 Intended Activity W58 WASTE TREATMENT SYSTEM IS RESPONSIBLE FOR REDUCTION OF WASTE SHIPPED OFF SITE.  
 Employed Activity W58 WASTE TREATMENT SYSTEM IS RESPONSIBLE FOR REDUCTION OF WASTE SHIPPED OFF SITE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1997	3174	1,316	4,210	2,200	2,200	1998 1,316	1999 4,210	1999 / 1998 = 0.99	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Hennepin County, City of MINNEAPOLIS -- HAWKINS CHEMICAL, INC. -- ERCID -- 271350030**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1997	15					1998 45	1999 67	1999 / 1998 = 1.09	No

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1997	2851					1998 4,687	1999 5,718	1999 / 1998 = 1.22	No

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F10 GREATER THAN 95% OF "POLLUTION" IS TREATED RINSEWATER FROM DOT REQUIRED CONTAINER TESTING. THERE IS NO WAY TO REDUCE THE TREATED WASTE UNLESS FEDERAL RULES CHANGE.

**Hennepin County, City of MINNEAPOLIS -- HONEYWELL, INC. - MSPO -- ERCID -- 271350033**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1993	32,400	15,000	15,000	15,000	15,000	1998 12,420	1999 / 1998 = 0.96	Yes
							1999 13,752		

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity
- W71 IMPLEMENTATION OF MAXIMUM ACHIEVEABLE CONTROL TECHNOLOGY METHODS.
  - W64 IMPROVED DRAINING PROCEDURES
  - W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT
- Employed Activity
- W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT
  - W71 IMPROVED/INCREASED MAINTENANCE, AUTOMATED PARTS HANDLING SYSTEMS, REDUCED ROOM DRAFT, 100% FREEBOARD AND UTILIZING DWELL TIME.
  - W64 IMPROVED DRAINING PROCEDURES

**Hennepin County, City of MINNEAPOLIS -- ILLBRUCK, INC. -- ERCID -- 271350288**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1991	20254					1998 19,456	1999 / 1998 = 1.2	Yes
							1999 19,339		

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity
- W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)
  - W42 SUBSTITUTED RAW MATERIALS
  - W64 IMPROVED DRAINING PROCEDURES
- Employed Activity
- W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)
- Process Code** P16 LAMINATING/PRESSING ANY MATERIAL
- Intended Activity
- W42 SUBSTITUTED RAW MATERIALS
- Employed Activity
- W42 SUBSTITUTED RAW MATERIALS
- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W81 CHANGED PRODUCT SPECIFICATIONS  
W49 SOME MODIFICATIONS WERE NECESSARY WHEN USING WATER BASED ADHESIVES.  
Employed Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W49 MODIFICATIONS WERE NECESSARY WHEN USING WATER BASED ADHESIVES.  
W42 SUBSTITUTED RAW MATERIALS

**Hennepin County, City of MINNEAPOLIS -- INTERPLASTIC CORP. -- ERCID -- 271350108**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R. 1999 / 1998 = 1.03	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Dicyclopentadiene</i>	1991	255					1998 9,613 1999 14,769	No	

**Process Code P02** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W39 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.  
Employed Activity  
W39 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. BEGAN INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER.  
W19 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. BEGAN INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code P03** CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.  
W39 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

Employed Activity  
W39 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES. USE OF GOOD OPERATING PRACTICES. CONTINUE VENTING OF KETTLES AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** VENTING OF KETTLES AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER, GOOD OPERATING PRACTICES, COMPLETED INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. INSTALLED LOCKING CAPS ON UNLOADING LINES.

**Barriers to P2:** F10 CHANGE IN BLOWER SYSTEM AND REPLACEMENT OF BLOWERS DELAYED PROGRESS OF COMPLETING THE DUAL BLOWER SYSTEM TO THE EXISTING OXIDIZER. OTHER OBJECTVES WERE MET.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.03	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylene Glycol</i>	1991	5					2,434	2,893	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

**Intended Activity**  
W39 CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Employed Activity**  
W39 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND GOOD OPERATING PRACTICES. INVESTIGATED FUME LINE REPLACEMENT TO EXISTING OXIDIZER.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES. USE OF GOOD OPERATING PRACTICES. CONTINUE VENTING OF KETTLE EMISSIONS TO THE THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** VENTING OF THINNING AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER, GOOD OPERATING PRACTICES, MADE SIGNIFICANT PROGRESS ON FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. INSTALLED LOCKING CAPS ON UNLOADING LINES.

**Barriers to P2:** F10 CHANGE IN BLOWER SYSTEM AND REPLACEMENT OF BLOWERS DELAYED PROGRESS OF COMPLETING THE DUAL BLOWER SYSTEM TO THE EXISTING OXIDIZER.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.03	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Maleic Anhydride</i>	1991	255					21,423	18,486	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

**Intended Activity**  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER.

**Employed Activity**  
W39 COMPLETED THE INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. SYSTEM HAS NOT YET BEEN PUT INTO SERVICE.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** EVALUATE TECHNOLOGICAL DEVELOPMENTS THAT WOULD ALLOW FOR PRACTICAL REDUCTIONS. USE OF GOOD OPERATING PRACTICES AND VENTING OF REACTOR EMISSIONS TO THE EXISTING THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** COMPLETED INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. SYSTEM HAS NOT YET BEEN PUT IN SERVICE. OTHER POLLUTION CONTROL OPTIONS CONTINUED TO BE EVALUATED.

**Barriers to P2:** F10 CHANGE IN BLOWER SYSTEM AND REPLACEMENT OF BLOWERS DELAYED PROGRESS OF COMPLETING THE DUAL BLOWER SYSTEM TO THE EXISTING OXIDIZER. OTHER OBJECTIVES WERE MET.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.03	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Methacrylate</i>	1997	265					677	170	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

**Intended Activity**  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W19 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

W39 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W39 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

**Process Code** P03  
CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W19 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

W39 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

Employed Activity  
W19 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W39 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES. USE OF GOOD OPERATING PRACTICES. CONTINUE VENTING OF THINNING AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** VENTING OF THINNING AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER, GOOD OPERATING PRACTICES, MADE SIGNIFICANT PROGRESS ON FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. INSTALLED LOCKING CAPS ON UNLOADING LINES.

**Barriers to P2:** F10 TECHNOLOGICAL COMPLICATIONS WERE ENCOUNTERED DUE TO ENGINEERING DESIGN, SPECIFICATION AND ABILITY TO CONTROL PARTICULATE EMISSIONS FOR VOC MIXING EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phthalic Anhydride</i>	1991	2243					6,493	5,823	1999 / 1998 = 1.03	No

**Process Code** P02  
CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W39 GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. COMPLETE INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER.

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W39 COMPLETED THE INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. SYSTEM HAS NOT YET BEEN PUT INTO SERVICE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** EVALUATE TECHNOLOGICAL DEVELOPMENTS THAT WOULD ALLOW FOR PRACTICAL REDUCTIONS. USE OF GOOD OPERATING PRACTICES AND VENTING OF REACTOR EMISSIONS TO THE EXISTING THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** COMPLETED INSTALLATION OF FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. SYSTEM HAS NOT YET BEEN PUT IN SERVICE. OTHER POLLUTION CONTROL OPTIONS CONTINUED TO BE EVALUATED.

**Barriers to P2:** F10 CHANGE IN BLOWER SYSTEM AND REPLACEMENT OF BLOWERS DELAYED PROGRESS OF COMPLETING THE DUAL BLOWER SYSTEM TO THE EXISTING OXIDIZER. OTHER OBJECTIVES WERE MET.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1991	30730					355,122	148,861	1999 / 1998 = 1.03	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W39

EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

W19 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES.

W52 INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

Employed Activity  
W39

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W19 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W39 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES. INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

W19 EVALUATE VAPOR RECOVERY SYSTEM FOR ALL MIXING OPERATIONS. CONTINUE GOOD OPERATING PRACTICES AND EVALUATION OF POLLUTION CONTROL ALTERNATIVES.

INVESTIGATE FUME LINE REPLACEMENT FOR EXISTING OXIDIZER.

Employed Activity  
W39

GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W19 GOOD OPERATING PRACTICES, EVALUATION OF POLLUTION CONTROL ALTERNATIVES, VENT UST AND THINNING OPERATIONS TO EXISTING OXIDIZER, COMPLETED FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO OXIDIZER.

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES. USE OF GOOD OPERATING PRACTICES. CONTINUE VENTING OF THINNING AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER. SECOND THERMAL OXIDIZER TO BECOME OPERATIONAL.

**Non Numeric Progress:** VENTING OF THINNING AND UNDERGROUND STORAGE EMISSIONS TO THE THERMAL OXIDIZER, GOOD OPERATING PRACTICES, MADE SIGNIFICANT PROGRESS ON FUME LINE REPLACEMENT AND DUAL BLOWER SYSTEM TO EXISTING OXIDIZER. INSTALLED LOCKING CAPS ON UNLOADING LINES.

**Barriers to P2:** F10 TECHNOLOGICAL COMPLICATIONS WERE ENCOUNTERED DUE TO ENGINEERING DESIGN, SPECIFICATION AND ABILITY TO CONTROL PARTICULATE EMISSIONS FOR VOC MIXING EMISSIONS.

**Hennepin County, City of MINNEAPOLIS -- LEJEUNE STEEL CO. -- ERCID -- 271350226**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1993	20934					1998 8,212 1999 5,971	1999 / 1998 = 0.94	Yes	

- Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
- Intended Activity W58 SUBSTITUTED BOLTED CONNECTIONS FOR WELDED JOINTS WHENEVER POSSIBLE. IMPLEMENTED AN INVENTORY PROCESSING SYSTEM TO IMPROVE THE EFFICIENCY OF CUTTING STEEL.
- W29 SUBSTITUTED BOLTED CONNECTIONS FOR WELDED JOINTS WHENEVER POSSIBLE. IMPLEMENTED AN INVENTORY PROCESSING SYSTEM TO IMPROVE THE EFFICIENCY OF CUTTING STEEL.
- Employed Activity W90 NOT APPLICABLE
- Non Numeric Objective:** POLLUTION PREVENTION TEAM MEETS SEMI-ANNUALLY. STEEL ALLOY MIXES ARE SPECIFIED BY CUSTOMERS MAKING SUBSTITUTIONS NOT AN OPTION. USE BOLTED CONNECTIONS INSTEAD OF WELDED JOINTS. IMPLEMENT INVENTORY PROCESSING SYSTEM TO IMPROVE EFFICIENCY.
- Non Numeric Progress:** POLLUTION PREVENTION TEAM MEETS SEMI-ANNUALLY. STEEL ALLOY MIXES ARE SPECIFIED BY CUSTOMERS MAKING SUBSTITUTIONS NOT AN OPTION. USE BOLTED CONNECTIONS INSTEAD OF WELDED JOINTS. IMPLEMENT INVENTORY PROCESSING SYSTEM TO IMPROVE EFFICIENCY.

**Hennepin County, City of MINNEAPOLIS -- LINDBERG CORP., METALLURGICAL DIV. -- ERCID -- 271350107**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1992	23000	26,463	30,000	29,700	29,403	1998 36,100 1999 30,000	1999 / 1998 = 0.8	No	

- Process Code** P15 HEAT TREATING
- Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Hennepin County, City of MINNEAPOLIS -- MARIGOLD FOODS, INC. MINNEAPOLIS PLANT -- ERCID -- 271350040**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1994	13500					1998 12,599 1999 18,280	1999 / 1998 = 1	No	

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W59 MODIFIED STRIPPING / CLEANING EQUIPMENT

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W68 IMPROVED RINSE EQUIPMENT OPERATION

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of MINNEAPOLIS -- MENTOR MINNESOTA OPERATIONS -- ERCID -- 271350516**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1994	15200					1998 11,470 1999 10,226	1999 / 1998 = 0.95	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F10 LACK OF ENGINEERING SUPPORT TO DESIGN AND INSTALL NEW COATING APPLICATION PROCESS DUE TO EMPLOYEE TURNOVER.

**Hennepin County, City of MINNEAPOLIS -- NICO PRODUCTS, INC. -- ERCID -- 271350052**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Cyanide Compounds</i>	1991	10800					1998 5,381 1999 5,989	1999 / 1998 = 1.2	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W19  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W19  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1997	2477					1998 2,463 1999 2,125	1999 / 1998 = 0.98	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W19  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W19  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
Employed Activity  
W19  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1991	10300					5,536	21,532	1999 / 1998 = 1.1	No
<b>Process Code</b> P10	ELECTROPLATING									
Intended Activity										
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W19	IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.									
Employed Activity										
W19	IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.									
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
<b>Process Code</b> P19	METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)									
Intended Activity										
W19	IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.									
W42	SUBSTITUTED RAW MATERIALS									
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity										
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W19	IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.									
<b>Process Code</b> P30	STRIPPING ANY COATING									
Intended Activity										
W19	IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.									
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W42                   SUBSTITUTED RAW MATERIALS  
Employed Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W42                   SUBSTITUTED RAW MATERIALS  
W19                   IMPROVED ANALYTICAL CONTROLS AND ULTIMATELY LESS STRIPPING.

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
F10 RE-EVALUATION OF QUANTITIES TREATED ON AND OFF-SITE RESULTED IN AN INCREASE IN NUMBERS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1991	28700					1998 42,167 1999 34,981	1999 / 1998 = 1.08	Yes

**Process Code** P05                   CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W19  
W61                   CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
Employed Activity  
W19                   CONDUCTED OPERATOR TRAINING TO ENSURE WORK STANDARD REQUIREMENTS OF NESHAP ARE USED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1997	45881					1998 46,041 1999 43,984	1999 / 1998 = 1.05	Yes

**Process Code** P10                   ELECTROPLATING  
Intended Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
Employed Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
**Process Code** P19                   METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P30                   STRIPPING ANY COATING  
Intended Activity  
W13                   IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Hennepin County, City of MINNEAPOLIS -- NSP - RIVERSIDE PLANT -- ERCID -- 271350064**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	300,000					1998 330,000 1999 300,000	1999 / 1998 = 0.84	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W29 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.  
W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

Employed Activity  
W29 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.  
W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

**Non Numeric Objective:** IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2 AND PARTICULATES.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	10000					1998 59,000 1999 47,500	1999 / 1998 = 0.84	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

Employed Activity  
W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2 AND PARTICULATES.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrogen Fluoride</i>	1998	27000					1998 62,000 1999 38,000	1999 / 1998 = 0.84	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

Employed Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

**Non Numeric Objective:** IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2 AND PARTICULATES.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1998	16000					1998 21,000 1999 30,000	1999 / 1998 = 0.84	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W90 NOT APPLICABLE

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

Employed Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.

**Non Numeric Objective:** IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2 AND PARTICULATES.

**Barriers to P2:** F10 NO OBJECTIVES FOR 1999.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Sulfuric Acid (aerosol forms only)</i>	1998	23000					1998 37,000 1999 42,000	1999 / 1998 = 0.84	No

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.  
 Employed Activity W49 PURCHASE AND/OR GENERATE RENEWABLE ENERGY AND IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ENERGY.  
**Non Numeric Objective:** IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS.  
**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL SO2, NOX, CO2 AND PARTICULATES.  
**Barriers to P2:** F10 NO OBJECTIVES FOR 1999.

**Hennepin County, City of MINNEAPOLIS -- PARKER - HANNIFIN, GRESEN HYDR. DIV. -- ERCID -- 271350540**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1996	9497					1998 6,300 1999 5,900	1999 / 1998 = 0.98	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 VALVE STEAM MAP LINES. SCRAP WILL BE REDUCED  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** SET UP A SCRAP REDUCTION PROGRAM. MATERIAL SUBSTITUTION. PROCESS MAP VALVE FAMILIES TO UTILIZE TIME AND REDUCE INVENTORY.  
**Non Numeric Progress:** CONTINUE TO INVESTIGATE WAYS TO REDUCE SCRAP AND ANALYZE PROCESS/FLOW TO UTILIZE TIME AND REDUCE INVENTORY.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1996	9497					1998 10,300 1999 9,700	1999 / 1998 = 0.94	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 CONTINUE TO INVESTIGATE WAYS TO REDUCE SCRAP AND ANALYZE PROCESS/FLOW TO UTILIZE TIME AND REDUCE INVENTORY.  
 Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** SET UP A SCRAP REDUCTION PROGRAM. MATERIAL SUBSTITUTION. PROCESS MAP VALVE FAMILIES TO UTILIZE TIME AND REDUCE INVENTORY.

**Non Numeric Progress:** CONTINUE TO INVESTIGATE WAYS TO REDUCE SCRAP AND ANALYZE PROCESS/FLOW TO UTILIZE TIME AND REDUCE INVENTORY.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Hennepin County, City of MINNEAPOLIS -- PECHINEY PLASTIC PACKAGING, INC -- ERCID -- 271350003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	11,000		
1,4-dioxane	1988	20000	9,050	11,000	2,000	0	1999	11,000	1999 / 1998 = 0.97	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W73 SUBSTITUTED COATING MATERIALS USED

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	132,000		
Methyl Ethyl Ketone	1988	142000	132,000	50,000	50,000	50,000	1998	132,000	1999 / 1998 = 0.97	Yes
							1999	50,000		

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W73 SUBSTITUTED COATING MATERIALS USED  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W73 SUBSTITUTED COATING MATERIALS USED  
W42 SUBSTITUTED RAW MATERIALS  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W42 SUBSTITUTED RAW MATERIALS  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W42 SUBSTITUTED RAW MATERIALS  
W73 SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1988	226000	116,000	26,000	26,000	26,000	1998 116,000 1999 26,000	1999 / 1998 = 0.97	Yes
<b>Process Code</b> P16	LAMINATING/PRESSING ANY MATERIAL								
Intended Activity									
W73	SUBSTITUTED COATING MATERIALS USED								
W42	SUBSTITUTED RAW MATERIALS								
W81	CHANGED PRODUCT SPECIFICATIONS								
Employed Activity									
W42	SUBSTITUTED RAW MATERIALS								
W73	SUBSTITUTED COATING MATERIALS USED								
W81	CHANGED PRODUCT SPECIFICATIONS								
<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)								
Intended Activity									
W42	SUBSTITUTED RAW MATERIALS								
W81	CHANGED PRODUCT SPECIFICATIONS								
W73	SUBSTITUTED COATING MATERIALS USED								
Employed Activity									
W81	CHANGED PRODUCT SPECIFICATIONS								
W42	SUBSTITUTED RAW MATERIALS								
W73	SUBSTITUTED COATING MATERIALS USED								

**Hennepin County, City of MINNEAPOLIS -- PERMATITE MANUFACTURING -- ERCID -- 271350517**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1997	797					1998 1,585 1999 776	1999 / 1998 = 0.86	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
Intended Activity									
W52	MODIFIED EQUIPMENT, LAYOUT, OR PIPING								
W51	INSTITUTED RECIRCULATION WITHIN A PROCESS								
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS								
W19	CONTINUE EMPLOYEE TRAINING								
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19 CONTINUED EMPLOYEE TRAINING  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

**Non Numeric Objective:** WOULD LIKE TO REDUCE USE BY 5%.

**Non Numeric Progress:** CURRENTLY RESEARCHING ALTERNATIVES AND BETTER USE OF TOLUENE, BUT IN 1999 WE WERE NOT ABLE TO FIND ANY FEASIBLE ALTERNATIVES. PRODUCTION DECREASED AND SO DID OUR USAGE.

**Hennepin County, City of MINNEAPOLIS -- PIONEER METAL FINISHING -- ERCID -- 271350092**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1998	494150	494,150	559,016	500,000	500,000	1998	494,150	1999 / 1998 = 1.13	Yes
							1999	559,016		

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS

Employed Activity  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1998	499154	499,154	581,265	509,000	509,000	1998	499,154	1999 / 1998 = 1.15	No
							1999	581,265		

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT

**Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F10 THE AMOUNT USED IS DIRECTLY PROPORTIONAL TO INCREASED PRODUCTION.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Hennepin County, City of MINNEAPOLIS -- RITRAMA DURAMARK -- ERCID -- 271350224**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1997	30000					1998 28,543 1999 36,289	1999 / 1998 = 1.1	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F10 CUSTOMERS REQUIRE SPECIFIC COATINGS. AN INCREASE IN COATING USAGE BASED ON DEMAND INCREASES THIS CHEMICAL'S USAGE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1991	213000					1998 124,801 1999 140,873	1999 / 1998 = 1.1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Vinyl Acetate</i>	1991	16800					1999 13,011	1999 / 1998 = 1.1	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F10 CUSTOMERS REQUIRE SPECIFIC COATINGS. AN INCREASE IN COATING USAGE BASED ON DEMAND INCREASES THIS CHEMICAL'S USAGE.

**Hennepin County, City of MINNEAPOLIS -- SMITH FOUNDRY CO. -- ERCID -- 271350157**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Aluminum Oxide (fibrous forms)</i>	1999	50975					1999 50,975	1999 / 1998 = 0.75	No

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W19  
 W39  
 Employed Activity  
 W39  
 W19  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** USE IS DIRECTLY PREDICTED ON THE NEEDS BASED ON OUR PRODUCTION RATE. PRODUCTION INCREASED BY 75% WITH MORE ACCURATE RELEASE CALCULATIONS USED IN 1999. FOR 1999, THE AMOUNT USED AND THE AMOUNT RELEASED INCREASED DRAMATICALLY FROM PREVIOUS YEARS.

**Non Numeric Progress:** USE IS DIRECTLY RELATED TO THE RATE OF PRODUCTION THAT IS CONSTANTLY FLUCTUATING ON A DAILY AND YEARLY BASIS.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 USE IS DIRECTLY RELATED TO THE RATE OF PRODUCTION THAT IS CONSTANTLY FLUCTUATING ON A DAILY AND YEARLY BASIS.

**Hennepin County, City of MINNEAPOLIS -- SUPERIOR PLATING, INC. -- ERCID -- 271350069**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1988	3000	34,741	49,471	50,000	50,000	1998 34,741 1999 49,471	1999 / 1998 = 0.99	No

**Process Code** P10 ELECTROPLATING  
 Intended Activity  
 W58 A WATER REDUCTION PROGRAM WILL CAUSE THE METAL HYDROXIDE PRECIPITANT TO INCREASE IN SIZE AND SETTLE FASTER PRODUCING DRIER SLUDGE.  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W58 STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 THE AMOUNT OF TOXIC CHEMICAL IN WASTE FOR THE REPORTING YEAR (1999) WAS GREATER THAN EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OF ACTIVITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyanide Compounds</i>	1988	1618	50,000	63,770	60,000	60,000	50,000	62,524	1999 / 1998 = 0.99	No

**Process Code** P05

Intended Activity CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

W58 A WATER REDUCTION PROGRAM WILL CAUSE THE METAL HYDROXIDE PRECIPITANT TO INCREASE IN SIZE AND SETTLE FASTER PRODUCING DRIER SLUDGE.

Employed Activity STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

W58 ELECTROPLATING

**Process Code** P10

Intended Activity SUBSTITUTED RAW MATERIALS

W42 A WATER REDUCTION PROGRAM WILL CAUSE THE METAL HYDROXIDE PRECIPITANT TO INCREASE IN SIZE AND SETTLE FASTER PRODUCING DRIER SLUDGE.

W58 STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

Employed Activity W58

**Barriers to P2:**

F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 THE AMOUNT OF TOXIC CHEMICAL IN WASTE FOR THE REPORTING YEAR (1999) WAS GREATER THAN THAT EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OR ACTIVITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1988	2000	11,139	9,467	10,000	10,000	11,139	9,467	1999 / 1998 = 0.99	No

**Process Code** P10

Intended Activity ELECTROPLATING

W58 A WATER REDUCTION PROGRAM WILL CAUSE THE METAL HYDROXIDE PRECIPITANT TO INCREASE IN SIZE AND SETTLE FASTER PRODUCING DRIER SLUDGE.

Employed Activity STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

W58

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 TOTAL QUANTITY OF TOXIC CHEMICAL WASTE FOR THE REPORTING YEAR (1999) WAS LESS THAN EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OR ACTIVITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1997	490	53,641	48,300	50,000	50,000	1998 53,641	1999 48,300	1999 / 1998 = 0.99	No

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THE TOTAL QUANTITY OF TOXIC CHEMICAL WASTE FOR THE REPORTING YEAR (1999) WAS LESS THAN EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OR ACTIVITY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1998	500	56,171	50,523	50,000	50,000	1998 56,171	1999 50,523	1999 / 1998 = 0.99	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.  
**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 TOTAL QUANTITY OF TOXIC CHEMICAL WASTE FOR THE REPORTING YEAR (1999) WAS LESS THAN EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OR ACTIVITY.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1997	20000	28,575	36,897	36,000	36,000	28,655	36,897	1999 / 1998 = 0.99	No

**Process Code** P10  
Intended Activity  
W58  
Employed Activity  
W58

ELECTROPLATING  
A WATER REDUCTION PROGRAM WILL CAUSE THE METAL HYDROXIDE PRECIPITANT TO INCREASE IN SIZE AND SETTLE FASTER PRODUCING DRIER SLUDGE.  
STRIVES FOR REDUCTION IN WASTE AND IMPROVEMENTS IN EFFICIENCY, WHICH WILL REDUCE CHEMICALS GENERATED OR RELEASED.

**Barriers to P2:**

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THE AMOUNT OF TOXIC CHEMICAL IN WASTE FOR THE REPORTING YEAR (1999) WAS GREATER THAN EXPECTED, GIVEN THE REPORTED LEVEL OF PRODUCTION OR ACTIVITY.

**Hennepin County, City of MINNEAPOLIS -- THE BUREAU ELECTRONICS GROUP -- ERCID -- 271350011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Ammonia	1990						12,600	9,450	1999 / 1998 = 0.99	Yes

**Process Code** P04  
Intended Activity  
W58  
Employed Activity  
W13

CHEMICAL MILLING (ETCHING)  
CHANGED FROM PANEL PLATE, WHERE THE WHOLE PANEL IS PLATED, TO ONLY PATTERN PLATING, REDUCING COPPER THAT NEEDS TO BE ETCHED.  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
USE .15 POUNDS OF AMMONIA TO ETCH ONE SQUARE FOOT OF PRINTED CIRCUIT BOARD.

**Non Numeric Objective:**

USED .0072 POUNDS OF AMMONIA TO ETCH ONE SQUARE FOOT OF PRINTED CIRCUIT BOARD - BELOW OUR OBJECTIVE OF .15 POUNDS.

**Non Numeric Progress:**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	369,200		
Copper Compounds	1990						369,200		1999 / 1998 = 0.99	Yes

**Process Code** P10  
Intended Activity  
W58  
Employed Activity  
W90

ELECTROPLATING  
CHANGED TO PATTERN PLATE COPPER REDUCING OUR USE OF COPPER IN THE PLATING PROCESS.  
NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** USE .4 POUNDS OF COPPER PER SQUARE FOOT OF CIRCUIT BOARD PRODUCED.

**Non Numeric Progress:** DURING 1999, WE USED .282 POUNDS OF COPPER PER SQUARE FOOT OF CIRCUIT BOARD PRODUCED WHICH IS BELOW OUR GOAL OF .4 POUNDS OF COPPER.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formaldehyde</i>	1990						1998 20,600 1999 19,800		1999 / 1998 = 0.99	Yes

**Process Code** P10 ELECTROPLATING

Intended Activity

W21

W13

Employed Activity

W90

INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

NOT APPLICABLE

**Non Numeric Objective:** USE .0085 POUNDS OF FORMALDEHYDE TO PRODUCE ONE SURFACE SQUARE FOOT OF CIRCUIT BOARD.

**Non Numeric Progress:** USE .0085 POUNDS OF FORMALDEHYDE PER SURFACE SQUARE FOOT. IN 1999, WE USED .00757 POUNDS PER SURFACE SQUARE FOOT WHICH WAS BELOW OUR GOAL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1997	40400					1998 40,400 1999 25,406		1999 / 1998 = 0.99	No

**Process Code** P10 ELECTROPLATING

Intended Activity

W54

W14

W13

Employed Activity

W90

INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

NOT APPLICABLE

**Non Numeric Objective:** MAINTAIN OUR USAGE OF GLYCOL ETHERS AT .017 POUNDS PER BOARD SQUARE FOOT PRODUCED.

**Non Numeric Progress:** MAINTAIN OUR USAGE OF GLYCOL ETHERS AT .017 POUNDS PER BOARD SQUARE FOOT PRODUCED.

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F09 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE FEASIBLE DUE TO PERMITTING REQUIREMENTS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	6,320		
<i>Nickel Compounds</i>							1999 6,320		1999 / 1998 = 0.99	Yes

**Process Code** P10 ELECTROPLATING

Intended Activity

W90

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** NICKEL COMPOUNDS WERE REPORTABLE THIS YEAR ON FORM R DUE TO A TANK CHANGE OUT. SENT FOR RECYCLING.  
**Non Numeric Progress:** PERIODIC TOTAL CHANGE OUT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>							1998 24,700 1999 29,755	1999 / 1998 = 0.99	No

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** NO GOAL SET FOR THIS COMPOUND. DEPENDENT ON OUR NITRIC ACID USAGE.  
**Non Numeric Progress:** N/A  
**Barriers to P2:** F06 SPECIFIC REGULATORY / PERMIT BURDENS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1996	46439					1998 25,225 1999 30,502	1999 / 1998 = 0.99	Yes

**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** MAINTAIN NITRIC ACID USE AT .03 POUNDS PER SQUARE FOOT OF PRINTED CIRCUIT BOARD PRODUCED.  
**Non Numeric Progress:** USE .03 POUNDS OF NITRIC ACID PER BOARD SQUARE FOOT. DURING 1999, WE USED .0233 POUNDS PER BOARD SQUARE FOOT WHICH WAS BELOW OUR OBJECTIVE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Sodium Dimethyldithiocarbamate</i>	1997	41988					1998 56,989 1999 85,754	1999 / 1998 = 0.99	No

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** NO GOAL SET FOR THIS COMPOUND.

**Non Numeric Progress:** NO GOAL SET FOR THIS COMPOUND.

**Barriers to P2:** F06 SPECIFIC REGULATORY / PERMIT BURDENS

**Hennepin County, City of MINNEAPOLIS -- TWIN CITY PLATING -- ERCID -- 271350251**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1994	60					1998 4,608 1999 5,592	1999 / 1998 = 1	No

**Process Code** P10 ELECTROPLATING

Intended Activity

W42 SUBSTITUTED RAW MATERIALS

W42 SUBSTITUTED RAW MATERIALS

Employed Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** LOOK FOR ALTERNATIVE MATERIALS WHICH ARE LESS TOXIC.

**Non Numeric Progress:** CONTINUED TO EVALUATE ALTERNATIVE MATERIALS WHICH ARE COMPATIBLE WITH THE PROCESS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Hennepin County, City of MINNEAPOLIS -- ZALK STEEL & SUPPLY CO. -- ERCID -- 271350078**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1991	19400					1998 663 1999 742	1999 / 1998 = 1.12	No

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity

W58 CONTINUE TO IMPLEMENT A DECREASE IN ZINC OXIDE AS A PERCENTAGE OF TONS PROCESSED BY CLEANER ACID. CONTINUE USE OF ASH BOX TO DECREASE TOTAL ASH ACCUMULATION.

W49 CONTINUE TO IMPLEMENT RELEASES BEING DEPENDENT ON OFF-SITE FLUCTUATE WHICH IS HOW MUCH RAW MATERIAL THE COMPANY WHICH 'CLEANS' THE ACID CAN PROCESS AT ONE TIME.

Employed Activity

W58 CONTINUE TO IMPLEMENT A DECREASE IN ZINC OXIDE AS A PERCENTAGE OF TONS PROCESSED BY CLEANER ACID. CONTINUED USE OF ASH BOX TO DECREASE TOTAL ASH ACCUMULATION.

W49 CONTINUE TO IMPLEMENT RELEASES BEING DEPENDENT ON OFF-SITE FLUCTUATE WHICH IS HOW MUCH RAW MATERIAL THE COMPANY WHICH 'CLEANS' THE ACID CAN PROCESS AT ONE TIME.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY IN AN ATTEMPT TO REDUCE ZINC COMPOUNDS.

**Non Numeric Progress:** CONTINUE TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO ZINC COMPOUNDS BEING A MAIN COMPONENT OF RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of MINNETONKA -- ADVANCED FLEX INC. #1 -- ERCID -- 271400001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1994	106200	137,000	99,400	99,400	93,000	1998 31,145 1999 26,430	1999 / 1998 = 1.12	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 USE LESS CHEMICAL PER PRODUCT OUTPUT.  
Employed Activity W58 USE LESS CHEMICAL PER PRODUCT OUTPUT.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1994	4300	4,300	1,700	1,200	600	1998 115,626 1999 129,831	1999 / 1998 = 1.02	Yes

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
Intended Activity W58 USE ALTERNATIVE PROCESS  
Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 USE ALTERNATIVE PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1997	8700	8,300	7,900	0	0	1998 13,430 1999 12,210	1999 / 1998 = 1.02	No

**Process Code** P30 STRIPPING ANY COATING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 USE LESS CHEMICAL PER PRODUCT OUTPUT.  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W58 USE LESS CHEMICAL PER PRODUCT OUTPUT.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of MINNETONKA -- HOLADAY CIRCUITS, INC. -- ERCID -- 271400010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1996	26000					1998 23,934 1999 21,444	1999 / 1998 = 1.02	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
Intended Activity  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS  
Employed Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W66 MODIFIED OR INSTALLED RINSE SYSTEMS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1996	92565					1998 87,384 1999 75,395	1999 / 1998 = 1.04	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P09 ELECTROLESS/IMMERSION COATING  
Intended Activity  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
Employed Activity  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
**Process Code** P10 ELECTROPLATING  
Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Hennepin County, City of MINNETONKA -- HONEYWELL ADVANCED CIRCUITS, INC -- ERCID -- 271400008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1991	154687					1998 269,444 1999 268,889	1999 / 1998 = 0.92	No

**Process Code** P04

Intended Activity

W58

Employed Activity

W58

CHEMICAL MILLING (ETCHING)

IMPROVE PROCESS YIELD BASED ON PANEL COUNT FROM 73% TO 95%, WHICH SHOULD REDUCE THE TOTAL AMOUNT OF WASTE COPPER.

TECHNOLOGY FOR MAKING CIRCUIT BOARDS ARE INDUSTRIAL STANDARDS. A TECHNOLOGY BREAKTHROUGH WOULD BE REQUIRED TO ACHIEVE SOME REDUCTION TO PRESENT PRODUCTION VOLUMES.

**Non Numeric Objective:** COPPER PLATING AND ETCHING ARE KEY FUNCTIONS IN CIRCUIT BOARD MANUFACTURING. MAXIMIZE THE PART DENSITY ON EACH BOARD.

**Non Numeric Progress:** COPPER PLATING AND ETCHING ARE KEY FUNCTIONS IN CIRCUIT BOARD MANUFACTURING. MAXIMIZE THE PART DENSITY ON EACH BOARD.

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formaldehyde</i>	1996	10645					1998 11,991 1999 10,633	1999 / 1998 = 1.03	No

**Process Code** P09

Intended Activity

W58

Employed Activity

W58

ELECTROLESS/IMMERSION COATING

IMPROVE PROCESS YIELD BASED ON PANEL COUNT FROM 7000 PPM DEFECTS TO 5000 PPM WHICH SHOULD REDUCE THE TOTAL AMOUNT OF WASTE FORMALDEHYDE.

TECHNOLOGY FOR MAKING CIRCUIT BOARDS ARE INDUSTRIAL STANDARDS. A TECHNOLOGY BREAKTHROUGH WOULD BE REQUIRED TO ACHIEVE SOME REDUCTION TO PRESENT PRODUCTION VOLUMES.

**Non Numeric Objective:** ELECTROLESS COPPER IS A KEY FUNCTION IN CIRCUIT BOARD MANUFACTURING. ELECTROLESS COPPER IS MADE UP OF MANY CHEMICALS INCLUDING FORMALDEHYDE.

MAXIMIZE THE PART PENSITY ON EACH BOARD.

**Non Numeric Progress:** THE TECHNOLOGY FOR MAKING CIRCUIT BOARDS ARE INDUSTRIAL STANDARDS. A TECHNOLOGICAL BREAK THROUGH WOULD BE REQUIRED TO ACHIEVE SOME REDUCTION TO PRESENT PRODUCTION VOLUMES.

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1996	14685					1998 26,030 1999 43,395	0.98	No	

**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity W58 IMPROVE PROCESS YIELD BASED ON PANEL COUNT FROM 73% TO 95%, WHICH SHOULD REDUCE THE TOTAL AMOUNT OF NITRIC ACID USED.  
 Employed Activity W58 TECHNOLOGY FOR MAKING CIRCUIT BOARDS ARE INDUSTRIAL STANDARDS. A TECHNOLOGY BREAKTHROUGH WOULD BE REQUIRED TO ACHIEVE SOME REDUCTION TO PRESENT PRODUCTION VOLUMES.  
**Non Numeric Objective:** NITRIC SOLDER STRIPPING IS A KEY FUNCTION IN CIRCUIT BOARD MANUFACTURING. MAXIMIZE THE PART DENSITY ON EACH BOARD.  
**Non Numeric Progress:** THE TECHNOLOGY FOR MAKING CIRCUIT BOARDS ARE INDUSTRIAL STANDARDS. A TECHNOLOGICAL BREAK THROUGH WOULD BE REQUIRED TO ACHIEVE SOME REDUCTION TO PRESENT PRODUCTION VOLUMES.  
**Barriers to P2:**  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

**Hennepin County, City of MINNETONKA -- OSMONICS, INC. -- ERCID -- 27140006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,4-dioxane</i>	1993	32300					1998 25,484 1999 46,068	1.63	No	

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W29 INVENTORY CONTROL THROUGH CALL AND RELEASE ORDERING TO CONTROL STOCK ON HAND.  
 W19 CONSTANT IMPROVEMENT IN OPERATING PRACTICES TO BECOME MORE EFFICIENT BY REDUCING WASTE AND SCRAP.  
 Employed Activity W19 CONSOLIDATION OF MEMBRANE MANUFACTURING PROCESSES RESULTING IN A MORE FOCUSED EFFORT AND GREATER EFFICIENCY.

**Barriers to P2:**  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 MEMBRANE SOLUTION FORMULATION CANNOT BE MODIFIED TO REDUCE THE AMOUNT OF CHEMICAL USED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N,n-dimethylformamide</i>	1993	36522					1998 48,090 1999 16,083	0.24	No	

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W29 INVENTORY CONTROL THROUGH CALL AND RELEASE ORDERING TO CONTROL STOCK ON HAND.  
 W19 CONSTANT IMPROVEMENT IN OPERATING PRACTICES TO BECOME MORE EFFECTIVE BY REDUCING WASTE AND SCRAP.  
 Employed Activity W19 CONSOLIDATION OF MEMBRANE MANUFACTURING PROCESSES RESULTING IN A MORE FOCUSED EFFORT AND GREATER EFFICIENCY.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** NONE

**Non Numeric Progress:** NONE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 MEMBRANE SOLUTION FORMULATION CANNOT BE MODIFIED TO REDUCE THE AMOUNT OF CHEMICAL USED.

**Hennepin County, City of MINNETONKA -- SIERRA CORP. -- ERCID -- 271400007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,2,4-trimethylbenzene	1995	1440	2,911	3,789	3,751	3,713	1998 1999	2,911 3,789	1999 / 1998 = 1.07	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W14

W55

W81

Employed Activity

W55

W81

W25

W14

W54

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGED PRODUCT SPECIFICATIONS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGED PRODUCT SPECIFICATIONS  
INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 SOURCE USAGE IS DICTATED BY SPECIFIC CLIENT REQUEST. QUALITY ALTERNATIVES ARE NOT YET AVAILABLE FOR MANY PRODUCT APPLICATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	569		
Cumene	1998	440	440	569	569	569	1999 569	569	1999 / 1998 = 1.07	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W55

W14

W81

Employed Activity

W14

W54

W55

W81

W25

CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
CHANGED PRODUCT SPECIFICATIONS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGED PRODUCT SPECIFICATIONS  
INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

<b>Barriers to P2:</b>		F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION								
		F10 SOURCE USAGE IS DICTATED BY SPECIFIC CLIENT REQUEST. QUALITY ALTERNATIVES ARE NOT YET AVAILABLE FOR MANY PRODUCT APPLICATIONS.								
		Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)						
Chemical Name		Year	Quantity	1998	1999	2000	2001	Reported	P.R.	Met Objective
<i>Ethylbenzene</i>		1993	23202					1998 1,384 1999 1,275	1999 / 1998 = 1.07	Yes
<b>Process Code</b> P02		CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
Intended Activity										
W52		MODIFIED EQUIPMENT, LAYOUT, OR PIPING								
W39		CONTINUE TO REVIEW AND TRAIN EMPLOYEES IN PROCESS PROCEDURES AND SAFE OPERATIONS.								
W82		MODIFIED DESIGN OR COMPOSITION								
W31		IMPROVED STORAGE OR STACKING PROCEDURES								
Employed Activity										
W49		CONTINUED TO DEVELOP AND USE PRODUCTS THAT ARE LOW VOC OR WATER-BASED.								
W55		CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS								
W21		INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE								
<b>Non Numeric Objective:</b>		REDUCE OR ELIMINATE THE GENERATION OF WASTE AND TOXIC MATERIALS AT THE SOURCE WHICH WILL PROVIDE BENEFITS SUCH AS MINIMIZING UNNECESSARY EMISSIONS, CREATE A SAFER WORK ENVIRONMENT AND LOWER OVERHEAD COSTS.								
<b>Non Numeric Progress:</b>		IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO CUSTOMER SPECIFICATIONS IT IS DIFFICULT TO USE ALTERNATIVE PRODUCTS AND RAW MATERIALS, WHICH ARE HARD TO REPLACE. REDUCTION DID TAKE PLACE IN RELEASES FROM 1998-1999.								
		Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)						
Chemical Name		Year	Quantity	1998	1999	2000	2001	Reported	P.R.	Met Objective
<i>Glycol Ethers</i>		1993	545	8,542	10,353	10,249	10,147	1998 8,542 1999 10,353	1999 / 1998 = 1.07	No
<b>Process Code</b> P02		CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
Intended Activity										
W82		MODIFIED DESIGN OR COMPOSITION								
W39		CONTINUE TO REVIEW AND TRAIN EMPLOYEES IN PROCESS PROCEDURES AND SAFE OPERATIONS.								
W52		MODIFIED EQUIPMENT, LAYOUT, OR PIPING								
Employed Activity										
W49		CONTINUED TO DEVELOP AND USE PRODUCTS THAT ARE LOW VOC OR WATER-BASED.								
W31		IMPROVED STORAGE OR STACKING PROCEDURES								
W21		INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE								
W55		CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS								
<b>Barriers to P2:</b>		F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION								
		F10 SOURCE USAGE IS DICTATED BY SPECIFIC CLIENT REQUEST. QUALITY ALTERNATIVES ARE NOT YET AVAILABLE FOR MANY PRODUCT APPLICATIONS.								
		F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1993	5599	4,148	5,082	4,980	4,880	1998 4,148	1999 5,082	1999 / 1998 = 1.07	No

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W81 CHANGED PRODUCT SPECIFICATIONS
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W81 CHANGED PRODUCT SPECIFICATIONS

Employed Activity

- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED
- W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W81 CHANGED PRODUCT SPECIFICATIONS

**Barriers to P2:**

- F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION
- F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES
- F10 SOURCE USAGE IS DICTATED BY SPECIFIC CLIENT REQUEST. QUALITY ALTERNATIVES ARE NOT YET AVAILABLE FOR MANY PRODUCT APPLICATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1993	746	12,367	15,448	15,293	15,140	1998 12,367	1999 15,448	1999 / 1998 = 1.07	No

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

- W81 CHANGED PRODUCT SPECIFICATIONS
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

Employed Activity

- W81 CHANGED PRODUCT SPECIFICATIONS
- W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS
- W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 SOURCE USAGE IS DICTATED BY SPECIFIC CLIENT REQUEST. QUALITY ALTERNATIVES ARE NOT YET AVAILABLE FOR MANY PRODUCT APPLICATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1993	15224	95,250	94,421	92,533	90,682	1998 95,250	1999 94,421	1999 / 1998 = 1.07	No

**Process Code P02** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity	Employed Activity
W81	W54
W14	W55
W55	W25
	W14
	W81

CHANGED PRODUCT SPECIFICATIONS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
CHANGED PRODUCT SPECIFICATIONS

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1993	109514	26,065	30,864	30,247	25,460	1998 26,065	1999 30,864	1999 / 1998 = 1.07	No

**Process Code P02** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity	Employed Activity
W81	W14
W55	W54
W14	W55
	W54
	W25

CHANGED PRODUCT SPECIFICATIONS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Hennepin County, City of NEW HOPE -- ALPHA CERAMICS, INC. -- ERCID -- 271650006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1998	21881	21,811	31,203	25,000	25,000	1998 21,820 1999 20,164	1999 / 1998 = 2.88	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W58

**Hennepin County, City of NEW HOPE -- AVTEC FINISHING SYSTEMS, INC. -- ERCID -- 271650001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	52174					1998 57,049 1999 52,174	1999 / 1998 = 1.05	No

**Process Code** P36 "COINCIDENTAL MANUFACTURING"  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** SINCE NITRATE COMPOUNDS ARE PRODUCED AS A RESULT OF THE NEUTRALIZATION NITRIC ACID, OBJECTIVES FOR REDUCING NITRIC ACID ARE MORE APPROPRIATE.

**Non Numeric Progress:** SINCE NITRATE COMPOUNDS ARE PRODUCED AS A RESULT OF THE NEUTRALIZATION NITRIC ACID, OBJECTIVES FOR REDUCING NITRIC ACID ARE MORE APPROPRIATE.

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F06 SPECIFIC REGULATORY / PERMIT BURDENS  
F10 SINCE NITRATE COMPOUNDS ARE PRODUCED AS A RESULT OF THE NEUTRALIZATION NITRIC ACID, OBJECTIVES FOR REDUCING NITRIC ACID ARE MORE APPROPRIATE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1991	38670					1998 24,743 1999 33,013	1999 / 1998 = 1.05	No

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
**Process Code P19** METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W78 REDUCED CONCENTRATION OF PICKLING SOLUTION FROM 30% TO 20%.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W78 REDUCED CONCENTRATION OF PICKLING SOLUTION FROM 30% TO 20%.  
**Process Code P30** STRIPPING ANY COATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19

**Barriers to P2:**  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 THE CHANGES SHOWN IN SECTIONS 8.1-8.7 OF THE TRI FORM R ARE BASED ON CALCULATIONS ASSOCIATED WITH NITRATE COMPOUNDS. THE QUANTITIES SHOWN IN SECTION 8.6 REFLECT THIS RE-EVALUATION.

**Hennepin County, City of NEW HOPE -- CLARIANT -- ERCID -- 271650011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Chromium Compounds	1991	932					1998 276 1999 191	1999 / 1998 = 1.14	Yes	

**Process Code P11** EXTRUDING ANY MATERIAL  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W58 SWITCHED CHROMIUM CONTAINING ORDERS FROM BANBURY MIXERS TO TWIN SCREW EXTRUDERS TO REDUCE THE AMOUNT OF CHROMIUM DUST ENTERING THE DUST COLLECTION SYSTEM.  
**Non Numeric Objective:** CUSTOMERS ARE AGGRESSIVELY URGED TO CONSIDER HEAVY METAL-FREE PIGMENTS. WE HAVE ELIMINATED ALL USE OF HEAVY METAL PIGMENTS WHERE FEASIBLE ALTERNATIVES EXIST AND FURTHER REDUCTION IS NOT LIKELY WITHOUT SIGNIFICANT ADVANCES IN SCRAP REDUCTION.  
**Non Numeric Progress:** CUSTOMERS ARE AGGRESSIVELY URGED TO CONSIDER HEAVY METAL-FREE PIGMENTS. WE HAVE ELIMINATED ALL USE OF HEAVY METAL PIGMENTS WHERE FEASIBLE ALTERNATIVES EXIST AND FURTHER REDUCTION IS NOT LIKELY WITHOUT SIGNIFICANT ADVANCES IN SCRAP REDUCTION.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.14	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Di(2-ethylhexyl) Phthalate</i>	1994	1100					5,430	1,645		

**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** IT IMPARTS CERTAIN DESIRABLE CHARACTERISTICS TO THE FINISHED PRODUCT THAT ALTERNATIVE COMPOUNDS ARE NOT ABLE TO DUPLICATE. THEREFORE, IT IS UNLIKELY THAT OUR USE WILL DECLINE. ONLY CONCEIVABLE ROUTE TO REDUCING EMISSIONS IS THROUGH WASTE MINIMIZATION.

**Non Numeric Progress:** IT IMPARTS CERTAIN DESIRABLE CHARACTERISTICS TO THE FINISHED PRODUCT THAT ALTERNATIVE COMPOUNDS ARE NOT ABLE TO DUPLICATE. THEREFORE, IT IS UNLIKELY THAT OUR USE WILL DECLINE. ONLY CONCEIVABLE ROUTE TO REDUCING EMISSIONS IS THROUGH WASTE MINIMIZATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.14	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1991	3890					700	295		

**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 SWITCHED LEAD CONTAINING ORDERS FROM BANBURY MIXERS TO TWIN SCREW EXTRUDERS TO REDUCE THE AMOUNT OF LEAD DUST ENTERING THE DUST COLLECTION SYSTEM.

**Non Numeric Objective:** CUSTOMERS ARE AGGRESSIVELY URGED TO CONSIDER HEAVY METAL-FREE PIGMENTS. WE HAVE ELIMINATED ALL USE OF HEAVY METAL PIGMENTS WHERE FEASIBLE ALTERNATIVES EXIST AND FURTHER REDUCTION IS NOT LIKELY WITHOUT SIGNIFICANT ADVANCES IN SCRAP REDUCTION.

**Non Numeric Progress:** CUSTOMERS ARE AGGRESSIVELY URGED TO CONSIDER HEAVY METAL-FREE PIGMENTS. WE HAVE ELIMINATED ALL USE OF HEAVY METAL PIGMENTS WHERE FEASIBLE ALTERNATIVES EXIST AND FURTHER REDUCTION IS NOT LIKELY WITHOUT SIGNIFICANT ADVANCES IN SCRAP REDUCTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.14	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1991	5427					785	512		

**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 REDUCED USAGE OF ZINC STEARATE AS A PROCESSING AID BY DE-COMMISSIONING A PIECE OF PRODUCTION EQUIPMENT THAT REQUIRED IT.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** BASED ON A PROJECTED INCREASE IN USAGE AND PRODUCTION RATES, AND CONSIDERING THE LACK OF SUITABLE REPLACEMENT COMPOUNDS, RELEASES OF ZINC COMPOUNDS ARE ANTICIPATED TO CONTINUE TO INCREASE UNLESS SCRAP REDUCTION IS REALIZED.

**Non Numeric Progress:** BASED ON A PROJECTED INCREASE IN USAGE AND PRODUCTION RATES, AND CONSIDERING THE LACK OF SUITABLE REPLACEMENT COMPOUNDS, RELEASES OF ZINC COMPOUNDS ARE ANTICIPATED TO CONTINUE TO INCREASE UNLESS SCRAP REDUCTION IS REALIZED.

**Hennepin County, City of NEW HOPE -- INNO-FLEX CORPORATION -- ERCID -- 271650048**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.2	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1997	19223	12,687	12,511	8,500	8,500	1998 12,687	1999 12,511		

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
**Intended Activity**  
 W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
 W71 CONTINUE TO REUSE AND/OR RECYCLE TO DECREASE WASTE.  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
**Employed Activity**  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 W71 CONTINUED TO REUSE AND/OR RECYCLE WASTE.  
 W19 IMPLEMENTED A STRICT CHECK OUT AND USE CONTROL.

**Barriers to P2:** F10 NOT ENOUGH TIME FOR THE PROGRAM IMPLEMENTED IN 12/99 TO MAKE A SIGNIFICANT DIFFERENCE IN OUR 1999 USAGE.

**Hennepin County, City of NEW HOPE -- INTERMET -- ERCID -- 271650013**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.1	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1993	21,085					1998 200,055	1999 307,333		

**Process Code** P01 CASTING ANY MATERIAL  
**Intended Activity**  
 W58 CONTINUE TO REDUCE SCRAP METAL PRODUCED BY REDUCING RAW MATERIAL EXPENSES, WASTE TRANSPORT, AND RECYCLING.  
 W19 CONTINUE BETTER JOB MANAGEMENT AND MATERIAL HANDLING.  
**Employed Activity**  
 W58 CONTINUE TO REDUCE SCRAP METAL PRODUCED BY REDUCING RAW MATERIAL EXPENSES, WASTE TRANSPORT, AND RECYCLING.  
 W19 CONTINUE BETTER JOB MANAGEMENT AND MATERIAL HANDLING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** TO IMPROVE MANUFACTURING EFFICIENCIES WE WILL CONTINUE DECREASING THE AMOUNT OF SCRAP METAL PRODUCED, REPLACE FURNACES WITH MORE EFFICIENT STACK-TYPE FURNACES AND INSTALL ANOTHER ROTARY DEGREASER.

**Non Numeric Progress:** CONTINUING TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. PRODUCTION INCREASED IN 1999 AND IN 1998. A DIFFERENT EMISSION FACTOR WAS USED THAT BETTER REPRESENTS THE TYPE OF ALUMINUM.

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 AS OUR PRODUCTION INCREASES SO DOES OUR RELEASE OF COPPER.  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1993	2825					131,200	277,476	1999 / 1998 = 1.1	No

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity  
W19 CONTINUE BETTER JOB MANAGEMENT AND MATERIAL HANDLING.  
W58 CONTINUE TO REDUCE SCRAP METAL PRODUCED BY REDUCING RAW MATERIAL EXPENSES, WASTE TRANSPORT AND RECYCLING.  
Employed Activity  
W19 CONTINUE BETTER JOB MANAGEMENT AND MATERIAL HANDLING.  
W58 CONTINUE TO REDUCE SCRAP METAL PRODUCED BY REDUCING RAW MATERIAL EXPENSES, WASTE TRANSPORT AND RECYCLING.

**Non Numeric Objective:** TO IMPROVE MANUFACTURING EFFICIENCIES WE WILL CONTINUE DECREASING THE AMOUNT OF SCRAP METAL PRODUCED, REPLACE FURNACES WITH MORE EFFICIENT STACK-TYPE FURNACES AND INSTALL ANOTHER ROTARY DEGREASER.

**Non Numeric Progress:** CONTINUING TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. PRODUCTION INCREASED IN 1999 AND IN 1998. A DIFFERENT EMISSION FACTOR WAS USED THAT BETTER REPRESENTS THE TYPE OF ALUMINUM.

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 AS PRODUCTION INCREASES SO DOES OUR RELEASE OF NICKEL.  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of OSSEO -- CERAM-TRAZ CORP. -- ERCID -- 271750002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1993	1300	11,320	13,096	13,450	13,428	11,320	13,096	1999 / 1998 = 1.1	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 GLYCOL ETHERS ARE A FORMULA COMPONENT OF WATER REDUCIBLE PAINTS. THE LOWER V.O.C. WATER REDUCIBLE PAINTS ARE REPLACING HIGH V.O.C. SOLVENT PAINTS. THE USAGE OF THIS COMPONENT CONTINUES TO GROW.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1993	9200	9,200	12,287	9,700	9,160	1998 1999	9,730 12,287	1999 / 1998 = 1.1	No

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W42

SUBSTITUTED RAW MATERIALS

W82

MODIFIED DESIGN OR COMPOSITION

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Employed Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W42

SUBSTITUTED RAW MATERIALS

W82

MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 RECOVERY SYSTEM USED MORE DURING REPORT YEAR.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1993	9200	5,200	6,066	5,430	4,760	1998 1999	5,200 6,066	1999 / 1998 = 1.1	No

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W82

MODIFIED DESIGN OR COMPOSITION

W42

SUBSTITUTED RAW MATERIALS

Employed Activity

W42

SUBSTITUTED RAW MATERIALS

W82

MODIFIED DESIGN OR COMPOSITION

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:**

F10 RECOVERY SYSTEM USED MORE DURING REPORT YEAR.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1993	31300	12,200	13,591	11,800	10,850	1998 12,200	1999 13,591	1999 / 1998 = 1.1	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W42 SUBSTITUTED RAW MATERIALS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:** F10 RECOVERY SYSTEM USED MORE DURING REPORTING PERIOD.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1993	60700	34,700	38,286	38,223	35,050	1998 34,700	1999 38,286	1999 / 1998 = 1.1	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F10 RECOVERY SYSTEM USED MORE DURING REPORTING YEAR.

**Hennepin County, City of PLYMOUTH -- AACRON, INC. -- ERCID -- 271800011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1988	971					1998 3,441	1999 2,822	1999 / 1998 = 1.04	Yes

**Process Code** P10 ELECTROPLATING  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Hennepin County, City of PLYMOUTH -- BOSTON SCIENTIFIC SCIMED, INC. -- ERCID -- 271800053**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
2-chloro-1,1,1,2-tetrafluoroethane	1998	69250					1998 144,595 1999 160,087	1999 / 1998 = 1.17	Yes

**Process Code** P29 STERILIZING (FUMIGATING, DISINFECTING, ETC.)  
Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** IMPROVE DESCANT TOWER DRYING SYSTEM WITH NEW BAN HEATERS AND CONTROLS. ADDED GROSS WATER KNOCKOUT REDUCING THE AMOUNT OF MOISTURE AND INCREASING OPERATING EFFICIENCY OF THE RECLAMATION PROCESS.

**Non Numeric Progress:** IMPROVE DESCANT TOWER DRYING SYSTEM WITH NEW BAN HEATERS AND CONTROLS. ADDED GROSS WATER KNOCKOUT REDUCING THE AMOUNT OF MOISTURE AND INCREASING OPERATING EFFICIENCY OF THE RECLAMATION PROCESS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Ethylene Oxide	1996	60					1998 13,741 1999 15,157	1999 / 1998 = 1.1	Yes

**Process Code** P29 STERILIZING (FUMIGATING, DISINFECTING, ETC.)  
Intended Activity  
W58 CONTINUE TO OPERATE OUR SCRUBBER SYSTEM AT 99% EFFICIENCY. A DRY BED SCRUBBER WAS ADDED IN MAY 1999 TO INCREASE EFFICIENCY TO 99.9%.  
Employed Activity  
W58 A DRY BED SCRUBBER WAS ADDED IN MAY 1999 TO INCREASE EFFICIENCY TO 99.9%.

**Non Numeric Objective:** CONTINUE TO OPERATE OUR SCRUBBER SYSTEM AT 99% EFFICIENCY. A DRY BED SCRUBBER WAS ADDED IN MAY 1999 TO INCREASE EFFICIENCY TO 99.9%.

**Non Numeric Progress:** A DRY BED SCRUBBER WAS ADDED IN MAY 1999 TO INCREASE EFFICIENCY TO 99.9%.

**Hennepin County, City of PLYMOUTH -- CIRCUIT SCIENCE, INC. -- ERCID -- 271800013**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.97	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1999	1054					55,476	51,592	Yes	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W75 CHANGED FROM SPRAY TO OTHER SYSTEM  
 Employed Activity W78

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity W42 SUBSTITUTED RAW MATERIALS

**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
 Employed Activity W78

**Non Numeric Objective:** GENERATION OF WASTE COPPER/COPPER COMPOUNDS CAN ONLY BE REDUCED BY REDUCING THE SCRAP RATE. WE ARE ATTEMPTING TO REDUCE THE SCRAP RATE BY INITIATING IMPROVED QUALITY CONTROL PROCEDURES.

**Non Numeric Progress:** REDUCING SCRAP RATE BY USING BETTER FEED CONTROLS AND FLOW REGULATORS AND BY DATING OUR PROCESS EQUIPMENT.

**Hennepin County, City of PLYMOUTH -- PRECISION DIVERSIFIED INDUSTRIES, INC. -- ERCID -- 271800029**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.48	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1993	21259					20,265	21,323	No	

**Process Code** P10 ELECTROPLATING  
 Intended Activity W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W58 BY DECEMBER OF 2000, WE WILL ATTEMPT TO REPLACE THE SECOND OF FOUR COPPER BATHS WITH A HIGH PERFORMANCE COPPER ELECTROPLATING BATH.  
 W58 WILL CONTINUE TO IMPLEMENT OUR PROGRAM TO INCREASE YIELDS AND REDUCE SCRAP.  
 Employed Activity W58 INSTALLED A HIGH PERFORMANCE ELECTROPLATING BATH.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** MAINTAIN OUR OVERALL USAGE AND RELEASES AT THE CURRENT LEVELS WHILE INCREASING OUR PRODUCTION AT A RATE OF 10% PER YEAR.

**Non Numeric Progress:** BECAUSE COPPER COMPOUNDS ARE A MAIN COMPONENT OF OUR PROCESSES, THEY WERE NOT ABLE TO BE REDUCED.

**Barriers to P2:**  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 BECAUSE COPPER IS A MAIN COMPONENT OF OUR PRODUCT, AND IS REQUIRED BY MILITARY AND COMMERCIAL SPECIFICATIONS AND STANDARDS, THE REDUCTION OF COPPER USE IS NOT ECONOMICALLY OR TECHNOLOGICALLY FEASIBLE.

**Hennepin County, City of PLYMOUTH -- PROGRESS CASTING GROUP -- ERCID -- 271800038**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1991	8000	24,000	26,000	28,000	28,000	1998 23,831 1999 23,975	1999 / 1998 = 2.18	Yes	

- Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)
- Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)
- Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Hennepin County, City of PLYMOUTH -- SPICER OFF-HIGHWAY PRODUCTS DIVISION -- ERCID -- 271800012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1992	16500					1998 472 1999 480	1999 / 1998 = 1	Yes	

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W41 INCREASED PURITY OF RAW MATERIALS
- W81 CHANGED PRODUCT SPECIFICATIONS
- Employed Activity W81 CHANGED PRODUCT SPECIFICATIONS
- W41 INCREASED PURITY OF RAW MATERIALS
- Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
W41 INCREASED PURITY OF RAW MATERIALS  
**Process Code P19** METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W81 CHANGED PRODUCT SPECIFICATIONS

**Non Numeric Objective:** ALL ALLOYS LEAVE THE PLANT IN PRODUCED PARTS AND ASSEMBLIES OR ARE RECYCLED IN STEEL SCRAP. NEW AXLES ARE BEING DEVELOPED THAT MAY RESULT IN LESS SCRAP PER AXLE. VENDORS NOW PROVIDE THE PLANT WITH LOW CONTAMINATE CHEMICAL PRODUCTS.

**Non Numeric Progress:** CONTINUED TO TIGHTEN SPECIFICATIONS FOR METALS AND CHECK VENDOR IMPURITIES - SO LITTLE METAL WASTE REMAINS. TRACKING IS DIFFICULT.

**Hennepin County, City of ROCKFORD -- DIVERSIFOAM PRODUCTS -- ERCID -- 271950007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1-chloro-1,1-difluoroethane	1995	56246					1998 30,320 1999 25,764	1999 / 1998 = 1.13	No

**Process Code P13** FOAM BLOWING  
Intended Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** REDUCE UNNECESSARY RELEASES BY ENSURING THAT THE PROCESS IS OPERATING AS EFFICIENTLY AS POSSIBLE. CONTINUING TO MONITOR THE AVAILABILITY OF NEW NON-TOXIC REPLACEMENTS.

**Non Numeric Progress:** CONSULT WITH RAW MATERIAL SUPPLIERS TO DEVELOP A REPLACEMENT CHEMICAL THAT IS NON-POLLUTING. NO CHEMICALS CURRENTLY ARE ACCEPTABLE.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chloromethane	1995	89686					1998 90,616 1999 85,365	1999 / 1998 = 1.13	No

**Process Code P13** FOAM BLOWING  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W36 EMPLOYED ACTIVITY  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** REDUCE UNNECESSARY RELEASES BY ENSURING THAT THE PROCESS IS OPERATING AS EFFICIENTLY AS POSSIBLE. CONTINUING TO MONITOR THE AVAILABILITY OF NEW NON-TOXIC REPLACEMENTS.  
**Non Numeric Progress:** CONSULT WITH RAW MATERIAL SUPPLIERS TO DEVELOP A REPLACEMENT CHEMICAL THAT IS NON-POLLUTING. NO CHEMICALS CURRENTLY ARE ACCEPTABLE.  
**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of ROGERS -- GRACO-KOCH CENTER -- ERCID -- 272000014**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1997	5200	5,200	6,400	6,400	6,400	1998 5,241 1999 6,458	1999 / 1998 = 1.07	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF OUR PRODUCTS.

**Non Numeric Progress:** PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF OUR PRODUCTS.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 PRESENT IN STAINLESS STEEL, WHICH IS AN ESSENTIAL COMPONENT OF OUR PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1997	7	85,000	95,000	100,000	100,000	1998 85,007 1999 95,004	1999 / 1998 = 1.07	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Non Numeric Progress:** COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 COPPER IS PRESENT IN BRASS AND COPPER ALLOYS, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1997	8000	8,000	10,000	10,000	10,000	1998 8,002	1999 10,000	1999 / 1998 = 1.07	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Non Numeric Progress:** NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 NICKEL IS PRESENT IN VARIOUS ALLOYS MACHINED BY GRACO, WHICH ARE ESSENTIAL COMPONENTS OF GRACO PRODUCTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1997	40000	10,000	9,400	9,500	9,600	1998 10,200	1999 11,600	1999 / 1998 = 1.07	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED

Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 CHANGES TO LOW VOC COATINGS AND BETTER USE AND CAPTURE OF FLUSH SOLVENT RESULTED IN REDUCED USE/RELEASES/TRANSFERS OF XYLENE. EFFORTS TO FIND A LESS HAZARDOUS SOLVENT TO REPLACE XYLENE CONTINUE.

**Hennepin County, City of ST. LOUIS PARK -- DOUGLAS CORP. - PLATING DIVISION -- ERCID -- 272150034**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1995	30000	9,500	9,000	8,000	7,500	1998 47,238 1999 34,246	1999 / 1998 = 1.11	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W58 OFF SITE RECYCLING.  
Employed Activity W58 OFF SITE RECYCLING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1995	1100	900	800	500	450	1998 6,320 1999 10,378	1999 / 1998 = 1.11	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W58 OFF SITE RECYCLING.  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity W58 OFF SITE RECYCLING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1995	18000	4,500	4,000	3,500	3,000	1998 12,694 1999 10,759	1999 / 1998 = 1.11	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W58 OFF SITE RECYCLING.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W58 OFF SITE RECYCLING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1995	10522	9,000	8,000	8,000	8,000	1998 8,634 1999 9,615	1999 / 1998 = 1.11	No

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Hennepin County, City of ST. LOUIS PARK -- HONEYWELL ADVANCED CIRCUITS, INC -- ERCID -- 272150003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1998	159775					1998 160,311 1999 190,718	1999 / 1998 = 1.49	No

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** OUR WASTEWATER TREATMENT SYSTEM REMOVES 99% OF COPPER THAT ENTERS THE SYSTEM. WE ARE IN THE PROCESS OF REDUCING PLATING ACTIVITIES.

**Non Numeric Progress:** IMPLEMENTED TEFLON COATED PLATING RACKS WHICH REDUCED OUR NEED FOR RACK STRIPPING THAT GENERATED COPPER ETCH WASTE.

**Barriers to P2:** F10 INCREASED PRODUCTION

**Hennepin County, City of ST. LOUIS PARK -- NORTHLAND ALUMINUM PRODUCTS, INC. -- ERCID -- 272150009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1998	13912	0	13,634	13,361	13,094	1998 14,075 1999 17,923	1999 / 1998 = 1.14	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W49  
Employed Activity  
W49

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F10 RAW MATERIAL SUBSTITUTION WILL INCREASE COST PER GALLON OF COATING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1997	11354	11,694	10,934	10,622	10,410	1998 11,509	1999 5,618	1999 / 1998 = 0.98	Yes

**Process Code** P21  
Intended Activity  
W73  
Employed Activity  
W73

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
SUBSTITUTED COATING MATERIALS USED  
SUBSTITUTED COATING MATERIALS USED

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1996	1756	1,418	1,418	1,418	1,418	1998 1,412	1999 1,123	1999 / 1998 = 1.35	Yes

**Process Code** P20  
Intended Activity  
W49  
Employed Activity  
W49

MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1997	15129	15,734	15,233	14,928	14,629	1998 15,855	1999 17,572	1999 / 1998 = 1.14	Yes

**Process Code** P21  
Intended Activity  
W73  
Employed Activity  
W73

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
SUBSTITUTED COATING MATERIALS USED  
SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Hennepin County, City of ST. LOUIS PARK -- NOVARTIS NUTRITION CORPORATION -- ERCID -- 272150008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1998	44000					1998 44,006 1999 44,613	1999 / 1998 = 1.18	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W71 CONTINUED TO SEARCH FOR OTHER CLEANING CHEMICALS.  
Employed Activity W71 NOT SUCCESSFUL IN LOCATING NON-LISTED CLEANING CHEMICALS.

**Non Numeric Objective:** MINIMIZE OR ELIMINATE THE USE OF NITRIC ACID.

**Non Numeric Progress:** NOT SUCCESSFUL IN LOCATING NON-LISTED CLEANING CHEMICALS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F06 SPECIFIC REGULATORY / PERMIT BURDENS  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1994	200					1998 32,714 1999 33,035	1999 / 1998 = 1.18	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** IMPROVE THE PH NEUTRALIZATION SYSTEM TO ASSURE 100% EFFECTIVENESS.

**Non Numeric Progress:** CONTINUED TO IMPROVE AUTOMATIC CONTROL SYSTEMS.

**Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Hennepin County, City of ST. LOUIS PARK -- SUPER RADIATOR COILS -- ERCID -- 272150033**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1997	738					1998 3,572 1999 10,737	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W58 CONTINUED TO EVALUATE OUR PROCESSES, AND BASED ON EVALUATIONS MAKE ANY NEEDED PROCEDURE CHANGES TO THE PROCESS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W19 CONTINUED RESEARCH WITH OUR EMPLOYEES TO REDUCE METAL SCRAP.  
Employed Activity  
W19 CONTINUED RESEARCH WITH OUR EMPLOYEES TO REDUCE METAL SCRAP.  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W58 CONTINUED TO EVALUATE OUR PROCESSES, AND BASED ON EVALUATIONS MAKE ANY PROCEDURE CHANGES TO THE PROCESS.  
**Non Numeric Objective:** BECAUSE CHROMIUM IS A MAIN CONSTITUENT OF THE PROCESS, IT IS NOT FEASIBLE TO REDUCE USE AS PRODUCTION INCREASES. WE DO PLAN ON DECREASING SCRAP CHROMIUM AS PERCENTAGE USED FROM 4-5%.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO CHROMIUM BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Copper	1993	27129					1998 50,432 1999 138,440	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W19 CONTINUE RESEARCH WITH OUR EMPLOYEES TO REDUCE COPPER SCRAP.  
Employed Activity  
W19 CONTINUED RESEARCH WITH OUR EMPLOYEES TO REDUCE COPPER SCRAP.  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** BECAUSE COPPER IS THE MAIN CONSTITUENT OF OUR PROCESS, IT IS NOT FEASIBLE TO REDUCE USE AS PRODUCTION INCREASES, BUT WE DO PLAN ON DECREASING SCRAP COPPER AS A PERCENTAGE USED FROM 4-5%.

**Non Numeric Progress:** CONTINUED IMPLEMENTING NON-NUMERIC OBJECTIVES FOR 1999. DUE TO COPPER AS A MAIN COMPONENT OF RAW MATERIAL, IT'S DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 IT IS NOT FEASIBLE TO DECREASE THE AMOUNT OF COPPER WE USE AS OUR PRODUCTION CONTINUES TO INCREASE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Nickel	1998	2580					1998 2,580 1999 8,051	1999 / 1998 = 1.17	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W58 CONTINUE TO EVALUATE OUR PROCESSES, AND BASED ON EVALUATIONS MAKE ANY PROCEDURE CHANGES TO THE PROCESS.  
W19 CONTINUE RESEARCH WITH OUR EMPLOYEES TO REDUCE METAL SCRAP.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19 CONTINUED RESEARCH WITH OUR EMPLOYEES TO REDUCE METAL SCRAP.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 CONTINUED TO EVALUATE OUR PROCESSES, AND BASED ON EVALUATIONS MAKE ANY NEEDED PROCEDURE CHANGES TO THE PROCESS.

**Non Numeric Objective:** BECAUSE NICKEL IS A MAIN CONSTITUENT OF THE PROCESS, IT IS NOT FEASIBLE TO REDUCE USE AS PRODUCTION INCREASES.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OBJECTIVES FOR 1999. DUE TO NICKEL BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Tetrachloroethylene	1993	145166					1998 33,820	1999 / 1998 = 1.17	No
							1999 69,021		

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 CONTINUE TO EVALUATE OUR PROCESSES, AND BASED ON EVALUATIONS MAKE ANY NEED PROCEDURE CHANGES TO THE PROCESS.  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W58 CHANGED THE ENTIRE PROCESS FOR HANDLING TETRACHLOROETHYLENE TO A MORE EFFICIENT CLOSED SYSTEM.

**Non Numeric Objective:** REDUCE USAGE OVER THE NEXT 3 YEARS BY ALTERING THE PROCESS WITH THIS CHEMICAL. THE ALTERED PROCESS IS HOPED TO BE MORE EFFICIENT AND REDUCE RELEASES BECAUSE IT IS A CLOSED SYSTEM. HOPE TO INSTALL A "DONKEY STILL" TO REDUCE EMISSIONS.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. THE ALTERED PROCESS IS HOPED TO BE MORE EFFICIENT AND REDUCE RELEASES BECAUSE IT IS CLOSED SYSTEM. HOPE TO INSTALL A "DONKEY STILL" TO REDUCE EMISSIONS.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Hennepin County, City of ST. PAUL -- NORTHWEST AIRLINES, INC. -- ERCID -- 279990003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Trichloroethylene	1993	32000					1998 58,310	1999 / 1998 = 1.09	Yes
							1999 51,073		

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W19 PROVIDED ADDITIONAL OPERATOR TRAINING AND MODIFIED EXHAUST AIR FLOW RATES.  
W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

Employed Activity  
W19 PROVIDED ADDITIONAL OPERATOR TRAINING AND MODIFIED EXHAUST AIR FLOW RATES.  
W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REDUCE CHEMICAL IN PRODUCTS USED TO THE EXTENT POSSIBLE. MAINTAIN AND OPERATE PLATING SHOP DEGREASER AS EFFICIENTLY AS POSSIBLE AND IN COMPLIANCE WITH ALL NESHAP REQUIREMENTS.

**Non Numeric Progress:** ALL PRODUCTS CONTAINING THIS CHEMICAL HAVE BEEN REMOVED FROM STOCK AND SUBSTITUTED WITH OTHER PRODUCTS. THE PLATING SHOP DEGREASER IS BEING OPERATED AS EFFICIENTLY AS POSSIBLE AND IN COMPLIANCE WITH ALL NESHAP REQUIREMENTS.

**Hubbard County, City of BEMIDJI -- POTLATCH CORP. - OSB -- ERCID -- 290210001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formaldehyde</i>	1991	140728					1998 44,935 1999 48,489	1999 / 1998 = 1.01	No

**Process Code** P08

DRYING

Intended Activity

W49

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

W89

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

**Process Code** P16

LAMINATING/PRESSING ANY MATERIAL

Intended Activity

W49

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

W89

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

**Non Numeric Objective:**

PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY, IMPROVE UTILIZATION OF RESIN THROUGH HOUSEKEEPING, MAINTENANCE, MODIFICATIONS AND PROCEDURES. REVIEW LITERATURE, TEST, EVALUATE AND IMPLEMENT METHODS TO REDUCE RESIN USE PER MSF. SEE P2PR FOR MORE INFO.

**Non Numeric Progress:**

PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY, IMPROVE UTILIZATION OF RESIN THROUGH HOUSEKEEPING, MAINTENANCE, MODIFICATIONS AND PROCEDURES. REVIEW LITERATURE, TEST, EVALUATE AND IMPLEMENT METHODS TO REDUCE RESIN USE PER MSF. SEE P2PR FOR MORE INFO.

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

F10 PROCESS UTILIZES A RAW MATERIAL (WOOD) THAT HAS A FIXED COMPONENT OF FORMALDEHYDE. NO SATISFACTORY ALTERNATIVES AT THIS TIME.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1996	206525					1998 101,471 1999 106,722	1999 / 1998 = 1.01	No

**Process Code** P08

DRYING

Intended Activity

W89

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

W49

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

**Process Code** P16

LAMINATING/PRESSING ANY MATERIAL

Intended Activity

W49

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

W89

SEE NARRATIVE ATTACHED TO PROGRESS REPORT.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY, IMPROVE UTILIZATION OF RESIN THROUGH HOUSEKEEPING, MAINTENANCE, MODIFICATIONS AND PROCEDURES. REVIEW LITERATURE, TEST, EVALUATE AND IMPLEMENT METHODS TO REDUCE RESIN USE PER MSF. SEE P2PR FOR MORE INFO.

**Non Numeric Progress:** PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY, IMPROVE UTILIZATION OF RESIN THROUGH HOUSEKEEPING, MAINTENANCE, MODIFICATIONS AND PROCEDURES. REVIEW LITERATURE, TEST, EVALUATE AND IMPLEMENT METHODS TO REDUCE RESIN USE PER MSF. SEE P2PR FOR MORE INFO.

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 PROCESS UTILIZES A RAW MATERIAL (WOOD) THAT HAS A FIXED COMPONENT OF METHANOL. NO SATISFACTORY ALTERNATIVES AT THIS TIME.

**Hubbard County, City of PARK RAPIDS -- LAMBWESTON/RDO FROZEN -- ERCID -- 291200003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	41368	23,308	41,368	24,999	24,999	1999 41,368	1999 / 1998 = 0.83	No

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity W19 EMPLOY THE BEST OPERATING PROCEDURES POSSIBLE IN ORDER TO ENSURE EXCELLENT PROCESS PERFORMANCE RESULTING IN THE BEST POSSIBLE EFFLUENT QUALITY.  
 Employed Activity W19 EMPLOY THE BEST OPERATING PROCEDURES POSSIBLE IN ORDER TO ENSURE EXCELLENT PROCESS PERFORMANCE RESULTING IN THE BEST POSSIBLE EFFLUENT QUALITY.

**Barriers to P2:** F10 A SERIOUS POTATO BLIGHT DURING HARVEST FORCED US TO INCREASE WATER USE WHICH INCREASED THE TOTAL POUNDS DISCHARGED.

**Isanti County, City of CAMBRIDGE -- ARROW TANK & ENGINEERING -- ERCID -- 300190023**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1990	106					1998 101,415 1999 21,699	1999 / 1998 = 1	Yes

**Process Code** P36 ARC AND WIRE FEED WELDING, CUTTING AND GRINDING OF CARBON AND STAINLESS STEEL.  
 Intended Activity W49 PURCHASED A LARGE, MORE EFFICIENT AUTOMATIC WELDER. RESEARCH WITH VENDORS TO FIND NEW AND MORE EFFICIENT WAYS OF WORKING WITH MATERIALS.  
 Employed Activity W19 PURCHASED A PLASMA ARC BURNING TABLE AND HAVE BECOME MORE PROFICIENT AT USING IT. TRAIN EMPLOYEES AND EMPLOY GOOD HOUSEKEEPING PRACTICES.  
**Non Numeric Objective:** BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.  
**Non Numeric Progress:** BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Manganese	1990	247					16,115	14,961		Yes

**Process Code** P36  
Intended Activity W49  
Employed Activity W19  
**Non Numeric Objective:**  
**Non Numeric Progress:**

ARC AND WIRE FEED WELDING, CUTTING AND GRINDING OF CARBON AND STAINLESS STEEL.  
PURCHASED A LARGE, MORE EFFICIENT AUTOMATIC WELDER. RESEARCH WITH VENDORS TO FIND NEW AND MORE EFFICIENT WAYS OF WORKING WITH MATERIALS.  
PURCHASED A PLASMA ARC BURNING TABLE AND HAVE BECOME MORE PROFICIENT AT USING IT. TRAIN EMPLOYEES AND EMPLOY GOOD HOUSEKEEPING PRACTICES.  
BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.  
BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Nickel	1990	274					82,815	23,569		Yes

**Process Code** P36  
Intended Activity W49  
Employed Activity W19  
**Non Numeric Objective:**  
**Non Numeric Progress:**

ARC AND WIRE FEED WELDING, CUTTING AND GRINDING OF CARBON AND STAINLESS STEEL.  
PURCHASED A LARGE, MORE EFFICIENT AUTOMATIC WELDER. RESEARCH WITH VENDORS TO FIND NEW AND MORE EFFICIENT WAYS OF WORKING WITH MATERIALS.  
PURCHASED A PLASMA ARC BURNING TABLE AND HAVE BECOME MORE PROFICIENT AT USING IT. TRAIN EMPLOYEES AND EMPLOY GOOD HOUSEKEEPING PRACTICES.  
BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.  
BETTER SUPERVISION IN PRODUCTION TO REDUCE REWORK, FACILITY WIDE COMMUNICATION WILL REDUCE THE AMOUNT OF MATERIAL PURCHASED AND REDUCE WASTE, TRAINING EMPLOYEES, INVENTORY CONTROL, AND EMPLOYEE INCENTIVE PROGRAMS TO SAVE TIME AND MATERIALS.

**Itasca County, City of COHASSET -- BOSWELL ENERGY CENTER - MN POWER -- ERCID -- 310680001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.96	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Barium Compounds	1998	1000000					1,000,000	1,000,000		No

**Process Code** P36  
Intended Activity W49  
W52  
W13  
Employed Activity W52

ELECTRICITY GENERATION  
CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING AND SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.  
**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chromium Compounds	1998	24000					1998 24,000	1999 / 1998 = 0.96	No
							1999 24,000		

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity  
 W49 CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING AND CONSIDER SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.  
**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Copper Compounds	1998	51000					1998 51,000	1999 / 1998 = 0.96	No
							1999 48,000		

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W49 CONTINUE TO EXAMINE CONSIDERATIONS WITH FUEL SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	16000					1998 38,000	1999 38,000	1999 / 1998 = 0.96	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W49 CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING AND CONSIDER SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1998	60000					1998 122,000	1999 120,000	1999 / 1998 = 0.96	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W49 CONTINUE TO EXAMINE CONSIDERATIONS WITH FUEL SWITCHING AND CONSIDER SWITCHING WHEN OVERALL PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1998	510,000					1998	510,000	1999 / 1998 = 0.96	No
							1999	500,000		

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W49

W52

W13

Employed Activity

W13

W52

CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sulfuric Acid (aerosol forms only)</i>	1998	27000					1998	65,000	1999 / 1998 = 0.96	No
							1999	63,000		

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W49

W52

W13

Employed Activity

W13

W52

CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING AND CONSIDER SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1998	39000					1998 39,000	1999 36,000	1999 / 1998 = 0.96	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W13

W49

W52

Employed Activity

W13

W52

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
CONTINUE TO EXAMINE CONSIDERATIONS INVOLVED WITH FUEL SWITCHING AND CONSIDER SWITCHING WHEN PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** CONTINUOUSLY STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. ACTIVELY SEEKING ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.

**Non Numeric Progress:** CONTINUED TO IDENTIFY AND IMPLEMENT MEANS BY WHICH THE FACILITY CAN GENERATE ELECTRICITY MORE EFFICIENTLY, SERVING TO REDUCE EMISSIONS. UPGRADED BOILER CONTROLS TO ALLOW FOR MORE EFFICIENT OPERATIONS. MAINTENANCE REPLACEMENTS.

**Barriers to P2:**  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Itasca County, City of GRAND RAPIDS -- BLANDIN PAPER -- ERCID -- 311100004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Barium Compounds	1997	51000					1998 44,451	1999 44,856	1999 / 1998 = 1	No

**Process Code** P22 PAPER MANUFACTURING

Intended Activity

W90

Employed Activity

W90

NOT APPLICABLE

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** FOLLOW THE TECHNICAL STUDIES WHICH RELATE TO THE REDUCTION OF BARIUM IN THE COMBUSTION PROCESS.

**Non Numeric Progress:** FOLLOW THE TECHNICAL STUDIES WHICH RELATE TO THE REDUCTION OF BARIUM IN THE COMBUSTION PROCESS.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 SOLD THE STEAM AND GENERATING POWER FACILITY TO MINNESOTA POWER. THE GENERATION AND P2 EFFORTS WILL CHANGE WITH THE 2000 REPORTING YEAR.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1991	64531					1998 22,796 1999 10,274	1999 / 1998 = 1	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** INCREASED TRAINING, PREVENTATIVE MAINTENANCE AND IMMEDIATE ATTENTION TO KNOWN LEAKS.

**Non Numeric Progress:** INCREASED TRAINING, PREVENTATIVE MAINTENANCE AND IMMEDIATE ATTENTION TO KNOWN LEAKS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1997	37000					1998 31,286 1999 67,140	1999 / 1998 = 1	No

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** FOLLOW THE TECHNICAL STUDIES WHICH RELATE TO THE REDUCTION OF MANGANESE IN THE COMBUSTION PROCESS.

**Non Numeric Progress:** FOLLOW THE TECHNICAL STUDIES WHICH RELATE TO THE REDUCTION OF MANGANESE IN THE COMBUSTION PROCESS.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 SOLD THE STEAM AND GENERATING POWER FACILITY TO MINNESOTA POWER. THE GENERATION AND P2 EFFORTS WILL CHANGE WITH THE 2000 REPORTING YEAR.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1997	32000					1998 31,000 1999 30,000	1999 / 1998 = 0.95	No

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** EMISSION DATA IS BEING GENERATED OVER TIME FROM VARIOUS TECHNICAL ORGANIZATIONS. WILL FOLLOW THEIR PROGRESS AND PLAN REDUCTIONS BASED ON ENVIRONMENTAL IMPACT AND FEASIBILITY.

**Non Numeric Progress:** EMISSION DATA IS BEING GENERATED OVER TIME FROM VARIOUS TECHNICAL ORGANIZATIONS. WILL FOLLOW THEIR PROGRESS AND PLAN REDUCTIONS BASED ON ENVIRONMENTAL IMPACT AND FEASIBILITY.

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 FOLLOW THE TECHNICAL ADVANCES MADE IN DEFINING METHANOL EMISSION SOURCES AND QUANTITIES FROM THE PRESSURIZED GROUNDWOOD PULPING PROCESS AND COATED PAPER PROCESS.

**Itasca County, City of GRAND RAPIDS -- POTLATCH CORP. -- ERCID -- 311100003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Formaldehyde	1991	64472					1998 39,253 1999 39,205	1999 / 1998 = 1	No

**Process Code** P08 DRYING

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 SEE ATTACHMENT TO P2PR  
W58 SEE ATTACHMENT TO P2PR

Employed Activity  
W58 SEE ATTACHMENT TO P2PR  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 SEE ATTACHMENT TO P2PR

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL

Intended Activity  
W58 SEE ATTACHMENT TO P2PR  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 SEE ATTACHMENT TO P2PR

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 SEE ATTACHMENT TO P2PR  
W58 SEE ATTACHMENT TO P2PR

**Non Numeric Objective:** PLEASE SEE THE ATTACHMENT TO THE P2PR EXPLAINING COMPONENTS OF NON-NUMERIC OBJECTIVES, DESCRIPTION OF PROCESSES THAT GENERATE RELEASES AND SOURCE REDUCTION RATIONALE.

**Non Numeric Progress:** PLEASE SEE THE ATTACHMENT TO THE P2PR EXPLAINING COMPONENTS OF NON-NUMERIC OBJECTIVES, DESCRIPTION OF PROCESSES THAT GENERATE RELEASES AND SOURCE REDUCTION RATIONALE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1995	175173					161,754	161,550		No

**Process Code** P08

DRYING

Intended Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W58 SEE ATTACHMENT TO P2PR
- W19 SEE ATTACHMENT TO P2PR

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W58 SEE ATTACHMENT TO P2PR
- W19 SEE ATTACHMENT TO P2PR

**Process Code** P16

LAMINATING/PRESSING ANY MATERIAL

Intended Activity

- W19 SEE ATTACHMENT TO P2PR
- W58 SEE ATTACHMENT TO P2PR
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W19 SEE ATTACHMENT TO P2PR
- W58 SEE ATTACHMENT TO P2PR

**Non Numeric Objective:**

PLEASE SEE THE ATTACHMENT TO THE P2PR EXPLAINING COMPONENTS OF NON-NUMERIC OBJECTIVES, DESCRIPTION OF PROCESSES THAT GENERATE RELEASES AND SOURCE REDUCTION RATIONALE.

**Non Numeric Progress:**

PLEASE SEE THE ATTACHMENT TO THE P2PR EXPLAINING COMPONENTS OF NON-NUMERIC OBJECTIVES, DESCRIPTION OF PROCESSES THAT GENERATE RELEASES AND SOURCE REDUCTION RATIONALE.

**Barriers to P2:**

- F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS
- F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Jackson County, City of JACKSON -- AG-CHEM EQUIPMENT CO., INC. -- ERCID -- 320600007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.03	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1993	3357	90,500	58,000	58,000	40,000	97,000	64,500		Yes

**Process Code** P21

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

- W42 SUBSTITUTED RAW MATERIALS

Employed Activity

- W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Kanabec County, City of MORA -- AMERICAN MARINE, LTD -- ERCID -- 330650005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1995	13276					1998 19,352 1999 15,689	1999 / 1998 = 0.5	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W73 SUBSTITUTED COATING MATERIALS USED  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W74 IMPROVED APPLICATION TECHNIQUES  
 Employed Activity  
 W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W33 INSTALLED OVERFLOW ALARMS OR AUTOMATIC SHUTOFF VALVES  
 W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Kanabec County, City of MORA -- ENGINEERED POLYMERS CORP. -- ERCID -- 330650001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1991	89803	66,296	73,662	0	0	1998 48,843 1999 73,662	1999 / 1998 = 1.29	No

**Process Code** P29 STERILIZING (FUMIGATING, DISINFECTING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:**  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F10 VOLUME OF PRODUCTS REQUIRING THIS COMPONENT HAS INCREASED.

**Kandiyohi County, City of WILLMAR -- JENNIE-O FOODS, INC. -- ERCID -- 341750008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1993	18249					1998 19,532 1999 17,114	1999 / 1998 = 1.16	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
**Process Code** P26 REFRIGERATING/FREEZING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Koochiching County, City of BIG FALLS -- PAGE & HILL FOREST PRODUCTS, INC. -- ERCID -- 360050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1994	17500					1998 21,669 1999 23,416	1999 / 1998 = 1.1	Yes

**Process Code** P34 WEATHERIZING (WOOD TREATING, CORROSION INHIBITING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** MAINTAIN ALL PUMPS, VALVES, DOOR SEALS, HOSES, ETC. IN ACZA PLANT. LEAVE TREATED WOOD IN CYLINDER LONGER TO ALLOW MORE AMMONIA TO BE RECAPTURED INTO SYSTEM. KEEP AMMONIA RELEASES TO MINIMUM AS LONG AS ACZA PLANT IS IN OPERATION.  
**Non Numeric Progress:** BEGAN USING A SECOND TREATING CYLINDER IN OUR ACZA PLANT. ALLOWED US TO LEAVE WOOD IN THE CYLINDER WITHOUT SLOWING PRODUCTION. THIS SEEMS TO REDUCE RELEASES OF AMMONIA.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Pentachlorophenol</i>	1995	99	49	100	100	100	1999 735	1999 / 1998 = 0.64	No

**Process Code** P34 WEATHERIZING (WOOD TREATING, CORROSION INHIBITING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Koochiching County, City of INTL FALLS -- BOISE CASCADE CORP. -- ERCID -- 360100001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Acetaldehyde</i>	1996	64000	56,000	58,000	58,000	58,000	1998 56,000 1999 58,000	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W58 HARD-PIPING OF CONDENSATES. STRIPPED FOUL CONDENSATES WERE PIPED DIRECTLY TO THE WWTP FOR EFFECTIVE, BIOLOGICAL TREATMENT.  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. LIQUOR LOSSES WERE HELD AT VERY LOW LEVELS.  
W39 UNCONTROLLED NON-CONDENSABLE GAS SYSTEM VENTS WERE REDUCED OR HELD AT VERY LOW LEVELS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1994	639000	82,000	110,000	110,000	110,000	1998 82,000 1999 110,000	1999 / 1998 = 1.08	No

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST  
W58 REDUCED AMMONIA CONTENT OF FORMULATION.  
W19 LOW AMMONIA RESIDUAL. MONITORING HELPED ENSURE THAT RESIDUAL LEVELS WERE MAINTAINED AT A LOW LEVEL, ALTHOUGH THIS LEVEL WAS MORE THAN IN PAST YEARS DUE TO A CONSULTANT'S RECOMMENDATION.  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. SPILLS OF COATING WERE KEPT AT MINIMAL LEVELS.

**Barriers to P2:**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1997	16000					1998 15,000 1999 10,000	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** SEE POLLUTION PREVENTION PROGRESS REPORT

**Non Numeric Progress:** SEE POLLUTION PREVENTION PROGRESS REPORT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Catechol</i>	1989	10200	2,100	2,100	2,100	2,100	1998 2,100	1999 2,100	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. CATECHOL IS A COMPONENT OF SPENT COOKING LIQUOR. DURING THE YEAR THE LIQUOR LOSSES IN THE MILL WERE HELD AT VERY LOW LEVELS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>	1988	450070	27,000	27,000	27,000	27,000	1998 27,390	1999 27,390	1999 / 1998 = 1.02	No

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W39 INCORPORATION OF PROCESS SAFETY MANAGEMENT PROGRAM WHICH IS A MECHANICAL INTEGRITY MAINTENANCE PROGRAM TO ENSURE THAT NO CATASTROPHIC RELEASES OCCUR.  
W19 ONGOING OPTIMIZATION OF BLEACHING CONTROLS WHICH REDUCES EXCESS EMISSIONS IN VENT GASES.  
W42 SUBSTITUTED RAW MATERIALS  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. MINIMIZE SPILLS AND CAREFUL ATTENTION BY OPERATORS TO MINIMIZE LOSSES.

**Barriers to P2:** F10 THE AIR GOAL IS ZERO AND IT WILL NOT BE MET UNTIL THERE IS A 100% SUBSTITUTION OF CHLORINE WITH CHLORINE DIOXIDE TO COMPLY WITH THE CLUSTER RULES FOR KRAFT PULPING OPERATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine Dioxide</i>	1991	463600	410,000	410,000	410,000	410,000	1998 413,200	1999 413,200	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W39 INCORPORATION OF PROCESS SAFETY MANAGEMENT PROGRAM WHICH IS A MECHANICAL INTEGRITY MAINTENANCE PROGRAM TO ENSURE THAT NO CATASTROPHIC RELEASES OCCUR.  
W19 ON-GOING OPTIMIZATION OF BLEACHING CONTROLS WHICH REDUCES EXCESS EMISSIONS IN VENT GASES.  
W42 SUBSTITUTED RAW MATERIALS  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. MINIMIZE SPILLS AND CAREFUL ATTENTION BY OPERATORS TO MINIMIZE LOSSES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chloroform</i>	1988	282430	21,000	21,000	21,000	21,000	1998 21,000	1999 21,000	1999 / 1998 = 1.02	No

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. MINIMIZE SPILLS AND CAREFUL ATTENTION BY OPERATORS TO MINIMIZE LOSSES.  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F10 GOALS ARE ZERO, HOWEVER, THEY WILL NOT BE MET UNTIL THE MILL IMPLEMENTS 100% SUBSTITUTION OF CHLORINE WITH CHLORINE DIOXIDE TO COMPLY WITH THE CLUSTER RULES FOR KRAFT PULPING OPERATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formic Acid</i>	1996	0	0	0	0	0	1998 0	1999 0	1999 / 1998 = 1.05	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1997	38000					1998 37,000	1999 28,000	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** SEE POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** SEE POLLUTION PREVENTION PROGRESS REPORT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1990	173930	7,280,000	9,330,000	9,330,000	9,330,000	1998 7,280,000 1999 9,330,000	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W58 SLUDGE FROM THE WWTP WAS BURNED IN THE NO. 2 POWER BOILER.  
W58 STRIPPED FOUL CONDENSATES WERE PIPED DIRECTLY TO THE WWTP FOR EFFECTIVE, BIOLOGICAL TREATMENT.  
W39 IMPROVED UPTIME OF THE NON-CONDENSABLE GAS SYSTEM WHICH BURNS POLLUTANTS IN THE LIME KILN.  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. LIQUOR LOSSES WERE HELD AT VERY LOW LEVELS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1993	7800	340,000	365,800	365,800	365,800	1998 345,720 1999 365,840	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W58 SLUDGE FROM THE WWTP WAS BURNED IN THE NO. 2 POWER BOILER AND BLACK LIQUOR CONTAINING PHENOL WAS BURNED IN THE RECOVERY FURNACE FOR ENERGY RECOVERY.  
W39 GOOD HOUSEKEEPING AND OPERATOR TRAINING. LIQUOR LOSSES WERE HELD AT VERY LOW LEVELS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1997	23000					1998 21,000 1999 15,000	1999 / 1998 = 1.02	Yes

**Process Code** P22 PAPER MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** SEE POLLUTION PREVENTION PROGRESS REPORT  
**Non Numeric Progress:** SEE POLLUTION PREVENTION PROGRESS REPORT

**Lac Qui Parle County, City of DAWSON -- AG PROCESSING, INC. -- ERCID -- 370450012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1995	259000					1998 220,090 1999 220,140	1999 / 1998 = 1.05	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W19 COMPLETED ROUTINE MAINTENANCE AND CLEANING OF RECLAIM VESSELS.  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** CONTINUE TO IMPLEMENT MANUFACTURING PRACTICES TO ENSURE A MINIMAL LOSS OF SOLVENT IN OUR PROCESS.  
**Non Numeric Progress:** MINIMIZING USE OF N-HEXANE THROUGH IMPROVING OPERATION AND MAINTENANCE OF PROCESSING EQUIPMENT.

**Lac Qui Parle County, City of DAWSON -- ASSOCIATED MILK PRODUCERS, INC. -- ERCID -- 370450004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>							1998 182,677 1999 233,220	1999 / 1998 = 1.17	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** OUR CHEMICAL SUPPLIER IS CURRENTLY TRYING TO DEVELOP ALTERNATIVE CLEANING SOLUTIONS. UNTIL AN ALTERNATIVE IS DEVELOPED AND IS AFFORDABLE, WE WILL CONTINUE TO USE NITRIC ACID.  
**Non Numeric Progress:** CHEMICAL SUPPLIERS CONTINUE RESEARCH AND DEVELOPMENT ON CLEANING SOLUTIONS THAT CAN BE SUBSTITUTED FOR NITRIC ACID AT A COMPARABLE PRICE.  
**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Lake County, City of TWO HARBORS -- LOUISIANA PACIFIC CORP. -- ERCID -- 380350002**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1991	126					700	1,000	1999 / 1998 = 1.11	Yes

**Process Code** P36 BOARD PRESS, BLENDER AND FORMING BAGHOUSE.  
Intended Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.  
Employed Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.

**Non Numeric Objective:** OPTIMIZE PRODUCT QUALITY AND RAW MATERIAL USAGE THROUGH USE OF MICRO MOTION FLOWMETERS TO MINIMIZE RESIN USAGE AT OR BELOW REQUIRED MINIMUM WHILE OPERATING DRYER TO MAINTAIN CONSISTENT MOISTURE LEVELS IN DRIED FURNISH.

**Non Numeric Progress:** OPERATED IN A MANNER NECESSARY TO MAINTAIN CONSISTENT MOISTURE LEVELS IN THE PRODUCT FURNISH WHILE MINIMIZING RESIN CONSUMPTION THROUGH UTILIZATION OF MICROMOTION FLOW METERS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formaldehyde</i>	1991	22000					13,000	26,900	1999 / 1998 = 1.11	Yes

**Process Code** P36 BARK FIRED THERMAL OIL HEATER, ROTARY DRYER, BOARD PRESS, AND BLENDER AND FORMING BAGHOUSE.  
Intended Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.  
Employed Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.

**Non Numeric Objective:** MONITOR/EVALUATE THE INDUSTRY'S PROGRESS IN REDUCING EMISSIONS WHILE MONITORING THE DRYER OPERATING SYSTEMS AND POLLUTION CONTROL EQUIPMENT TO OPTIMIZE OPERATING EFFICIENCY, DRYER THROUGHPUT, RAW MATERIAL USAGE AND CONTROL OF FORMALDEHYDE EMISSIONS.

**Non Numeric Progress:** CONTINUED IMPLEMENTATION OF GOOD COMBUSTION TECHNOLOGY PRACTICES, EFFICIENT DRYER OPERATION, AND RAW MATERIAL USAGE. MONITOR THE OPERATION OF THE DRYING SYSTEM POLLUTION CONTROL EQUIPMENT TO ENSURE PROPER PERFORMANCE AND DESTRUCTION OF EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1995	100000					39,000	66,000	1999 / 1998 = 1.04	Yes

**Process Code** P36 BARK FIRED THERMAL OIL HEATER, ROTARY DRYER, BOARD PRESS, AND BAGHOUSE AND FUGITIVE EMISSIONS.  
Intended Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.  
Employed Activity W19 SEE NON-NUMERIC OBJECTIVE/PROGRESS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** MONITOR/EVALUATE THE INDUSTRY'S PROGRESS IN REDUCING EMISSIONS WHILE MONITORING THE DRYER OPERATING SYSTEMS AND POLLUTION CONTROL EQUIPMENT TO OPTIMIZE OPERATING EFFICIENCY, DRYER THROUGHPUT, RAW MATERIAL USAGE AND CONTROL OF FORMALDEHYDE EMISSIONS.

**Non Numeric Progress:** CONTINUED IMPLEMENTATION OF GOOD COMBUSTION TECHNOLOGY PRACTICES, EFFICIENT DRYER OPERATION, AND RAW MATERIAL USAGE. MONITOR THE OPERATION OF THE DRYING SYSTEM POLLUTION CONTROL EQUIPMENT TO ENSURE PROPER PERFORMANCE AND DESTRUCTION OF EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Zinc Compounds	1996	600					1998 2,800 1999 6,000	1999 / 1998 = 1.11	Yes

**Process Code** P36 BOARD PRESS AND BAGHOUSES.

Intended Activity

W19

Employed Activity

W19

SEE NON-NUMERIC OBJECTIVE/PROGRESS.

SEE NON-NUMERIC OBJECTIVE/PROGRESS.

**Non Numeric Objective:** USE SOUND BAGHOUSE MAINTENANCE , TRAINING PERSONNEL, AND TESTING TO DETERMINE IF THE REDUCTION IN THE AMOUNT OF ZINC BORATE IS FEASIBLE.

**Non Numeric Progress:** ROUTINE MAINTENANCE OF BAGHOUSE, TRAINED PERSONNEL IN HANDLING ZINC, TESTED TO FIND OPTIMAL USAGE IN FINISHED PRODUCT, AND MONITORED PROCESS CONTROLS TO MINIMIZE USAGE.

**Lake County, City of TWO HARBORS -- STANLEY HYDRAULIC TOOLS -- ERCID -- 380350026**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chromium	1999						1999 11,019	1999 / 1998 = 0.78	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W82

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

MODIFIED DESIGN OR COMPOSITION

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

W82

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

MODIFIED DESIGN OR COMPOSITION

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity

W82

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

MODIFIED DESIGN OR COMPOSITION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REDUCE SCRAP THROUGH DIRECT FLOW PROCESS (ONLY PARTS NEEDED ARE GENERATED), IMPROVE PARTS QUALITY AND REDUCE REJECTS, IMPROVE NESTING PROCEDURE TO MINIMIZE SCRAP SKELETON STEEL AFTER CUTTING AND IMPROVE MACHINING PROCEDURES TO MINIMIZE TURNINGS.

**Non Numeric Progress:** A NEW AND BETTER METHOD OF MANUFACTURING IS BEING IMPLEMENTED. QUALITY ASSURANCE HAS BEEN STEPPED UP. THE NESTING PROGRAM IS CONSTANTLY BEING MONITORED FOR IMPROVEMENT. ACCOUNTABILITY IN MAKING PARTS IS BEING INSTITUTED TO DECREASE SCRAP PARTS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	2000		
<i>Nickel</i>	1999						1999	29,135	1999 / 1998 = 0.78	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W82

MODIFIED DESIGN OR COMPOSITION

**Non Numeric Objective:** REDUCE SCRAP THROUGH DIRECT FLOW PROCESS (ONLY PARTS NEEDED ARE GENERATED), IMPROVE PARTS QUALITY AND REDUCE REJECTS, IMPROVE NESTING PROCEDURE TO MINIMIZE SCRAP SKELETON STEEL AFTER CUTTING AND IMPROVE MACHINING PROCEDURES TO MINIMIZE TURNINGS.

**Non Numeric Progress:** A NEW AND BETTER METHOD OF MANUFACTURING IS BEING IMPLEMENTED. QUALITY ASSURANCE HAS BEEN STEPPED UP. THE NESTING PROGRAM IS CONSTANTLY BEING MONITORED FOR IMPROVEMENT. ACCOUNTABILITY IN MAKING PARTS IS BEING INSTITUTED TO DECREASE SCRAP PARTS.

**Lake of the Woods County, City of BAUDETTE -- SOLVAY PHARMACEUTICALS -- ERCID -- 390050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Dichloromethane</i>	1990	110117	14,929	33,483	48,070	27,283	1998	33,483	1999 / 1998 = 1.48	No
							1999	48,070		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W90

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F06 SPECIFIC REGULATORY / PERMIT BURDENS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1990	61626	8,378	16,255	23,083	11,997	16,255	23,415	1999 / 1998 = 1.48	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F06 SPECIFIC REGULATORY / PERMIT BURDENS

**Le Sueur County, City of LE SUEUR -- ADC TELECOMMUNICATIONS INC. -- ERCID -- 400700039**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1996	30603					36,942	45,499	1999 / 1998 = 1.23	No

**Process Code** P36 ELECTRONIC ASSEMBLY  
 Intended Activity W58 EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.  
 Employed Activity W58 EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.

**Non Numeric Objective:** NO CURRENT ALTERNATIVE TO COPPER WIRE.

**Non Numeric Progress:** ONGOING EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE. NO ALTERNATIVE FOR THE USE OF COPPER WIRE IN THIS OPERATION IS CURRENTLY AVAILABLE.

**Barriers to P2:** F10 NO CURRENT ALTERNATIVE FOR COPPER WIRE IN THIS ELECTRONIC ASSEMBLY OPERATION.

**Le Sueur County, City of LE SUEUR -- LE SUEUR INCORPORATED -- ERCID -- 400700020**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1996	10810					19,221	18,232	1999 / 1998 = 1.06	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
**Non Numeric Objective:** REDUCE BY IMPLEMENTING POLLUTION PREVENTION ACTIVITIES. IN AN ATTEMPT TO REDUCE EMISSIONS, WE WILL INCREASE RECYCLING.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO COPPER BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. EMISSIONS WERE REDUCED FROM 1998-1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1996	1552					1998 2,758 1999 2,781		1999 / 1998 = 1.06	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
**Non Numeric Objective:** REDUCE BY IMPLEMENTING POLLUTION PREVENTION ACTIVITIES. IN AN ATTEMPT TO REDUCE EMISSIONS, WE WILL INCREASE RECYCLING.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO NICKEL BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. EMISSIONS WERE REDUCED FROM 1998-1999.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1997	72330					1998 98,035 1999 33,389		1999 / 1998 = 1.06	Yes

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
**Non Numeric Objective:** REDUCE USE BY IMPLEMENTING POLLUTION CONTROL ACTIVITIES. REDUCE EMISSIONS BY SWITCHING TO A WEAKER SOLUTION FOR THE PROCESS THAT UTILIZES THIS CHEMICAL.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO NITRATE COMPOUNDS BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. EMISSIONS WERE REDUCED FROM 1998-1999.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1997	77940					1998 99,599 1999 33,922		1999 / 1998 = 1.06	Yes
<b>Process Code</b> P01	CASTING ANY MATERIAL									
Intended Activity	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W13	INSTITUTED RECIRCULATION WITHIN A PROCESS									
W51	SUBSTITUTED RAW MATERIALS									
W42										
Employed Activity	SUBSTITUTED RAW MATERIALS									
W42	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W13	INSTITUTED RECIRCULATION WITHIN A PROCESS									
W51										
<b>Non Numeric Objective:</b>	IMPLEMENTING POLLUTION PREVENTION ACTIVITIES AND REDUCING EMISSIONS BY SWITCHING TO A WEAKER SOLUTION FOR THE PROCESS THAT UTILIZES THIS CHEMICAL.									
<b>Non Numeric Progress:</b>	CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. SINCE NITRIC ACID IS A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. EMISSIONS WERE REDUCED FROM 1998-1999.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc (fume or dust)</i>	1996	10692					1998 19,009 1999 16,552		1999 / 1998 = 1.06	Yes
<b>Process Code</b> P20	MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)									
Intended Activity	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W13	SUBSTITUTED RAW MATERIALS									
W42	INSTITUTED RECIRCULATION WITHIN A PROCESS									
W51										
Employed Activity	INSTITUTED RECIRCULATION WITHIN A PROCESS									
W51	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
W13	REDUCE BY IMPLEMENTING POLLUTION PREVENTION ACTIVITIES. IN AN ATTEMPT TO REDUCE EMISSIONS, WE WILL INCREASE RECYCLING.									
<b>Non Numeric Objective:</b>										
<b>Non Numeric Progress:</b>	CONTINUED TO IMPLEMENT NON-NUMERIC OBJECTIVES FOR 1999. DUE TO ZINC BEING A MAIN COMPONENT OF RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES WHILE PRODUCTION INCREASES. EMISSIONS WERE REDUCED FROM 1998-1999.									

**Lyon County, City of COTTONWOOD -- NORCRAFT COMPANIES, LLC -- ERCID -- 420250006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1992	92264	10,210	11,383	11,900	12,500	1998 10,210 1999 11,383		1999 / 1998 = 1.11	Yes
<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1992	375	10,109	12,383	13,000	13,600	1998 10,189	1999 12,383	1999 / 1998 = 1.21	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	11,241		
<i>Methyl Ethyl Ketone</i>	1992	0	0	11,240	11,800	12,400	1999 11,241		1999 / 1998 = 0	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.56	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1992	92264	48,228	40,406	42,400	44,500	58,218	40,406		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 W31 IMPROVED STORAGE OR STACKING PROCEDURES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W22 BEGAN TO TEST OUTDATED MATERIAL - CONTINUE TO USE IF STILL EFFECTIVE  
 Employed Activity  
 W90 NOT APPLICABLE

**Marshall County, City of WARREN -- NORDIC FIBERGLASS, INC. -- ERCID -- 452750002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.16	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1990	23549	3,532	4,003	4,474	4,921	103,196	106,809		

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W49 WILL BE IMPLEMENTING NEW LOWER EMISSION EQUIPMENT WITH LOWER STYRENE MATERIAL.  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W49 HAVE IMPLEMENTED SOME LOWER STYRENE RESINS WITH AUTOMATED PROCESSES.

**Martin County, City of DUNNELL -- PENDA - GLASSTITE, INC. -- ERCID -- 460200002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.11	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1995	26282	31,376	26,943	13,471	0	31,376	26,943		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W71 CONTINUE TO SEARCH FOR AN ALTERNATIVE CLEANER.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58 RESEARCHING A DIFFERENT ADHESIVE THAT WOULD POTENTIALLY BE CLEANED WITH AN AQUEOUS CLEANER.  
Employed Activity  
W71 OTHER PRODUCTS, SUCH AS THOSE CONTAINING NAPHTHA WERE TRIED. HOWEVER, THEY PRODUCED AN ODOROUS REACTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.11	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1995	115879	156,162	228,808	205,927	205,927	156,162	228,808	No	

**Process Code** P12

FIBERGLASS PRODUCT MANUFACTURING

Intended Activity  
W29 WILL CONTINUE TO PUSH OUR SUPPLIERS INTO PRODUCING USABLE PRODUCTS THAT WILL REDUCE EMISSIONS AND LESSEN HEALTH CONCERNS.  
W58 INSTITUTE CONTROL SPRAY TECHNIQUES TO ENSURE THAT OUR OPERATORS ARE TRAINED PROPERLY IN EQUIPMENT CALIBRATION, SPRAY PATTERNS, CONTROLLED OVERSPRAY, AND EMISSION REDUCTION TECHNIQUES.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W19 SHIELDS HAVE BEEN INSTALLED ON THE OPEN END OF MOLDS THAT CATCH OVERSPRAY FROM THE CHOPPING PROCESS, ELIMINATING OVERSPRAY ON THE FLOOR.  
W42 SUBSTITUTED RAW MATERIALS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Barriers to P2:**

F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 VENDORS WERE NOT ABLE TO PROVIDE A GELCOAT PRODUCT WITH LOW STYRENE CONTENT THAT WOULD NOT JEOPARDIZE QUALITY AND WORKABILITY UNTIL THE LATTER PART OF 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.11	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Xylene (mixed isomers)	1998	20049	20,049	15,906	15,110	14,355	20,049	15,906	Yes	

**Process Code** P21

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W58 REFORMULATING THE PAINT TO ELIMINATE XYLENE  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W29 WILL CONTINUE TO MONITOR WASTE PAINT  
Employed Activity  
W19 MONITORED USAGE BY TRACKING WASTE PAINT.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Martin County, City of FAIRMONT -- 3M - FAIRMONT -- ERCID -- 460350002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1991	99000	104,000	110,000	100,000	100,000	1998 102,690 1999 112,507	1999 / 1998 = 1.1	No

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W60 CHANGED TO MECHANICAL STRIPPING / CLEANING DEVICES (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:**  
 F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F10 EVALUATED SOLVENT FREE ADHESIVES AND CHANGED PART OF THE PRODUCT LINE TO THESE ADHESIVES. REMAINING PRODUCTS WILL REQUIRE CUSTOMER APPROVAL, NEW EQUIPMENT, AND CAPITAL FUNDING - NONE YET APPROVED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluenediisocyanate (mixed isomers)</i>	1997	3500	1,700	850	800	800	1998 1,700 1999 850	1999 / 1998 = 1.1	Yes

- Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Martin County, City of FAIRMONT -- WEIGH-TRONIX INC. -- ERCID -- 460350041**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>							1998 27,423 1999 26,651	1999 / 1998 = 0.97	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NO OBJECTIVES FOR REDUCING TRANSFERS. THIS CHEMICAL IS A COMPONENT OF RAW MATERIAL PROCESSED AND SOLD TO CUSTOMERS.

**Non Numeric Progress:** NO OBJECTIVES ESTABLISHED.

**Barriers to P2:** F10 CHEMICAL RECYCLED IS THE BYPRODUCT OF THE MANUFACTURING PROCESS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>							1998 13,711 1999 13,326	1999 / 1998 = 0.97	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NO OBJECTIVES FOR REDUCING TRANSFERS. THIS CHEMICAL IS A COMPONENT OF RAW MATERIAL PROCESSED AND SOLD TO CUSTOMERS.

**Non Numeric Progress:** NO OBJECTIVES ESTABLISHED.

**Barriers to P2:** F10 CHEMICAL RECYCLED IS THE BY-PRODUCT OF THE MANUFACTURING PROCESS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1996	25287					1998 26,504 1999 32,292	1999 / 1998 = 1.22	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** DID NOT HAVE A NUMERIC OBJECTIVE PRIOR TO YEAR 2000.

**Non Numeric Progress:** NONE

**Barriers to P2:** F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES

**Martin County, City of SHERBURN -- FOX LAKE PLANT -- ERCID -- 461150002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,2,4-trimethylbenzene	1998	130					1998 130	1999 / 1998 = 0.74	No
							1999 130		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity W39 INTEND TO QUANTIFY AND IDENTIFY SITE-SPECIFIC FUGITIVE EMISSIONS.

Employed Activity W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Non Numeric Objective:** QUANTIFY ACTUAL AMOUNTS ON SITE AND QUANTIFY ACTUAL RELEASES BASED ON SITE-SPECIFIC FACTORS. ONCE SPECIFIC RELEASES ARE IDENTIFIED, PROCESSES AND MITIGATING ACTIONS CAN BE IMPLEMENTED

**Non Numeric Progress:** NO PROGRESS WAS MADE ON THE NON-NUMERIC OBJECTIVES IN 1999. NEW PLAN WAS WRITTEN IN 2000.

**Barriers to P2:** F10 NEW PLAN WRITTEN IN 2000, NO ACTION WAS TAKEN IN 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
N-hexane	1998	130					1998 130	1999 / 1998 = 0.74	No
							1999 131		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity W39 INTEND TO QUANTIFY AND IDENTIFY SITE-SPECIFIC FUGITIVE EMISSIONS.

Employed Activity W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Non Numeric Objective:** QUANTIFY ACTUAL AMOUNTS ON SITE AND QUANTIFY ACTUAL RELEASES BASED ON SITE-SPECIFIC FACTORS. ONCE SPECIFIC RELEASES ARE IDENTIFIED, PROCESSES AND MITIGATING ACTIONS CAN BE IMPLEMENTED

**Non Numeric Progress:** NO PROGRESS WAS MADE ON THE NON-NUMERIC OBJECTIVES IN 1999. NEW PLAN WAS WRITTEN IN 2000.

**Barriers to P2:** F10 NEW PLAN IN 2000, SO NO ACTION WAS TAKEN IN 1999.

**McLeod County, City of HUTCHINSON -- BURNS PHILP FOOD INGREDIENTS -- ERCID -- 430550009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Ammonia	1993	500					1998 500	1999 / 1998 = 0.95	Yes
							1999 470		

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** THERE ARE NO ACCEPTABLE ALTERNATIVES FOR THE USE OF AMMONIA IN OUR PROCESS. WE RELY ON AN AGGRESSIVE PREVENTATIVE MAINTENANCE PLAN TO MINIMIZE FUGITIVE EMISSIONS.

**Non Numeric Progress:** THERE ARE NO ACCEPTABLE ALTERNATIVES FOR THE USE OF AMMONIA IN OUR PROCESS. WE RELY ON AN AGGRESSIVE PREVENTATIVE MAINTENANCE PLAN TO MINIMIZE FUGITIVE EMISSIONS.

**McLeod County, City of HUTCHINSON -- HUTCHINSON TECHNOLOGY, INC. -- ERCID -- 430550006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chlorine</i>	1996	12					1998 319 1999 248	1999 / 1998 = 0.81	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)

Intended Activity  
W73 SUBSTITUTED COATING MATERIALS USED

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NO NUMERIC OBJECTIVE IS SET SINCE CHLORINE RELEASES ARE THE RESULT OF THE NUMBER OF CYLINDER CHANGES WHICH ARE DIRECTLY DEPENDENT ON CUSTOMER ORDERS. RESEARCH ALTERNATIVE CHEMICAL IN ANOTHER OPERATION THAT WILL AFFECT USAGE OF CHLORINE.

**Non Numeric Progress:** NO PROGRESS MADE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1996	34000					1998 21,090 1999 17,095	1999 / 1998 = 0.93	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** CURRENTLY STAINLESS STEEL AND ITS CHROMIUM COMPONENT ARE RECYCLED BY AN OFF-SITE VENDOR. RESEARCH REUSE OF STAINLESS STEEL WASTE IS THE OBJECTIVE.

**Non Numeric Progress:** NO PROGRESS MADE TOWARD REUSE OF STAINLESS STEEL.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1998	18000					1999 39,775	1999 / 1998 = 1.48	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity  
 W68 IMPROVED RINSE EQUIPMENT OPERATION  
 W67 IMPROVED RINSE EQUIPMENT DESIGN  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** CURRENTLY METAL CLAD SHEETS WITH THE COPPER COMPONENT ARE RECYCLED OFF-SITE. RESEARCH REUSE OF STAINLESS STEEL BY QUARTER 4, 2001. RESEARCH WAYS TO DECREASE COPPER RELEASED IN WASTEWATER. INSTALL BLOWERS TO REDUCE DRAGOUT OF ETCHANT INTO RINSES.

**Non Numeric Progress:** NO PROGRESS MADE TOWARD REUSE OF METAL CLAD SHEETS.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1996	252000	232,000	302,000	126,000	0	1998 231,270 1999 262,081	1999 / 1998 = 0.81	No

**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity  
 W58 OPTIMIZE BATH LIFE AND FEED-N-BLEED THROUGH USE OF AUTOTITRATORS.  
 W42 SUBSTITUTED RAW MATERIALS  
 W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1996						1998 12,702 1999 22,884	1999 / 1998 = 0.93	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity  
 W90 NOT APPLICABLE  
 Employed Activity  
 W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CURRENTLY STAINLESS STEEL AND ITS NICKEL COMPONENT ARE RECYCLED BY AN OFF SITE VENDOR. RESEARCH REUSE OF STAINLESS STEEL WASTE IS THE OBJECTIVE.

**Non Numeric Progress:** NO PROGRESS MADE TOWARD REUSE OF STAINLESS STEEL.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**McLeod County, City of HUTCHINSON -- MINNESOTA MINING & MFG. - HUTCHINSON -- ERCID -- 430550003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Acrylic Acid</i>	1998	260,000	3,600	12,000	14,000	16,000	1998 23,000 1999 46,100	1999 / 1998 = 1.04	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Antimony Compounds</i>	1990	654	450	630	670	710	1998 450 1999 630	1999 / 1998 = 1.06	No

**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Cobalt</i>	1990	43000	9,600	9,500	9,400	9,200	1998 9,600 1999 9,500	1999 / 1998 = 0.85	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W19 REDUCED PRODUCT CHANGE OVERS AND POUNDS PRODUCED.  
Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyclohexane</i>	1990	326500	12,000	23,000	24,000	24,000	1998 216,090 1999 336,010	1999 / 1998 = 1.02	Yes	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 SOLVENT RECOVERY AND THERMAL OXIDATION  
Employed Activity W58 SOLVENT RECOVERY AND THERMAL OXIDATION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1995	6400	2,000	800	800	800	1998 2,000 1999 800	1999 / 1998 = 0.85	No	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W19 REDUCED PRODUCT CHANGE OVERS AND POUNDS PRODUCED.  
Employed Activity W19 REDUCED PRODUCT CHANGE OVERS AND POUNDS PRODUCED.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1990	3227	1,300	1,300	1,400	1,400	1998 1,300 1999 1,300	1999 / 1998 = 1.06	No	

**Process Code** P11 EXTRUDING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1990	401,500	63,000	71,000	77,000	85,000	1998 1,530,400 1999 1,746,230	1999 / 1998 = 1.1	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1990	16,695,00	180,000	210,000	250,000	270,000	1998 14,309,000 1999 12,120,000	1999 / 1998 = 0.85	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W19 REDUCE CHANGE OVERS AND QUANTITY COATED.  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W19 REDUCE CHANGE OVERS AND QUANTITY COATED.  
W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1990	32800	280	270	290	310	1998 24,280 1999 17,113	1999 / 1998 = 0.97	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 MODIFIED DESIGN OR COMPOSITION  
W82  
Employed Activity W19 REDUCE CHANGE OVERS AND QUANTITY COATED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1995	126000	41,000	39,000	41,000	43,000	1998 249,400	1999 262,130	1999 / 1998 = 1.05	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 THERMAL OXIDATION  
Employed Activity W58 THERMAL OXIDATION

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Tert-butyl Alcohol</i>	1990	30400	7,500	3,000	2,900	2,900	1998 117,500	1999 98,151	1999 / 1998 = 0.98	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 THERMAL OXIDATION  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F10 NEW PRODUCT WITH TERT-BUTYL ALCOHOL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1990	8989180	250,000	280,000	290,000	320,000	1998 9,250,000	1999 8,007,000	1999 / 1998 = 0.89	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 IMPROVED SCHEDULING AND SOLVENT RECOVERY EFFICIENCY.  
W19 IMPROVED SCHEDULING AND SOLVENT RECOVERY EFFICIENCY.  
Employed Activity W19 REDUCED CHANGE OVERS, SOLVENT RECOVERY AND THERMAL OXIDATION.  
W58 REDUCED CHANGE OVERS, SOLVENT RECOVERY AND THERMAL OXIDATION.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1990	117,900	7,100	2,300	1,700	1,800	1998 75,100	1999 137,420	1999 / 1998 = 1.05	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 W58 THERMAL OXIDATION.  
 Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1990	6	5	3	3	3	1998 5	1999 3	1999 / 1998 = 1.06	No

**Process Code** P11 EXTRUDING ANY MATERIAL  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**McLeod County, City of WINSTED -- DAIRY FARMERS OF AMERICA -- ERCID -- 431090002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1998	134766	134,766	134,800	134,800	120,000	1998 134,766	1999 65,307	1999 / 1998 = 0.48	Yes

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity W19 EVAPORATION PROCESS HAS BEEN DISCONTINUED. THE AMOUNT OF NITRIC ACID USED FOR CLEANING WAS REDUCED BY 60%.  
 Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Meeker County, City of GROVE CITY -- PRECISION FIBERGLASS PRODUCTS LTD -- ERCID -- 470850004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1998	25167					1998 25,167 1999 32,064	1999 / 1998 = 1.2	No

**Process Code P12** FIBERGLASS PRODUCT MANUFACTURING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W21

INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

Employed Activity

W21

INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

INFORMAL GOAL IS TO REDUCE EMISSIONS BY 3%. WILL EVALUATE NEW MATERIALS. LOOKING AT THE OPTION OF OBTAINING A GRANT FOR THE PURCHASE OF MACT APPLICATION EQUIPMENT THAT WOULD ULTIMATELY REDUCE EMISSIONS.

**Non Numeric Progress:**

HAVE AN EXCELLENT TRAINING PROGRAM TO PREVENT SPILLS, AS WELL AS SPILL CLEAN-UP TRAINING AND MATERIALS. NEW EMISSION FACTORS UTILIZED IN 1999 HAVE INFLUENCED THE INCREASE IN EMISSIONS IN 1999.

**Barriers to P2:**

F10 UTILIZED NEW AIR EMISSIONS FACTORS WHICH HAD PREVIOUSLY UNDERESTIMATED STYRENE EMISSIONS.  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Mille Lacs County, City of PRINCETON -- SMITH SYSTEM MFG. CO. -- ERCID -- 481090003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1997	27000					1998 30,812 1999 45,454	1999 / 1998 = 1.82	No

**Process Code P21** ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W73

SUBSTITUTED COATING MATERIALS USED

Employed Activity

W73

SUBSTITUTED COATING MATERIALS USED

**Non Numeric Progress:**

N/A

**Barriers to P2:**

F10 EQUIPMENT HAD TO BE ORDERED AND FACILITY UPGRADES WERE REQUIRED TO INSTALL THE NEW EQUIPMENT. DELAYS WERE ENCOUNTERED BEFORE THE SYSTEM COULD BE OPERATIONAL.

**Morrison County, City of LITTLE FALLS -- LARSON GLASTRON BOATS, INC. -- ERCID -- 491200003**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,1-dichloro-1-fluoroethane	1995	8489					8,433	9,047	Yes	

**Process Code** P13 FOAM BLOWING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Methyl Methacrylate		NA					3,549	29,711	No	

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** WE HAVE TRIED TO ELECTROSTATICALLY APPLY GELCOATS BUT THIS HAS PROVED NOT TO BE TECHNICALLY OR ECONOMICALLY FEASIBLE. IT DOES NOT APPEAR THAT WE WILL BE SEEING ANY REDUCTION IN THE USAGE IN THE NEAR FUTURE.

**Non Numeric Progress:** WE HAVE TRIED TO ELECTROSTATICALLY APPLY GELCOATS BUT THIS HAS PROVED NOT TO BE TECHNICALLY OR ECONOMICALLY FEASIBLE. IT DOES NOT APPEAR THAT WE WILL BE SEEING ANY REDUCTION IN THE USAGE IN THE NEAR FUTURE.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F10 FEDERAL RULE CHANGES IN CALCULATION METHODS FOR EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1994	168893					332,483	357,299	Yes	

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** USING LOW STYRENE RESINS AND FLOWCOATERS RESIN DISPENSING GUNS. AS THE RESIN INFUSION AND VACUUM BAGGING METHODS ARE FURTHER PERFECTED, WE WILL BE INVESTIGATING WAYS TO INCORPORATE THEM INTO OUR PRODUCT.

**Non Numeric Progress:** CHANGING SOME OF OUR PRODUCT LINE TO A RESIN INFUSION PROCESS WHICH IS A CLOSE MOLDED OPERATION WHICH ACCORDING TO FEDERAL EMISSION FACTORS SHOULD REDUCE OUR EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1993	7311					1998 12,593 1999 18,734	1999 / 1998 = 1.1	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Mower County, City of AUSTIN -- AUSTIN UTILITIES - NE POWER STATION -- ERCID -- 500150089**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	11,900					1998 11,900 1999 5,500	1999 / 1998 = 0.93	Yes

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity  
 W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.  
 Employed Activity  
 W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

**Non Numeric Objective:** COMMITTED TO OPERATING IN COMPLIANCE WITH ENVIRONMENTAL REGULATIONS TO MINIMIZE EMISSIONS OF TRI CHEMICALS AND WILL CONTINUE TO WORK TO MAXIMIZE THE BENEFICIAL REUSE OF COAL ASH.

**Non Numeric Progress:** ACTIVITIES DURING 1999 CONSISTENT WITH POLLUTION PREVENTION AND OBJECTIVES WERE MET.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1998	1900					1998 1,900 1999 870	1999 / 1998 = 0.93	Yes

**Process Code** P36 ELECTRICITY GENERATION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

Employed Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

**Non Numeric Objective:** COMMITTED TO OPERATING IN COMPLIANCE WITH ENVIRONMENTAL REGULATIONS TO MINIMIZE EMISSIONS OF TRI CHEMICALS AND WILL CONTINUE TO WORK TO MAXIMIZE THE BENEFICIAL REUSE OF COAL ASH.

**Non Numeric Progress:** ACTIVITIES DURING 1999 CONSISTENT WITH POLLUTION PREVENTION AND OBJECTIVES WERE MET.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	116,000					1998 116,000	1999 110,000	1999 / 1998 = 0.93	Yes

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

Employed Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

**Non Numeric Objective:** COMMITTED TO OPERATING IN COMPLIANCE WITH ENVIRONMENTAL REGULATIONS TO MINIMIZE EMISSIONS OF TRI CHEMICALS AND WILL CONTINUE TO WORK TO MAXIMIZE THE BENEFICIAL REUSE OF COAL ASH.

**Non Numeric Progress:** ACTIVITIES DURING 1999 CONSISTENT WITH POLLUTION PREVENTION AND OBJECTIVES WERE MET.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sulfuric Acid (aerosol forms only)</i>	1998	29000					1998 29,000	1999 176,000	1999 / 1998 = 0.93	Yes

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

Employed Activity  
W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.

**Non Numeric Objective:** COMMITTED TO OPERATING IN COMPLIANCE WITH ENVIRONMENTAL REGULATIONS TO MINIMIZE EMISSIONS OF TRI CHEMICALS AND WILL CONTINUE TO WORK TO MAXIMIZE THE BENEFICIAL REUSE OF COAL ASH.

**Non Numeric Progress:** ACTIVITIES DURING 1999 CONSISTENT WITH POLLUTION PREVENTION AND OBJECTIVES WERE MET.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1998	3000					1998 3,000 1999 1,400		1999 / 1998 = 0.93	Yes

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.  
 Employed Activity W19 CONSIDERATION OF ENVIRONMENTAL AND EMISSIONS CHARACTERISTICS AS PART OF FUEL EVALUATION ACTIVITIES, OPERATION OF EQUIPMENT AND CONTROLS AND WORK TO MAXIMIZE THE REUSE OF COAL ASH.  
**Non Numeric Objective:** COMMITTED TO OPERATING IN COMPLIANCE WITH ENVIRONMENTAL REGULATIONS TO MINIMIZE EMISSIONS OF TRI CHEMICALS AND WILL CONTINUE TO WORK TO MAXIMIZE THE BENEFICIAL REUSE OF COAL ASH.  
**Non Numeric Progress:** ACTIVITIES DURING 1999 CONSISTENT WITH POLLUTION PREVENTION AND OBJECTIVES WERE MET.

**Mower County, City of AUSTIN -- HORMEL FOODS CORPORATION -- ERCID -- 500150002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Ammonia	1991	48000	32,647	50,894	52,000	52,000	1998 32,647 1999 50,894		1999 / 1998 = 1.08	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Nicollet County, City of NORTH MANKATO -- MICO, INC. -- ERCID -- 520650001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Dichloromethane	1992	27007					1998 14,225 1999 16,969		1999 / 1998 = 1.05	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W58  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
**Non Numeric Objective:** USE AN ENCLOSED AND AUTOMATED SYSTEM WITH A HIGH FREE BOARD HEIGHT, SUPER HEATED VAPOR ZONE AND CLEAN FLUID THROUGH A STILL TO REDUCE USAGE AS MUCH AS POSSIBLE.  
**Non Numeric Progress:** USE AN ENCLOSED AND AUTOMATED SYSTEM WITH A HIGH FREE BOARD HEIGHT, SUPER HEATED VAPOR ZONE AND CLEAN FLUID THROUGH A STILL TO REDUCE USAGE AS MUCH AS POSSIBLE.

**Nicollet County, City of ST. PETER -- ALUMACRAFT BOAT CO. -- ERCID -- 520800001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1998	13400					1998 13,400 1999 16,440	1999 / 1998 = 1.19	No
<b>Process Code</b> P21 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS W82 MODIFIED DESIGN OR COMPOSITION W19 WE WILL CONTINUE OPERATOR TRAINING TO MINIMIZE THE OVER-APPLICATION OF ADHESIVE. Employed Activity W81 CHANGED PRODUCT SPECIFICATIONS W19 IN 1999, WE INSTRUCTED OPERATORS ON PROPER PRODUCT APPLICATION AND BEGAN TO ENCOURAGE THEM TO ACHIEVE REDUCED APPLICATION RATES. W82 MODIFIED DESIGN OR COMPOSITION <b>Non Numeric Objective:</b> HOPE TO REDUCE N-HEXANE USAGE BY 15% PER YEAR FOR THE NEXT THREE YEARS. WILL EDUCATE OPERATORS ON PROPER PRODUCT APPLICATION IN ORDER TO REDUCE USAGE. WILL CONTINUE TO SEARCH FOR ALTERNATIVES. <b>Non Numeric Progress:</b> HAVE INCREASED THE TRAINING FOR EMPLOYEES WHO APPLY GLUE IN ORDER TO REDUCE OVER APPLICATION RATES. ENCOURAGE THEM TO ACHIEVE REDUCED RATES. SEVERAL ALTERNATIVE PRODUCTS HAVE ALSO BEEN TRIED BUT ARE VERY EXPENSIVE. <b>Barriers to P2:</b> F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION F10 CURRENTLY SUBSTITUTES ARE VERY EXPENSIVE, AND PRODUCT SPECS CONTINUE TO CALL FOR MORE CARPETED SURFACES THAN BEFORE, WHICH INCREASES OUR USE OF ADHESIVE.	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)								

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1994	16417					1998 13,394 1999 14,301	1999 / 1998 = 1.19	No
<b>Process Code</b> P05 Intended Activity W81 CHANGED PRODUCT SPECIFICATIONS W82 MODIFIED DESIGN OR COMPOSITION W89 IMPLEMENT THE USE OF HIGH SOLIDS PAINT TO HELP REDUCE TOLUENE EMISSIONS BY MAY OF 2000. Employed Activity W71 SUBSTITUTED OTHER LESS OFFENSIVE SOLVENTS IN OUR CLEANING OPERATION.	CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W29 IN 1999, A LIMITED ACCESS CONTROL WAS INSTALLED SO THAT TOLUENE COULD ONLY BE USED FOR SPECIFIC PURPOSES. WILL BE REDUCING USAGE BY 50% OVER THE NEXT TWO YEARS. CONTINUE TO SEARCH FOR LESS OFFENSIVE SOLVENTS TO USE IN OUR CLEANING OPERATIONS AND INSTALL ACCESS CONTROL SO THAT TOLUENE IS USED ONLY FOR SPECIFIC PURPOSES.

**Non Numeric Objective:**

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. REDUCTION OF TOLUENE WAS HAMPERED BY AN INCREASE IN PRODUCTION. WE CONTINUE TO IMPLEMENT PROGRAMS THAT REDUCE THE AMOUNT OF SOLVENT USED RELATIVE TO AMOUNT OF PRODUCT WE PRODUCE.

**Barriers to P2:**

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 AS THE PRODUCTION RATIO INCREASES YEAR TO YEAR, SO WILL THE AMOUNT OF TOLUENE USED UNTIL WE FIND AN ALTERNATIVE THAT PRODUCES THE SAME QUALITY OF PRODUCT AT A REASONABLE COST.

**Nobles County, City of WORTHINGTON -- SWIFT & CO. -- ERCID -- 531500003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Ammonia	1997	47536	64,980	78,398	76,500	76,500	1998 64,980 1999 78,438	1999 / 1998 = 0.98	Yes

**Process Code** P26 REFRIGERATING/FREEZING

Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W39 ALL AMMONIA RECEIVERS AND ACCUMULATORS ARE IN CONCRETE BERMS.

Employed Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Olmsted County, City of ROCHESTER -- ASSOCIATED MILK PRODUCERS, INC. -- ERCID -- 550950001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Nitrate Compounds (water dissociable)							1998 140,390 1999 161,685	1999 / 1998 = 1.25	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** MANUFACTURED AS A BY-PRODUCT OF NEUTRALIZATION OF NITRIC ACID, WHICH IS USED AS A CLEANING SOLUTION FOR SANITATION PROCEDURES. OUR SUPPLIER IS TRYING TO DEVELOP AFFORDABLE ALTERNATIVES FOR CLEANING.

**Non Numeric Progress:** CHEMICAL SUPPLIERS CONTINUE TO RESEARCH AND DEVELOP A CLEANING SOLUTION THAN CAN BE SUBSTITUTED FOR NITRIC ACID AT A COMPARABLE PRICE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>			1,199	1,191	1,200	1,200	1998 142,534 1999 247,422	1999 / 1998 = 1.25	Yes

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W58 RECLAIMING ACID TO RE-USE AND IMPROVED OUR PH BALANCING SYSTEM.  
Employed Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W58 RECLAIMING ACID TO RE-USE AND IMPROVED OUR PH BALANCING SYSTEM.

**Olmsted County, City of ROCHESTER -- CRENLO, INC. - PLANT 2 -- ERCID -- 550950004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1999	28439	0	0	30,200	29,200	1999 31,009	1999 / 1998 = 1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W78 SEEK TO CONSERVE THE USAGE OF ALL MATERIALS THROUGH PROVEN MANUFACTURING TECHNIQUES.  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1999	200971	0	0	200,000	195,000			Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity  
W49 A STUDY WILL BE DONE TO DETERMINE IF A STEEL CAN BE PURCHASED WITH LESS MANGANESE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1994	125000	105,000	95,000	85,000	83,500	1998 85,265	1999 85,995	1999 / 1998 = 1	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W78 METHODS TO SUBSTITUTE OTHER CHEMICALS FOR MEK ARE BEING EVALUATED.  
 Employed Activity W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W78 METHODS TO SUBSTITUTE OTHER CHEMICALS FOR MEK ARE BEING EVALUATED.  
 Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1994	33000	39,000	49,723	48,700	47,600	1998 38,836	1999 49,723	1999 / 1998 = 1	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W78 SUBSTITUTION IS NOT AN OPTION AS QUALITY WOULD BE SACRIFICED. CONSERVATION EFFORTS CONTINUE.  
 Activity W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W78 SUBSTITUTION IS NOT AN OPTION AS QUALITY WOULD BE SACRIFICED. CONSERVATION EFFORTS CONTINUE.  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:**  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1994	65000	80,000	96,132	91,500	91,500	1998 60,706	1999 96,132		No

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W78 EMPHASIS CONTINUES ON CONSERVATION OF SOLVENTS.
- Employed Activity W90 NOT APPLICABLE
- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
- Intended Activity W78 EMPHASIS CONTINUES ON CONSERVATION OF SOLVENTS.
- Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1994	50000	43,000	45,211	41,000	40,000	1998 38,561	1999 45,209		No

- Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
- Intended Activity W78 WORK CONTINUES ON PROCESS IMPROVEMENT. CONSERVATION OF SOLVENTS AND PAINT CONTINUES.
- Activity W90 NOT APPLICABLE
- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
- Intended Activity W78 WORK CONTINUES ON PROCESS IMPROVEMENT. CONSERVATION OF SOLVENTS AND PAINT CONTINUES.
- Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Olmsted County, City of ROCHESTER -- INTERNATIONAL BUSINESS MACHINES CORP. -- ERCID -- 550950007

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.05	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1998	25700					25,700	24,100		

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 W78 OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ELECTROLESS NICKEL PLATING PROCESS.  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.  
**Non Numeric Progress:** NUMERIC REDUCTION OBJECTIVES WERE RECENTLY ESTABLISHED IN OUR UPDATED SITE POLLUTION PREVENTION PLAN (12-13-99) FOR THE YEARS 2000 THROUGH 2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.19	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1998	13290					13,290	15,280		

**Process Code** P10 ELECTROPLATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.  
**Non Numeric Progress:** OVER THE NEXT 3 YEARS, WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASES.  
**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.07	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead</i>	1998	16077					16,077	22,089		

**Process Code** P36 LEAD WAVE SOLDERING AND LEAD SOLDER PASTE USED FOR ELECTRONIC CARD ASSEMBLY PROCESS.  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.

**Non Numeric Progress:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASES.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1998	108000					1998 108,000	1999 111,000	1999 / 1998 = 1.05	Yes

**Process Code** P09 ELECTROLESS/IMMERSION COATING

Intended Activity

W78

OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ELECTROLESS NICKEL PLATING PROCESS.

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W90

NOT APPLICABLE

**Process Code** P18

MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W78

OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ELECTROLESS NICKEL PLATING PROCESS.

W82

MODIFIED DESIGN OR COMPOSITION

Employed Activity

W90

NOT APPLICABLE

**Process Code** P30

STRIPPING ANY COATING

Intended Activity

W82

MODIFIED DESIGN OR COMPOSITION

W78

OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ELECTROLESS NICKEL PLATING PROCESS.

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.

**Non Numeric Progress:** NUMERIC REDUCTION OBJECTIVES WERE RECENTLY ESTABLISHED IN OUR UPDATED SITE POLLUTION PREVENTION PLAN (12-13-99) FOR THE YEARS 2000 THROUGH 2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1998	683000					1998 683,000	1999 843,600	1999 / 1998 = 1.05	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W90

NOT APPLICABLE

Employed Activity

W90

NOT APPLICABLE

**Process Code** P30

STRIPPING ANY COATING

Intended Activity

W78

OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF NITRIC ACID STRIPPING PROCESS AND THE USE OF ALUMINUM NITRATE IN THE POLISHING PROCESS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W82  
Employed Activity  
W90  
**Non Numeric Objective:** MODIFIED DESIGN OR COMPOSITION  
NOT APPLICABLE  
OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.  
**Non Numeric Progress:** A NUMERIC REDUCTION OBJECTIVE WAS RECENTLY ESTABLISHED IN OUR UPDATED SITE POLLUTION PREVENTION PLAN (12-13-99) FOR THE YEAR 2000.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1998	500					1998 701,350 1999 801,180	1999 / 1998 = 1.05	Yes	

**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W78 OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF NITRIC ACID STRIPPING PROCESS.  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.  
**Non Numeric Progress:** NUMERIC REDUCTION OBJECTIVES WERE RECENTLY ESTABLISHED IN OUR UPDATED SITE POLLUTION PREVENTION PLAN (12-13-99) FOR THE YEARS 2000 AND 2001.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1998	38630					1998 38,630 1999 36,400	1999 / 1998 = 1.05	Yes	

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
Intended Activity  
W78 OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ZINCATING PROCESS AND ZINCATE STRIPPING PROCESS.  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P30 STRIPPING ANY COATING  
Intended Activity  
W78 OTHER SURFACE PREPARATION AND FINISHING MODIFICATIONS - ELIMINATION OF ZINCATING PROCESS AND ZINCATE STRIPPING PROCESS.  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** OVER THE NEXT 3 YEARS, WE WILL CONTINUE TO REVIEW POTENTIAL TECHNICAL ALTERNATIVES THAT MAY FURTHER MINIMIZE THE USE OR RELEASE.  
**Non Numeric Progress:** NUMERIC REDUCTION OBJECTIVES WERE RECENTLY ESTABLISHED IN OUR UPDATED SITE POLLUTION PREVENTION PLAN (12-13-99) FOR THE YEAR 2000 THROUGH 2002.

Olmsted County, City of ROCHESTER -- MARIGOLD FOODS, INC. -- ERCID -- 550950009

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	24085					1999 24,085	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity W71  
Employed Activity W90

**Non Numeric Objective:** WORKING CLOSELY WITH OUR CHEMICAL SUPPLIER TO SEARCH FOR A CHEMICAL PRODUCT WITH LESS NITRIC ACID CONTENT AND STILL MAINTAIN A HIGH LEVEL OF CLEANING PROPERTIES AS TO NOT AFFECT SANITATION REQUIREMENTS OF THE FDA AND USDA.

**Non Numeric Progress:** CONTINUE TO LOOK FOR CHEMICAL PRODUCTS THAT CONTAIN LESS NITRIC ACID CONTENT.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1997	15590					1998 18,092 1999 24,439	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity W71  
Employed Activity W90

**Non Numeric Objective:** WORKING CLOSELY WITH OUR CHEMICAL SUPPLIER TO SEARCH FOR A CHEMICAL PRODUCT WITH LESS NITRIC ACID CONTENT AND STILL MAINTAIN A HIGH LEVEL OF CLEANING PROPERTIES AS TO NOT AFFECT SANITATION REQUIREMENTS OF THE FDA AND USDA.

**Non Numeric Progress:** CONTINUE TO LOOK FOR CHEMICAL PRODUCTS THAT CONTAIN LESS NITRIC ACID CONTENT.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Olmsted County, City of ROCHESTER -- MARIGOLD FOODS, INC. -- ERCID -- 550950010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	16485					1999 16,485	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity W82  
Employed Activity W82

MODIFIED DESIGN OR COMPOSITION

MODIFIED DESIGN OR COMPOSITION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE TO MONITOR CHEMICAL USAGE AND WILL REDUCE USAGE RATES WHEN POSSIBLE.

**Non Numeric Progress:** MONITOR ALL CLEANING CIRCUITS AND TEST FOR CHEMICAL STRENGTH. REDUCE USAGE LEVELS WHEN NECESSARY. LONGER PRODUCTION RUNS HAVE REDUCED CHEMICAL NEEDS FOR THE YEAR 2000.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1999	16728					1999 16,728	1999 / 1998 = 1	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION

Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION

**Non Numeric Objective:** CONTINUE TO MONITOR CHEMICAL USAGE. EFFORTS HAVE BEEN MADE TO REDUCE LEVELS, HOWEVER, CHEMICAL USAGE WAS UP IN 1999 DUE TO INCREASED PRODUCTION.

**Non Numeric Progress:** MONITOR ALL CLEANING CIRCUITS AND TEST FOR CHEMICAL STRENGTH. REDUCE USAGE LEVELS WHERE NECESSARY. LONGER PRODUCTION RUNS HAVE REDUCED CHEMICAL NEEDS FOR THE YEAR 2000.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Olmsted County, City of ROCHESTER -- ROCHESTER PUBLIC UTILITIES-SILVER LAKE -- ERCID -- 550950074**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1999	27040					1998 15,460 1999 14,360	1999 / 1998 = 1.2	Yes

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W19 BENEFICIALLY USING MORE ASH

Employed Activity  
W19 ASH UTILIZATION INCREASED 40% TO 50% THUS REDUCING BARIUM SENT TO A LANDFILL. INCREASED COLLECTION OF PARTICULATES BY USING ESP'S RESULTED IN LESS EMISSIONS.

**Non Numeric Objective:** CURRENTLY SENDING 50% OF OUR ASH TO THE LANDFILL AND A CEMENT COMPANY BENEFICIALLY USES THE OTHER 50%. LOOKING AT SENDING LESS TO THE LANDFILL AND MORE TO THE CEMENT COMPANY.

**Non Numeric Progress:** A 10% IMPROVEMENT WAS MADE FOR BENEFICIALLY USING ASH OPPOSED TO GOING TO THE LANDFILL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrochloric Acid (aerosol forms only)</i>	1999	197720	209,942	197,720	204,000	204,000	1998 210,000 1999 198,000	1999 / 1998 = 1.9	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P36      ELECTRICITY GENERATION  
Intended Activity  
W58      BOILER EFFICIENCY IMPROVEMENTS  
Employed Activity  
W58      IMPLEMENT BOILER EFFICIENCY IMPROVEMENTS TO IMPROVE THE HEAT RATE TO REDUCE THE AMOUNT OF COAL BURNED. THIS WOULD ENABLE THE PLANT TO MEET THE ELECTRICITY ENERGY OUTPUT SCHEDULE MORE EFFICIENTLY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sulfuric Acid (aerosol forms only)</i>	1999	45012					1998 62,000 1999 45,000		1999 / 1998 = 1.2	Yes

**Process Code** P36      ELECTRICITY GENERATION  
Intended Activity  
W58      IMPLEMENT BOILER EFFICIENCY IMPROVEMENTS TO IMPROVE THE HEAT RATE TO REDUCE THE AMOUNT OF COAL BURNED. THIS WOULD ENABLE THE PLANT TO MEET THE ELECTRICITY ENERGY OUTPUT SCHEDULE MORE EFFICIENTLY.  
Employed Activity  
W58      PURCHASED COAL WITH LOWER SULFUR CONCENTRATION.  
**Non Numeric Objective:** IMPROVE OUR EFFICIENCY BY REDUCING THE HEAT RATE WHICH WOULD RESULT IN LESS COAL BEING BURNED TO PRODUCE THE SCHEDULED AMOUNT OF ELECTRICITY. TRY A DIFFERENT TYPE OF COAL THAT WOULD HAVE A LOWER PERCENTAGE OF SULFUR.  
**Non Numeric Progress:** AS A RESULT OF BURNING LESS COAL, IMPROVED HEAT RATE AND LOWER SULFUR CONCENTRATION IN THE COAL DECREASED EMISSIONS FROM 1999 COMPARED TO 1998.

**Olmsted County, City of STEWARTVILLE -- GEOTEK, INC. -- ERCID -- 551150024**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1998	21180					1998 21,196 1999 35,431		1999 / 1998 = 1.07	Yes

**Process Code** P12      FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W90      NOT APPLICABLE  
**Non Numeric Objective:** ENCLOSING THE OPEN BATH TO REDUCE EMISSIONS, MEASURING ACTUAL EMISSIONS FOR A MORE ACCURATE EMISSION NUMBER, WORK ON A CLOSED RESIN INJECTION SYSTEM, AND SAMPLE ADDITIVES TO REDUCE STYRENE USAGE.  
**Non Numeric Progress:** NA

**Olmsted County, City of STEWARTVILLE -- ROCHESTER MEDICAL CORP. -- ERCID -- 551150018**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.92	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1993	102650	52,244	38,018	34,216	34,216	52,244	38,018	Yes	

**Process Code** P02  
Intended Activity  
W89

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

W71  
Employed Activity  
W89

WILL SWITCH TO A DIFFERENT PRODUCT THAT DOESN'T CONTAIN TOLUENE AND ATTEMPT TO GET OUR CUSTOMER TO USE A PRODUCT WHICH CONTAINS TOLUENE TO SWITCH TO A DIFFERENT PRODUCT.

BEGINNING IN THE YEAR 2000, WE WILL USE LESS TOLUENE IN CLEANING.

IN 1999, WE ATTEMPTED TO GET OUR CUSTOMER USING A PARTICULAR PRODUCT CONTAINING TOLUENE TO SWITCH TO A DIFFERENT PRODUCT WHICH DOESN'T CONTAIN TOLUENE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.92	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1997	25504					169,741	199,369	No	

**Process Code** P02  
Intended Activity  
W14

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Employed Activity  
W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:**

REDUCE OUR XYLENE USAGE BY ALTERING OUR PRODUCTION SCHEDULE TO MAXIMIZE THE CURRENT USE OF XYLENE AND ALLOW MORE TIME BETWEEN CHANGEOVERS.

**Non Numeric Progress:**

DUE TO THE NATURE OF THE PRODUCT AND PRODUCTION INCREASES, REDUCTION WAS NOT FEASIBLE FOR XYLENE.

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Otter Tail County, City of FERGUS FALLS -- OTTER TAIL POWER CO. (HOOT LAKE) -- ERCID -- 561650012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.99	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Barium Compounds</i>	1998	110,000					110,000	130,000	No	

**Process Code** P36  
Intended Activity

ELECTRICITY GENERATION

W19  
Employed Activity  
W19

FIND WAYS TO OPERATE MORE EFFICIENTLY AND THUS BURN LESS COAL. FIND MARKETS AND SEEK MPCA APPROVAL FOR BENEFICIAL USE OF COAL ASH.

FOUND SOME OPPORTUNITIES FOR THE UTILIZATION OF COAL ASH AND HAVE CONDUCTED PRODUCT TESTING TO GAIN MPCA APPROVAL FOR USE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE TO PROMOTE THE USE OF ENERGY CONSERVATION PROGRAMS WHENEVER ECONOMICALLY FEASIBLE TO REDUCE THE NEED FOR ADDITIONAL ELECTRICAL GENERATION. SEEK MARKETS AND MPCA APPROVAL FOR BENEFICIAL USE OF COAL ASH.

**Non Numeric Progress:** NOT APPLICABLE. PREPARATION OF OUR POLLUTION PREVENTION PLAN WAS NOT REQUIRED UNTIL JANUARY 2000.

**Barriers to P2:** F06 SPECIFIC REGULATORY / PERMIT BURDENS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	6400					40,400	53,000	1999 / 1998 = 0.99	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity

W19

Employed Activity

W90

INVESTIGATE THE FEASIBILITY OF TESTING OUR AIR EMISSIONS TO QUANTIFY THE HYDROCHLORIC ACID WE GENERATE.

**Non Numeric Objective:** CONTINUE TO PROMOTE THE USE OF ENERGY CONSERVATION PROGRAMS WHENEVER ECONOMICALLY FEASIBLE TO REDUCE THE NEED FOR ADDITIONAL ELECTRICAL GENERATION. LOOK AT THE FEASIBILITY OF TESTING STACK GASES FOR TRI REPORTED ACID GASES.

**Non Numeric Progress:** NOT APPLICABLE. PREPARATION OF OUR POLLUTION PREVENTION PLAN WAS NOT REQUIRED UNTIL JANUARY 2000.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Otter Tail County, City of FERGUS FALLS -- QUALITY CIRCUITS, INC. -- ERCID -- 561650055**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	1998		
<i>Ammonia</i>	1999						56,587		1999 / 1998 = 1.23	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)

Intended Activity

W49

W35

W55

Employed Activity

W35

W55

W49

DETERMINE IF LESSER COPPER WEIGHTS CAN BE USED THUS REDUCING ETCHANT NEEDS.

INSTALLED VAPOR RECOVERY SYSTEMS

CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

INSTALLED VAPOR RECOVERY SYSTEMS

CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

DETERMINE IF LESSER COPPER WEIGHTS CAN BE USED THUS REDUCING ETCHANT NEEDS.

**Non Numeric Objective:** USE THE LEAST AMOUNT OF ETCHANT TO FULLY REMOVE THE COPPER FROM CIRCUIT PANELS AND MINIMIZE THE DRAGOUT ON THE PANELS. ACCOMPLISHED THROUGH A COMPUTER CONTROLLED REPLENISHMENT SYSTEM AND REQUESTING CUSTOMERS USE LESS BASE COPPER.

**Non Numeric Progress:** DAILY MAINTENANCE OF THE REPLENISHMENT SYSTEM, NO WASHING/RINSING OF CONTAINERS, CUSTOMERS HAVE REDUCED COPPER REQUIREMENTS RESULTING IN LESS ETCHANT USE, AND REDUCED ETCHANT USE THROUGH PLATING ROBBERS - AREAS THAT RETAIN COPPER ON CIRCUIT PANELS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.23	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	41993					45,303	56,777		

**Process Code** P04

CHEMICAL MILLING (ETCHING)

Intended Activity

- W68 IMPROVED RINSE EQUIPMENT OPERATION
- W67 IMPROVED RINSE EQUIPMENT DESIGN
- W35 INSTALLED VAPOR RECOVERY SYSTEMS

Employed Activity

- W68 IMPROVED RINSE EQUIPMENT OPERATION
- W67 IMPROVED RINSE EQUIPMENT DESIGN
- W35 INSTALLED VAPOR RECOVERY SYSTEMS

**Process Code** P10

ELECTROPLATING

Intended Activity

- W68 IMPROVED RINSE EQUIPMENT OPERATION
- W58 NEW LINE INCLUDED NON-SUBMERSIBLE PLATING RACKS, LESS WETTED AREA = LESS DRAGOUT, AND PROGRAMMED DRIP TIMES TO MINIMIZE DRAGOUT.
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W68 IMPROVED RINSE EQUIPMENT OPERATION
- W58 NEW LINE INCLUDED NON-SUBMERSIBLE PLATING RACKS, LESS WETTED AREA = LESS DRAGOUT, AND PROGRAMMED DRIP TIMES TO MINIMIZE DRAGOUT.

**Process Code** P18

MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

- W82 MODIFIED DESIGN OR COMPOSITION

Employed Activity

- W82 MODIFIED DESIGN OR COMPOSITION

**Non Numeric Objective:**

REDUCE THE QUANTITY TRANSFERRED OR RELEASED AS A FUNCTION OF THE QUANTITY OF PRODUCT WE PRODUCE.

**Non Numeric Progress:**

SCRAP TRIMS HAVE BEEN NEARLY ELIMINATED. SCRAP LAMINATE PANELS ARE SAVED AND USED FOR MACHINE SET-UP, ELIMINATING THE NEED FOR NEW MATERIAL. NEW PLATING EQUIPMENT IMPROVED UNIFORMITY AND REDUCED DRAGOUT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.23	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1999	2000		
<i>Nitric Acid</i>	1999						9,002			

**Process Code** P04

CHEMICAL MILLING (ETCHING)

Intended Activity

- W19 80% OF THE CURRENT TIN STRIP SOLUTION IS RETURNED TO THE TIN STRIPPING MACHINE AS A FEEDSTOCK.
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
- W35 INSTALLED VAPOR RECOVERY SYSTEMS

Employed Activity

- W35 INSTALLED VAPOR RECOVERY SYSTEMS
- W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W19 80% OF THE CURRENT TIN STRIP SOLUTION IS RETURNED TO THE TIN STRIPPING MACHINE AS A FEEDSTOCK.  
**Non Numeric Objective:** USE THE LEAST AMOUNT OF TIN STRIPPING SOLUTION, CONTAINING NITRIC ACID, TO REMOVE PLATED TIN FROM PRINTED CIRCUIT PANELS. THIS IS ACCOMPLISHED BY MINIMIZING THE AMOUNT OF TIN PLATED AND MAXIMIZING THE USE OF STRIPPER THROUGH COMPUTER CONTROLS.  
**Non Numeric Progress:** USE OF COMPUTER CONTROLLED PLATING EQUIPMENT TO ENSURE THAT TIN IS UNIFORMLY PLATED REDUCING THE NEED FOR STRIPPING. DAILY MAINTENANCE OF THE STRIPPER SYSTEM. NEARLY 100% USE OF THE STRIPPING SOLUTION IN THE PROCESSING EQUIPMENT.

**Otter Tail County, City of NEW YORK MILLS -- LUND BOAT DIVISION -- ERCID -- 562510003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,1-dichloro-1-fluoroethane	1999	2078	0	2,078	2,494	2,992	1998 1,786 1999 2,078	1999 / 1998 = 1.23	No

**Process Code** P13 FOAM BLOWING  
Intended Activity W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 CURRENTLY NO SUITABLE ALTERNATIVE FOAMS ARE AVAILABLE WHICH WOULD MEET OUR NEEDS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
N-hexane	1999	11416	0	11,416	13,698	16,438	1999 11,416	1999 / 1998 = 1.23	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Toluene	1999	87600	0	87,600	105,102	126,122	1998 70,378 1999 87,585	1999 / 1998 = 1.23	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W19 IMPROVED METHODS TO RECAPTURE USED SOLVENT FOR RECYCLING.  
ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
**Process Code** P21  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1999	53453	0	53,453	64,464	77,357	1998 47,353 1999 53,721	1999 / 1998 = 1.23	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
Employed Activity W19 IMPROVED METHODS TO RECAPTURE USED SOLVENT FOR RECYCLING.  
ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
**Process Code** P21  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Otter Tail County, City of PERHAM -- LAND O'LAKES, INC.-DAIRY PRODUCTION DIV. --ERCID -- 563190002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1996	40766					1998 329,210 1999 413,698	1999 / 1998 = 1.55	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- Non Numeric Objective:** TO CONTROL COMPOUND PRODUCTION, SOURCE CHEMICALS WILL BE USED ONLY AS REQUIRED BY FDA. EXCESSIVE USE OF COMPOUND TO BE AVOIDED. FACILITY WILL CONTINUE TO RESEARCH OPTIONS IN CHANGING EQUIPMENT, PROCESS OR CLEANING CHEMICALS USED TO REDUCE CHEMICAL.
- Non Numeric Progress:** CLEANING COMPOUNDS TREATED WITH PROCESS WASTE WHICH REMOVES NITROGEN AS BIOSOLIDS. TO CONTROL COMPOUND PRODUCTION SOURCE CHEMICAL WILL BE USED ONLY AS REQUIRED. WASTE-WATER TREATMENT PLANT WILL BE RUN AS EFFICIENTLY AS POSSIBLE.
- Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Pennington County, City of THIEF RIVER FALLS -- ARCTIC CAT, INC. -- ERCID -- 571150042**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1998	91750	91,750	36,000	0	0	1998 91,700	1999 37,328	1999 / 1998 = 0.52	Yes

- Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING
- Intended Activity  
W89 ANNUAL REVIEW OF PRODUCTS FOR STYRENE CONTENT.  
W19 GOOD HOUSEKEEPING PRACTICES SUCH AS DAILY CLEANUP AND ANNUAL INVENTORY CHECKS.
- Employed Activity  
W19 GOOD HOUSEKEEPING PRACTICES SUCH AS DAILY CLEANUP AND ANNUAL INVENTORY CHECKS.  
W39 PROCESS SAFETY

**Pipestone County, City of PIPESTONE -- US MARINE/BAYLINER -- ERCID -- 590750003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1996	190000	206,820	333,917	340,000	340,000	1998 206,820	1999 333,917	1999 / 1998 = 1.15	Yes

- Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING
- Intended Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W74 IMPROVED APPLICATION TECHNIQUES
- Employed Activity  
W90 NOT APPLICABLE

**Polk County, City of CROOKSTON -- AMERICAN CRYSTAL SUGAR CO. -- ERCID -- 600650006**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1991	69300					276,316	108,635	1999 / 1998 = 1.3	No

- Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W41 INCREASED PURITY OF RAW MATERIALS  
 Employed Activity W41 INCREASED PURITY OF RAW MATERIALS  
**Non Numeric Objective:** REDUCE THE AMINE CONTENT IN SUGAR BEETS THROUGH AN INCENTIVE PROGRAM WHICH PAYS GROWERS FOR HIGHER PURITY BEETS.  
**Non Numeric Progress:** CONTINUE GROWER PRACTICES PROGRAM.  
**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Polk County, City of CROOKSTON -- PHOENIX INDUSTRIES OF CROOKSTON, LTD. -- ERCID -- 600650026**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1993	17000					91,640	172,845	1999 / 1998 = 1.14	Yes

- Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 W49  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity W42 SUBSTITUTED RAW MATERIALS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W49  
**Non Numeric Objective:** CHANGES IN PROCESSING AND PROCESS MODIFICATIONS THROUGH PLANT ENGINEERING, INTERNAL POLLUTION PREVENTION AUDITS, PARTICIPATIVE TEAM MANAGEMENT, EMPLOYEE RECOMMENDATIONS AND VENDOR AND OTHER ASSISTANCE AND RECOMMENDATIONS.  
**Non Numeric Progress:** CHANGES IN PROCESSING AND PROCESS MODIFICATIONS THROUGH PLANT ENGINEERING, INTERNAL POLLUTION PREVENTION AUDITS, PARTICIPATIVE TEAM MANAGEMENT, EMPLOYEE RECOMMENDATIONS AND VENDOR AND OTHER ASSISTANCE AND RECOMMENDATIONS.

**Polk County, City of EAST GRAND FORKS -- AMERICAN CRYSTAL SUGAR CO. -- ERCID -- 600750002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1991	120000					418,009	416,000	1999 / 1998 = 1.09	No

- Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
Employed Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W41 INCREASED PURITY OF RAW MATERIALS  
**Non Numeric Objective:** REDUCE THE AMINE CONTENT IN SUGAR BEETS THROUGH AN INCENTIVE PROGRAM WHICH PAYS GROWERS FOR HIGHER PURITY BEETS. DIVERT EVAPORATOR NON-CONDENSIBLE VAPORS FROM THE ATMOSPHERE BY SCRUBBING WITH FLUME WATER.  
**Non Numeric Progress:** CONTINUE GROWER INCENTIVE PROGRAM. INSTALLED AMMONIA VENT COLLECTION SYSTEM.  
**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Ramsey County, City of ARDEN HILLS -- ALLIANT AMMUNITIONS SYSTEMS CO. LLC -- ERCID -- 620050015**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	102320					1998 102,320 1999 59,300		1999 / 1998 = 0.91	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** CONTINUE GOOD HOUSEKEEPING PRACTICES (ALREADY IN PLACE) TO COLLECT COPPER SCRAP FOR SHIPMENT TO AN OFF-SITE RECLAMATION FACILITY.  
**Non Numeric Progress:** CONTINUED TO SEND, TO THE EXTENT TECHNICALLY AND ECONOMICALLY FEASIBLE, COPPER SCRAP TO AN OFF-SITE RECLAMATION FACILITY.

**Ramsey County, City of ARDEN HILLS -- GUIDANT/CPI -- ERCID -- 620050004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>2-chloro-1,1,1,2-tetrafluoroethane</i>	1996	10990					1998 15,302 1999 18,633		1999 / 1998 = 1.12	No

**Process Code** P29 STERILIZING (FUMIGATING, DISINFECTING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W19 REDUCTION IN THE QUANTITY OF STERILIZED DEVICES AT THIS SITE BEGAN IN LATE 1999 AND WILL CONTINUE INTO 2001.  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F10 DEVELOPMENT AND VALIDATION OF A NEW PROCESS MONITOR AS WELL AS TESTING FOR NEW DEVICE DESIGNS CONSUMED MORE PROCESS TIME AND CHEMICALS THAN ANTICIPATED.

**Ramsey County, City of ARDEN HILLS -- ST. PAUL METALCRAFT, INC. -- ERCID -- 620050012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective	
	Year	Quantity	1998	1999	2000	2001				
<i>Copper</i>							1998	23,659	1999 / 1998 = 0.9	No
							1999	26,035		

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** SEND ALL SCRAP AND BYPASS PRODUCT OFFSITE FOR REPROCESSING. REQUEST CAPITAL TO REPLACE WATER TREATMENT EQUIPMENT.

**Non Numeric Progress:** NA

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F10 TO ELIMINATE THE SMALL AMOUNT OF COPPER RELEASED INTO THE AIR WOULD REQUIRE A LARGE CAPITAL INVESTMENT, APPROXIMATELY \$500,000.

**Ramsey County, City of LAUDERDALE -- TWIN CITY DIE CASTING, INC. -- ERCID -- 620250001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective	
	Year	Quantity	1998	1999	2000	2001				
<i>Copper</i>	1991	6000					1998	12,088	1999 / 1998 = 1.06	No
							1999	14,888		

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** LOOK FOR ALTERNATIVE MATERIALS.

**Non Numeric Progress:** CONTINUED TO EVALUATE ALTERNATIVE MATERIALS WHICH ARE COMPATIBLE WITH THE PROCESS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Ramsey County, City of MAPLEWOOD -- MODINE NORTH CENTRAL, INC. -- ERCID -- 620350040**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1996	27	27	1	1	1	1998 4,332 1999 6,487	1999 / 1998 = 0.93	No

- Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)
- Intended Activity
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity
- W90 NOT APPLICABLE
- Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
- Intended Activity
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Employed Activity
- W90 NOT APPLICABLE

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Ramsey County, City of NEW BRIGHTON -- JOHNSON SCREENS INC. -- ERCID -- 620450016**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1996	82677	75,372	52,643	50,011	47,510	1998 75,373 1999 52,643	1999 / 1998 = 0.98	Yes

- Process Code** P11 EXTRUDING ANY MATERIAL
- Intended Activity
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W19 MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.
- W58 MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.
- Employed Activity
- W51 INSTITUTED RECIRCULATION WITHIN A PROCESS
- W58 MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.
- W19 MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.
- Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)
- Intended Activity
- W58 MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.
- Employed Activity
- W58 MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.
- Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
- Intended Activity
- W58 INSTALLED VAPOR RECOVERY SYSTEMS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W58 MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING INITIAL MATERIAL OR PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1996	8934	8,221	5,735	5,448	5,176	1998 8,221 1999 5,735	1999 / 1998 = 0.98	Yes

**Process Code** P11

EXTRUDING ANY MATERIAL

Intended Activity

W51

INSTITUTED RECIRCULATION WITHIN A PROCESS

W19

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

W58

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

Employed Activity

W51

INSTITUTED RECIRCULATION WITHIN A PROCESS

W58

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

W19

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

**Process Code** P18

MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W58

MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.

Employed Activity

W58

MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.

**Process Code** P35

WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity

W58

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TOMINIMIZE THE AMOUNT OF SCRAP GENERATED.

Employed Activity

W58

MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1996	34236	30,963	21,626	20,545	19,517	1998 30,963 1999 21,626	1999 / 1998 = 0.98	Yes

**Process Code** P11

EXTRUDING ANY MATERIAL

Intended Activity

W51

INSTITUTED RECIRCULATION WITHIN A PROCESS

W19

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

W58

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

Employed Activity

W51

INSTITUTED RECIRCULATION WITHIN A PROCESS

W58

MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W19 MATERIAL BEING EXTRUDED IS CONSTANTLY MONITORED TO MINIMIZE THE AMOUNT OF SCRAP GENERATED.  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W58 MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.  
 Employed Activity  
 W58 MATERIAL AND PRODUCT BEING GROUND OR MACHINED IS MINIMIZED BY MAKING THE INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity  
 W58 MATERIAL AND PRODUCT BEIN GROUND ON MACHINE IS MINIMIZED BY MAKING INITIAL MATERIAL AND PRODUCT AS CLOSE TO SPECIFIED SIZE AS POSSIBLE  
 Employed Activity  
 W58 MATERIAL AND PRODUCT BEING GROUND ON MACHINE IS MINIMIZED BY MAKING INITIAL MATERIAL AND PRODUCTS AS CLOSE TO SPECIFIED SIZE AS POSSIBLE.

**Ramsey County, City of NEW BRIGHTON -- MICOM CORP. -- ERCID -- 620450006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Copper	1999	43451					1998 31,283 1999 43,496	1999 / 1998 = 1.03	No

**Process Code** P10 ELECTROPLATING  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W68 IMPROVED RINSE EQUIPMENT OPERATION  
**Non Numeric Objective:** MONITOR THE COPPER ION EXCHANGE SYSTEM BETTER, BETTER CONTROL ON THE WATER SOFTENER SYSTEM AND COPPER DISCHARGE TO THE DRAIN, AND LOWER THE COPPER CONTENT IN COPPER PLATE SOLUTIONS.

**Non Numeric Progress:** LOWER THE COPPER CONTENT IN THE WATER DISCHARGE FROM 1 PPM TO .5 PPM.

**Barriers to P2:**  
 F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F10 IF OUR PRODUCTION CONTINUES TO GROW, SO WILL THE COPPER USAGE.

**Ramsey County, City of NEW BRIGHTON -- WOLKERSTORFER CO., INC. -- ERCID -- 620450012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Toluene	1998	13095					1999 14,789	1999 / 1998 = 0.96	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
**Non Numeric Objective:** PAINTER TRAINING - METHODS TO REDUCE EVAPORATIVE LOSSES OF VOC'S. SCHEDULING AND PRODUCT FLOW ISSUES TO REDUCE SET-UP AND CLEAN-UP WASTES. WASTE THINNER REUSE AND PRODUCT SUBSTITUTION FOR GUN CLEANER WHEN ALLOWED.  
**Non Numeric Progress:** PAINTER TRAINING CONTINUES ON AN ONGOING BASIS. EMPLOYEE TURNOVER RATE ENSURES THAT THE MATERIAL IN TRAINING IS CONTINUALLY ADDRESSED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1998	11184					1998 13,165 1999 14,809	1999 / 1998 = 0.96	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
**Non Numeric Objective:** PAINTER TRAINING - METHODS TO REDUCE EVAPORATIVE LOSSES OF VOC'S. SCHEDULING AND PRODUCT FLOW ISSUES TO REDUCE SET-UP AND CLEAN-UP WASTES. WASTE THINNER REUSE AND PRODUCT SUBSTITUTION FOR GUN CLEANER WHEN ALLOWED.  
**Non Numeric Progress:** PAINTER TRAINING CONTINUES ON AN ONGOING BASIS. EMPLOYEE TURNOVER RATE ENSURES THAT THE MATERIAL IN TRAINING IS CONTINUALLY ADDRESSED.

**Ramsey County, City of ROSEVILLE -- BP AMOCO OIL / TWIN CITIES TERMINAL -- ERCID -- 620600002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>1,2,4-trimethylbenzene</i>	1999	315					1998 225 1999 315	1999 / 1998 = 1.12	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.  
**Non Numeric Progress:** NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Benzene</i>	1999	400					1998 305 1999 400	1999 / 1998 = 1.12	Yes	

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1999	150					1998 95 1999 150	1999 / 1998 = 1.12	Yes	

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 Employed Activity  
 W90 NOT APPLICABLE  
**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.  
**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1999	425					1998 330 1999 425	1999 / 1998 = 1.12	Yes	

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W29 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.

**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1999	1175					1998 820 1999 1,175		1999 / 1998 = 1.12	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W29 SEE POLLUTION PREVENTION PROGRESS REPORT.

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.

**Non Numeric Progress:** NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1999	420					1998 235 1999 420		1999 / 1998 = 1.12	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 SEE POLLUTION PREVENTION PROGRESS REPORT.  
W29 SEE POLLUTION PREVENTION PROGRESS REPORT.

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** P2 TRAINING, CONVERSION OF VAPOR RECOVERY UNIT TO A DRY SYSTEM, ELIMINATION OF LOADING RACK FILTERS AND A GAS STORAGE TANK AT THE TERMINAL, IMPROVE TANK CLEANING PROCEDURES, REDUCE THE POTENTIAL FOR TRAILER OVERFILLS, AND IMPROVE ON-SITE RECYCLING.

**Non Numeric Progress:** NOT APPLICABLE

**Ramsey County, City of ROSEVILLE -- HONEYWELL ADVANCED CIRCUITS, INC. -- ERCID -- 620600001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1996	12629					1998 16,636 1999 23,984		1999 / 1998 = 1.28	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity W58 SEVERAL CHEMISTRY CHANGES WERE INSTITUTED IN 1999 TO REDUCE SCRAP.  
 Employed Activity W58 SEVERAL CHEMISTRY CHANGES WERE INSTITUTED IN 1999 TO REDUCE SCRAP.  
**Non Numeric Objective:** ETCHING COPPER IS AN ESSENTIAL PART OF MAKING PRINTED CIRCUIT BOARDS. WE MAXIMIZE CIRCUIT DENSITY TO THE EXTENT POSSIBLE. REDUCTION OF SCRAP REDUCES AMMONIA USE THROUGH RE-WORK.  
**Non Numeric Progress:** AMMONIA USE WAS REDUCED WHEN THE ACTIVITY INDEX WAS TAKEN INTO ACCOUNT.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper	1991	211540					601,743		1999 / 1998 = 1.28	Yes
							571,227			

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity W19 THE COPPER WASTEWATER TREATMENT SYSTEM WAS CAREFULLY MONITORED TO ENSURE THAT THE SYSTEM REMAINED WITHIN SPECIFICATIONS AND WAS CORRECTED IMMEDIATELY IF IT WENT OUT OF SPEC.  
 Employed Activity W19 THE AMOUNT OF COPPER RELEASED TO THE POTW WAS REDUCED IN 1999.  
**Process Code** P10 ELECTROPLATING  
 Intended Activity W58 WASTWATER TREATMENT SYSTEM CAREFULLY MONITORED TO ENSURE THE SYSTEM REMAINED WITHIN SPECIFICATIONS AND WAS CORRECTED IMMEDIATELY IF IT WENT OUT OF SPECIFICATION.  
 Employed Activity W58 WASTWATER TREATMENT SYSTEM CAREFULLY MONITORED TO ENSURE THE SYSTEM REMAINED WITHIN SPECIFICATIONS AND WAS CORRECTED IMMEDIATELY IF IT WENT OUT OF SPECIFICATION.  
**Non Numeric Objective:** COPPER IS AN ESSENTIAL PART OF PRINTED CIRCUIT BOARDS. MAXIMIZE CIRCUIT DENSITY TO THE EXTENT POSSIBLE TO REDUCE THE ETCHING OF COPPER. ALL SCRAP COPPER AND WASTE ETCHANT IS RECYCLED TO REDUCE COPPER.  
**Non Numeric Progress:** THE AMOUNT OF COPPER RELEASED TO THE POTW WAS REDUCED IN 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Formaldehyde	1997	21181					25,691		1999 / 1998 = 1.28	Yes
							32,500			

**Process Code** P09 ELECTROLESS/IMMERSION COATING  
 Intended Activity W58 TREAT ELECTROLESS COPPER BATH ON-SITE TO REDUCE OFF-SITE TRANSFERS.  
 W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 Employed Activity W58

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUED USE OF THE MORE EFFICIENT ELECTROLESS COPPER LINE. REDUCE THE AMOUNT OF FORMALDEHYDE TRANSFERRED OFF-SITE FOR DISPOSAL. INVESTIGATE USE OF BULK CONTAINERS.

**Non Numeric Progress:** FORMALDEHYDE USE WAS REDUCED IN 1999 WHEN THE ACTIVITY INDEX IS ACCOUNTED FOR.

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1998	61079					1998 84,726 1999 90,970	1999 / 1998 = 1.28	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W42

W55 SUBSTITUTED RAW MATERIALS

W19 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

Employed Activity

W19

REDUCING SCRAP

**Non Numeric Objective:** ASSESS THE PRODUCTS TO SEE IF A NON-GLYCOL ALTERNATIVE IS AVAILABLE. ASSESS THE USE OF BULK CONTAINERS. REDUCE SCRAP TO REDUCE RE-WORK.

**Non Numeric Progress:** USE OF GLYCOL ETHERS INCREASED EVEN WHEN THE PRODUCTIVITY INDEX IS ACCOUNTED FOR.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1997	71912					1998 45,434 1999 67,860	1999 / 1998 = 1.28	No

**Process Code** P04 CHEMICAL MILLING (ETCHING)

Intended Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** THE OBJECTIVE WAS TO REDUCE NITRIC ACID USAGE BY EXTENDING THE BATH LIFE TO THE EXTENT POSSIBLE.

**Non Numeric Progress:** NITRIC ACID USE INCREASED IN 1999 EVEN WHEN THE ACTIVITY INDEX WAS ACCOUNTED FOR.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Ramsey County, City of ROSEVILLE -- MILSOLV CORPORATION -- ERCID -- 620600003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>							1998 4,581 1999 2,898	1999 / 1998 = 0.89	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** WE ARE A DISTRIBUTOR OF CHEMICALS. OUR RELEASES ARE DEPENDENT ON THE VOLUME OF SALES TO OUR CUSTOMERS.

**Non Numeric Progress:** A DECREASE IN BUSINESS HELPED REDUCE BOTH THE QUANTITY RELEASED AND THE AMOUNT OF WASTE RECYCLED OFF-SITE.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>							1,660	1,723	1999 / 1998 = 0.94	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** WE ARE A DISTRIBUTOR OF CHEMICALS. OUR RELEASES ARE DEPENDENT ON THE VOLUME OF SALES TO OUR CUSTOMERS.  
**Non Numeric Progress:** A SLIGHT CHANGE IN THE ANALYSIS OF OUR WASTE RESULTED IN AN INCREASE IN THE QUANTITY OF WASTE RECYCLED OFF-SITE.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>							1998 3,889	1999 3,437	1999 / 1998 = 0.75	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** WE ARE A DISTRIBUTOR OF CHEMICALS. OUR RELEASES ARE DEPENDENT ON THE VOLUME OF SALES TO OUR CUSTOMERS.  
**Non Numeric Progress:** A DECREASE IN BUSINESS HELPED REDUCE BOTH THE QUANTITY RELEASED AND THE AMOUNT OF WASTE RECYCLED OFF-SITE.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Ramsey County, City of ROSEVILLE -- MULTILAYER TECHNOLOGY, INC. -- ERCID -- 620600083**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1996	13022	74,298	76,213	76,213	76,213	1998 75,109	1999 76,213	1999 / 1998 = 0.94	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code** P09 ELECTROLESS/IMMERSION COATING  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P10 ELECTROPLATING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1997	2436	14,620	5,377	5,377	5,377	1998 14,620 1999 5,377	1999 / 1998 = 0.94	Yes

**Process Code** P16 LAMINATING/PRESSING ANY MATERIAL  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W68 IMPROVED RINSE EQUIPMENT OPERATION  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W68 IMPROVED RINSE EQUIPMENT OPERATION

**Ramsey County, City of ROSEVILLE -- U.S. FILTER RECOVERY SERVICES INC. -- ER CID -- 620600023**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1993	6934					1998 1,318,163 1999 941,180	1999 / 1998 = 1.03	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P36 REGENERATION OF ETCHANT  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** AMMONIA USE IS RELATED TO A SIGNIFICANT INCREASE IN SPECIFIC PRODUCT LINE PRODUCTION USING THIS CHEMICAL.  
**Non Numeric Progress:** AMMONIA USE IS RELATED TO A SIGNIFICANT INCREASE IN SPECIFIC PRODUCT LINE PRODUCTION USING THIS CHEMICAL.  
**Barriers to P2:** F10 AMMONIA USE IS RELATED TO A SIGNIFICANT INCREASE IN SPECIFIC PRODUCT LINE PRODUCTION USING THIS CHEMICAL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chlorine	1993	150000	104,257	99,044	94,092	89,387	1998 58,755	1999 / 1998 = 1.03	Yes
							1999 58,255		

**Process Code** P36 METALS / RECOVERY, ETCHANT RECYCLING  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Ramsey County, City of SHOREVIEW -- MULTI-CLEAN -- ERCID -- 620750017**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Glycol Ethers	1991	180					1998 5,104	1999 / 1998 = 1.05	No
							1999 3,252		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
 W42 SUBSTITUTED RAW MATERIALS  
 W68 IMPROVED RINSE EQUIPMENT OPERATION  
 Employed Activity  
 W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W42 SUBSTITUTED RAW MATERIALS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W68 IMPROVED RINSE EQUIPMENT OPERATION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
Employed Activity  
W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F10 REDUCED THE AMOUNT RECYCLED ONSITE BY 56% AND THE AMOUNT TREATED OFFSITE BY 14% WITH AN INCREASE IN PRODUCTION OF 1.05.

**Ramsey County, City of ST. PAUL -- 3M COMPANY -- ERCID -- 620700045**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,2,4-trimethylbenzene	1991	33465	48,827	29,685	29,401	29,401	1998 48,827 1999 29,685	1999 / 1998 = 1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
2-ethoxyethanol	1990	325000	64,850	45,842	45,100	45,100	1998 64,850 1999 47,447	1999 / 1998 = 1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Cyclohexane	1990	623600	88,427	47,799	45,075	45,075	1998 88,427 1999 47,499	1999 / 1998 = 0.92	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W49

THERE ARE MANY PRODUCTS THAT CONTAIN THIS CHEMICAL. GRADUALLY RAW MATERIALS CONTAINING LESS CYCLOHEXANE ARE BEING USED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Di(2-ethylhexyl) Phthalate</i>	1988	0	0	0	0	0	1998 0 1999 0	1999 / 1998 = 0.92	Yes

**Process Code** P21  
Intended Activity  
W58  
Employed Activity  
W58

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
THERE ARE NO RELEASES OR TRANSFERS OF THIS CHEMICAL.  
THERE ARE NO RELEASES OR TRANSFERS OF THIS CHEMICAL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylbenzene</i>	1988	14600	19,580	21,152	20,700	20,700	1998 19,580 1999 21,152	1999 / 1998 = 0.92	No

**Process Code** P21  
Intended Activity  
W82  
Employed Activity  
W82

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
MODIFIED DESIGN OR COMPOSITION  
MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THIS FACILITY DOES NOT DESIGN THE PRODUCTS WE MAKE. WE ARE A MANUFACTURING FACILITY FOR MANY TAPE DIVISIONS WITHIN 3M.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formaldehyde</i>	1988	6899	30,337	7,512	7,202	7,202	1998 30,337 1999 17,061	1999 / 1998 = 1	Yes

**Process Code** P21  
Intended Activity  
W82  
Employed Activity  
W82

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
MODIFIED DESIGN OR COMPOSITION  
MODIFIED DESIGN OR COMPOSITION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1988	12000	11,066	17,643	17,060	17,060	1998 11,066 1999 17,643	1999 / 1998 = 0.92	No	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THIS FACILITY DOES NOT DESIGN THE PRODUCTS WE MAKE. WE ARE A MANUFACTURING FACILITY FOR MANY TAPE DIVISIONS WITHIN 3M.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1988	458500	423,644	419,342	414,800	414,800	1998 423,644 1999 419,942	1999 / 1998 = 0.92	Yes	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W49 THERE ARE MANY PRODUCTS THAT CONTAIN THIS CHEMICAL, SLOWLY THERE MAY BE REDUCTIONS IN THE NUMBER OF PRODUCTS PRODUCED WITH MEK.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1988	62900	49,832	49,717	49,351	49,351	1998 49,832 1999 49,721	1999 / 1998 = 0.92	No	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THIS FACILITY DOES NOT DESIGN THE PRODUCTS WE MAKE. WE ARE A MANUFACTURING FACILITY FOR MANY TAPE DIVISIONS WITHIN 3M.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1988		24,000	24,000	24,000	24,000	24,210	5,492	1999 / 1998 = 0.74	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W82 MODIFIED DESIGN OR COMPOSITION  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phenol</i>	1988	148380	91,598	21,309	21,401	21,401	91,598	49,268	1999 / 1998 = 1	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1988	2221248	2,172,674	2,028,458	1,985,200	1,985,200	2,172,674	2,028,458	1999 / 1998 = 0.95	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluenediisocyanate (mixed isomers)</i>	1988	499	0	0	0	0	1998 0 1999 0	1999 / 1998 = 0.92	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W58 THERE ARE NO RELEASES OR TRANSFERS OF THIS CHEMICAL.  
Employed Activity W58 THERE ARE NO RELEASES OR TRANSFERS OF THIS CHEMICAL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1988	516650	143,447	140,623	142,401	142,401	1998 143,447 1999 140,623	1999 / 1998 = 0.92	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1988	1900	860	2,344	2,300	2,300	1998 860 1999 2,344	1999 / 1998 = 0.92	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
Employed Activity W82 MODIFIED DESIGN OR COMPOSITION

**Barriers to P2:**  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THIS FACILITY DOES NOT DESIGN THE PRODUCTS WE MAKE. WE ARE A MANUFACTURING FACILITY FOR MANY TAPE DIVISIONS WITHIN 3M.

**Ramsey County, City of ST. PAUL -- ADVANCE CORPORATION -- ERCID -- 620700356**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.71	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1996	41558					37,168	66,756		

- Process Code** P04 CHEMICAL MILLING (ETCHING)
  - Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
  - Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)
  - Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
  - Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Ramsey County, City of ST. PAUL -- ASHLAND CHEMICAL CO. -- ERCID -- 620700077**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.74	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1998	720					719	593		

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
  - Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
  - Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS
  - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
  - W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.

**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
1999: 43,831

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1998	3400					1998 3,361 1999 1,910	1999 / 1998 = 0.98	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.

**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
1999: 43,831

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1998	5680					1998 5,720 1999 3,000	1999 / 1998 = 1.04	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.  
**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
 1999: 43,831  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Methyl Ethyl Ketone	1998	2550					1998 2,525 1999 1,310	1999 / 1998 = 1.15	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.  
**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
 1999: 43,831  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.89	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1998	2500					2,482	1,870		
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
Employed Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
<b>Process Code</b> P03	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)									
Intended Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
Employed Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
<b>Non Numeric Objective:</b>	REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.									
<b>Non Numeric Progress:</b>	FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560 1999: 43,831									
<b>Barriers to P2:</b>	F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.63	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1998	9700					9,630	3,320		
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
Employed Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
<b>Process Code</b> P03	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)									
Intended Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									
Employed Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.

**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
1999: 43,831

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1998	8552					1998 8,490	1999 / 1998 = 0.83	No
							1999 5,090		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** REPORTABLE CHEMICAL USAGE WILL CHANGE ANNUALLY BASED ON CUSTOMER DEMAND SINCE THIS FACILITY IS A CHEMICAL DISTRIBUTION SITE. MAIN WASTE CONTAINING TRI CHEMICALS IS LINE FLUSH WHICH WE HOPE TO REDUCE BY 25% BY THE YEAR 2000, WITH 1998 AS A BASELINE.

**Non Numeric Progress:** FACILITY IS WORKING TOWARDS ITS GOAL OF REDUCING LINE FLUSH 25% BY THE YEAR 2003 , USING 1998 AS THE BASELINE YEAR. SUMMARY DATA IS AS FOLLOWS: 1998: 92,560  
1999: 43,831

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 ON-GOING GOOD MANAGEMENT PRACTICES TO REDUCE LINE FLUSH:FILLING PRODUCTS FROM SIMILAR FAMILIES AFTER ONE ANOTHER, SEGREGATION OF WASTE STREAMS FOR THE PURPOSE OF RECYCLE/REUSE.

**Ramsey County, City of ST. PAUL -- CENTURY CIRCUITS & ELECTRONICS, INC. -- ERCID -- 620700011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chlorine</i>	1998	250	250	160	160	160	1999 4,500	1999 / 1998 = 0.95	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	549	549	517	517	450	19,021	16,406	1999 / 1998 = 0.95	Yes

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity  
W19 ADDED CARBON FILTER TO WASTE TREATMENT SYSTEM TO INCREASE THE EFFICIENCY OF THE ION EXCHANGE RESIN CANS. BETTER CONTROL OF WASTE TREATMENT PROCESS PARAMETERS AND UPSTREAM PRODUCTION PROCESSES.

W58 ADDED CARBON FILTER TO WASTE TREATMENT SYSTEM TO INCREASE THE EFFICIENCY OF THE ION EXCHANGE RESIN CANS. BETTER CONTROL OF WASTE TREATMENT PROCESS PARAMETERS AND UPSTREAM PRODUCTION PROCESSES.

Employed Activity  
W58 ADDED CARBON FILTER TO WASTE TREATMENT SYSTEM TO INCREASE THE EFFICIENCY OF THE ION EXCHANGE RESIN CANS. BETTER CONTROL OF WASTE TREATMENT PROCESS PARAMETERS AND UPSTREAM PRODUCTION PROCESSES.

W19 ADDED CARBON FILTER TO WASTE TREATMENT SYSTEM TO INCREASE THE EFFICIENCY OF THE ION EXCHANGE RESIN CANS. BETTER CONTROL OF WASTE TREATMENT PROCESS PARAMETERS AND UPSTREAM PRODUCTION PROCESSES.

**Ramsey County, City of ST. PAUL -- CMS HARTZELL MFG. CO. -- ERCID -- 620700105**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1991	10000	28,000	30,000	10,000	8,000	5,872	5,872	1999 / 1998 = 0.95	Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W42 SUBSTITUTED RAW MATERIALS

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Ramsey County, City of ST. PAUL -- COOPERATIVE PLATING CO. -- ERCID -- 620700181**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyanide Compounds</i>	1991	4170	4,340	4,455	3,500	3,500	4,340	4,335	1999 / 1998 = 0.99	Yes

**Process Code** P10      ELECTROPLATING  
 Intended Activity  
 W19      REUSE THE BATH FOR STEEL APPLICATION.  
 W53      USE OF A DIFFERENT PROCESS CATALYST  
 Employed Activity  
 W19      REUSE THE BATH FOR STEEL APPLICATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1994	710	925	825	700	700	925	1,075	1999 / 1998 = 0.94	Yes

**Process Code** P10      ELECTROPLATING  
 Intended Activity  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1994	25000	51,935	38,200	35,000	35,000	59,224	36,200	1999 / 1998 = 0.89	No

**Process Code** P19      METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
 Intended Activity  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W19      MAXIMIZE THE LIFE OF THE STRIPPING SOLUTION.  
 W58      MAXIMIZE THE LIFE OF THE STRIPPING SOLUTION.

**Barriers to P2:**  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1997	2800	2,150	2,500	1,900	1,900	2,150	1,858	0.98	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W19 REMOVED ZINC TANK TO REDUCE THE AMOUNT OF ZINC COMPOUNDS CREATED.

**Ramsey County, City of ST. PAUL -- DIAMOND PRODUCTS CO. -- ERCID -- 620700025**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Glycol Ethers	1998	2400	2,400	2,400	2,400	2,400	2,400	1,600	0.97	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity W58 MAINTAIN THE LOW LEVEL OF RELEASES THAT HAVE BEEN ACHIEVED THROUGH DESIGN MODIFICATIONS AND PROCESS IMPROVEMENTS.  
Employed Activity W58 MAINTAIN THE LOW LEVEL OF RELEASES THAT HAVE BEEN ACHIEVED THROUGH DESIGN MODIFICATIONS AND PROCESS IMPROVEMENTS.  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity W58 MAINTAIN THE LOW LEVEL OF RELEASES THAT HAVE BEEN ACHIEVED THROUGH DESIGN MODIFICATIONS AND PROCESS IMPROVEMENTS.  
Employed Activity W58 MAINTAIN THE LOW LEVEL OF RELEASES THAT HAVE BEEN ACHIEVED THROUGH DESIGN MODIFICATIONS AND PROCESS IMPROVEMENTS.

**Ramsey County, City of ST. PAUL -- ELECTRO-PLATING ENGINEERING CO. INC. -- ERCID -- 620700017**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1992	7180					39,106	32,596	0.89	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity W19 GENERATION OF METAL HYDROXIDE ZINC COMPOUND WASTE IS MINIMIZED TO THE EXTENT PRACTICAL.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19  
**Non Numeric Objective:** GENERATION OF METAL HYDROXIDE ZINC COMPOUND WASTE IS MINIMIZED TO THE EXTENT PRACTICAL. NUMERIC OBJECTIVE NOT FEASIBLE. AMOUNT OF ZINC WASTE REFLECTS DEMAND FROM CUSTOMERS, COMPLEXITY OF PARTS PLATED AND CUSTOMERS' SPECS. MAJOR WASTE IS METAL HYDROXIDE SLUDGE RECOVERED FROM IN-PLANT TREATMENT OF WASTEWATER.  
**Non Numeric Progress:** NA

**Ramsey County, City of ST. PAUL -- FORD - TWIN CITIES ASSEMBLY PLANT -- ERCID -- 620700020**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,2,4-trimethylbenzene	1997	42000	62,500	70,700	71,100	75,400	1998 105,000 1999 116,700	1999 / 1998 = 1.15	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Ethylbenzene	1991	198,999	282,700	335,200	336,800	357,400	1998 250,000 1999 247,040	1999 / 1998 = 1.15	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1991	3800					1998 2,959 1999 3,470	1999 / 1998 = 1.15	Yes

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Non Numeric Objective:** THE VOLUME OF ETHYLENE GLYCOL USED AT THE FACILITY IS BASED ON THE NUMBER OF VEHICLES PRODUCED. RELEASES OR TRANSFERS FROM THE FACILITY ARE DEPENDENT ON THE NUMBER OF VEHICLES THAT REQUIRE REMOVAL OF ETHYLENE GLYCOL TO ALLOW FOR ENGINE MODIFICATIONS.  
**Non Numeric Progress:** CONTINUALLY RESEARCHING INNOVATIVE PROCESSES TO IMPROVE QUALITY. IF ALTERNATIVE PROCESSES THAT ARE TECHNICAL AND ECONOMICALLY FEASIBLE BECOME AVAILABLE, THEY WILL BE EVALUATED FOR POTENTIAL IMPLEMENTATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1991	134900	189,601	227,200	228,300	242,300	1998 137,300 1999 142,000	1999 / 1998 = 1.15	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
 Intended Activity W78 E-COAT MATERIALS HAD CHANGES IN THE CHEMICAL FORMULA TO ELIMINATE LEAD. THE PRODUCT HAS BEEN REFORMULATED TO ALLOW FOR BETTER APPLICATION OF LEAD-FREE PRODUCT HELPING TO REDUCE GLYCOL ETHER RELEASES.  
 Employed Activity W78 E-COAT MATERIALS HAD CHANGES IN THE CHEMICAL FORMULA TO ELIMINATE LEAD. THE PRODUCT HAS BEEN REFORMULATED TO ALLOW FOR BETTER APPLICATION OF LEAD-FREE PRODUCT HELPING TO REDUCE GLYCOL ETHER RELEASES.  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1994	2970					2,400	3,000		
<b>Process Code</b> P19	METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)									
Intended Activity W90	NOT APPLICABLE									
Employed Activity W90	NOT APPLICABLE									
<b>Non Numeric Objective:</b>	THE PRIMARY SOURCE OF MANGANESE COMPOUNDS IS THE PHOSHATING PROCESS USED TO ENSURE THAT THE STEEL TRUCK BODIES ARE PROPERLY PREPARED FOR SUBSEQUENT PAINTING. NO ACCEPTABLE ALTERNATIVE IS CURRENTLY AVAILABLE.									
<b>Non Numeric Progress:</b>	CONTINUALLY RESEARCHING INNOVATIVE PROCESSES TO IMPROVE QUALITY. IF ALTERNATIVE PROCESSES THAT ARE TECHNICALLY AND ECONOMICALLY FEASIBLE BECOME AVAILABLE, THEY WILL BE EVALUATED FOR POTENTIAL IMPLEMENTATION.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1991	53700	77,100	90,400	90,900	96,400	66,900	54,300		
<b>Process Code</b> P03	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)									
Intended Activity W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
Employed Activity W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
<b>Process Code</b> P05	CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)									
Intended Activity W90	NOT APPLICABLE									
Employed Activity W90	NOT APPLICABLE									
<b>Process Code</b> P21	ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)									
Intended Activity W72	MODIFIED SPRAY SYSTEMS OR EQUIPMENT									
W42	SUBSTITUTED RAW MATERIALS									
W24	INSTITUTED BETTER LABELING PROCEDURES									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
Employed Activity W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W24	INSTITUTED BETTER LABELING PROCEDURES									
W72	MODIFIED SPRAY SYSTEMS OR EQUIPMENT									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1991	42500	60,600	71,600	71,900	76,300	28,800	26,900	Yes	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

Employed Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1991	197330	274,900	332,400	333,900	354,400	226,000	273,000	No	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W42 SUBSTITUTED RAW MATERIALS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Barriers to P2:** F10 ADDITIONAL PRIME COATING MATERIALS WITH MIBK WERE USED IN 1999 BUT NOT IN PREVIOUS YEARS. SOME MATERIALS HAD FORMULATION CHANGES WHICH INCREASED THE AMOUNT OF MIBK USED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1991	142500	204,400	240,000	241,100	255,900	163,000	153,000	Yes	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W42 SUBSTITUTED RAW MATERIALS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1998	5296					5,300	6,600	Yes	

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** THE PRIMARY SOURCE OF NICKEL COMPOUNDS IS THE PHOSPHATING PROCESS USED TO ENSURE THAT THE STEEL TRUCK BODIES ARE PROPERLY PREPARED FOR PAINTING. NO ACCEPTABLE ALTERNATIVE IS CURRENTLY AVAILABLE TO IMPLEMENT ANY REDUCTIONS IN THIS MATERIAL.

**Non Numeric Progress:** CONTINUALLY RESEARCHING INNOVATIVE PROCESSES TO IMPROVE QUALITY. IF ALTERNATIVE PROCESSES THAT ARE TECHNICALLY AND ECONOMICALLY FEASIBLE BECOME AVAILABLE, THEY WILL BE EVALUATED FOR POTENTIAL IMPLEMENTATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.15	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sodium Nitrite</i>	1991						2,030		Yes	

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90

NOT APPLICABLE

**Non Numeric Objective:**

THIS CHEMICAL WAS NOT REPORTABLE IN THE TRI REPORTING SINCE 1994 AND, THEREFORE, WAS NOT INCLUDED IN THE LAST REVISION OF THE POLLUTION PREVENTION PLAN. NO ACCEPTABLE ALTERNATIVE IS CURRENTLY AVAILABLE TO IMPLEMENT ANY REDUCTIONS IN THIS MATERIAL.

**Non Numeric Progress:**

CONTINUALLY RESEARCHING INNOVATIVE PROCESSES TO IMPROVE QUALITY. IF ALTERNATIVE PROCESSES THAT ARE TECHNICALLY AND ECONOMICALLY FEASIBLE BECOME AVAILABLE, THEY WILL BE EVALUATED FOR POTENTIAL IMPLEMENTATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1991	155979	221,900	262,700	264,000	280,100	120,000	41,900	1999 / 1998 = 1.15	Yes

**Process Code** P03

CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Process Code** P05

CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W42

SUBSTITUTED RAW MATERIALS

Employed Activity

W42

SUBSTITUTED RAW MATERIALS

**Process Code** P21

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W42

SUBSTITUTED RAW MATERIALS

W72

MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Employed Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

W72

MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	829034	1,157,500	1,396,300	1,403,000	1,489,000	1,070,000	1,040,180	1999 / 1998 = 1.15	Yes

**Process Code** P03

CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Process Code** P05

CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1991	7830					5,760	7,200	1999 / 1998 = 1.15	Yes

**Process Code** P19 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** THE PRIMARY SOURCE OF ZINC COMPOUNDS IS THE PHOSPHATING PROCESS USED TO ENSURE THAT THE STEEL TRUCK BODIES ARE PROPERLY PREPARED FOR SUBSEQUENT PAINTING. NO ACCEPTABLE ALTERNATIVE IS CURRENTLY AVAILABLE TO IMPLEMENT ANY REDUCTIONS IN THIS MATERIAL.

**Non Numeric Progress:** CONTINUALLY RESEARCHING INNOVATIVE PROCESSES TO IMPROVE QUALITY. IF ALTERNATIVE PROCESSES THAT ARE TECHNICALLY AND ECONOMICALLY FEASIBLE BECOME AVAILABLE, THEY WILL BE EVALUATED FOR POTENTIAL IMPLEMENTATION.

**Ramsey County, City of ST. PAUL -- HAWKINS TERMINAL I -- ERCID -- 620700030**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1997	6	935	175	180	180	985	245	1999 / 1998 = 1.4	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Barriers to P2:** F10 LACK OF SPACE TO INSTALL ADDITIONAL EQUIPMENT. THIS IS BEING ADDRESSED IN 2000.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>	1996	10					1998 463	1999 454	1999 / 1998 = 0.97	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W58 CHANGED METHOD OF TESTING HOW FULL RETURNED CONTAINERS WERE.  
Employed Activity  
W58 CHANGED METHOD OF TESTING HOW FULL RETURNED CONTAINERS WERE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Dimethylamine</i>	1996	2000					1998 2,465	1999 21,450	1999 / 1998 = 0.6	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W89 PROCESS WAS ELIMINATED  
Employed Activity  
W89 PROCESS WAS ELIMINATED  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W89 PROCESS WAS ELIMINATED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W89 PROCESS WAS ELIMINATED

**Barriers to P2:** F10 DISPOSAL OF PRODUCT WAS BEYOND OUR OBJECTIVE. WE HAD MORE RAW MATERIAL THAN PLANNED. NO PRODUCT REMAINS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Formaldehyde	1997	15					1998 15	1999 13,814	1999 / 1998 = 0.6	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W89 PROCESS WAS ELIMINATED

Employed Activity  
W89 PROCESS WAS ELIMINATED

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W89 PROCESS WAS ELIMINATED

Employed Activity  
W89 PROCESS WAS ELIMINATED

**Barriers to P2:** F10 DISPOSAL OF PRODUCT WAS BEYOND OUR OBJECTIVE. WE HAD MORE RAW MATERIAL THAN PLANNED. NO PRODUCT REMAINS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Methanol	1997	5					1998 35	1999 3,378	1999 / 1998 = 0.6	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W89 PROCESS THAT USED PRODUCT WAS ELIMINATED

Employed Activity  
W89 PROCESS THAT USED PRODUCT WAS ELIMINATED

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity  
W89 PROCESS THAT USED PRODUCT WAS ELIMINATED

Employed Activity  
W89 PROCESS THAT USED PRODUCT WAS ELIMINATED

**Barriers to P2:** F10 DISPOSAL OF PRODUCT WAS BEYOND OUR OBJECTIVE. WE HAD MORE RAW MATERIAL THAN PLANNED. NO PRODUCT REMAINS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1997	50					1998 566 1999 607		1999 / 1998 = 1.16 No	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
- Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Employed Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Ramsey County, City of ST. PAUL -- HCI WORUM CHEMICAL AND FIBERGLASS -- ERCID -- 620700082**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1996	3811	3,400	2,532	2,500	2,500	1998 3,113 1999 2,532		1999 / 1998 = 0.93 Yes	

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1996	11333	10,200	8,811	8,500	8,000	1998 12,000 1999 9,324		1999 / 1998 = 0.6 Yes	

- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
- Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
- W73 SUBSTITUTED COATING MATERIALS USED
- W73 SUBSTITUTED COATING MATERIALS USED

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1999	938	36	938	930	930	1998 37 1999 938	1999 / 1998 = 27.59	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1996	16465	35,000	31,500	31,000	30,000	1998 43,780 1999 31,488	1999 / 1998 = 0.07	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W31 IMPROVED STORAGE OR STACKING PROCEDURES  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene-2,4-diisocyanate</i>	1996	0	0	894	500	500	1998 0 1999 894	1999 / 1998 = 1	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F10 CONTAINS WASTE ONLY FROM LINE CLEANING. THERE ARE NO AIR EMISSIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1996	18174	18,800	15,930	15,500	15,000	18,782	15,898	1999 / 1998 = 5.55	Yes

<b>Process Code</b>	Intended Activity	Employed Activity
P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)	
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS	
W73	SUBSTITUTED COATING MATERIALS USED	
W90	NOT APPLICABLE	

**Ramsey County, City of ST. PAUL -- IVC NORTH dba TI-KROMATIC . INC. -- ERCID -- 620700071**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1994	2400					1,886	1,254	1999 / 1998 = 0.87	Yes

<b>Process Code</b>	Intended Activity	Employed Activity
P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)	
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS	
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.	
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS	
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE	
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS	
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS	
W42	SUBSTITUTED RAW MATERIALS	
W49	CONTINUED TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.	
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE	
<b>Non Numeric Objective:</b>	WORKING TO FIND SUITABLE SUBSTITUTES THAT DO NOT COMPROMISE PRODUCT QUALITY AND ARE ACCEPTABLE TO OUR CUSTOMERS. SUBSTITUTES HAVE BEEN FOUND AND EMISSIONS WILL SIGNIFICANTLY DECREASE IN 1999.	

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR OBJECTIVES. SUBSTITUTES WERE FOUND IN 1998 AND EMISSIONS SIGNIFICANTLY DECREASED IN 1999.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1994	3000					1,262	1,445	1999 / 1998 = 0.87	No
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W42	SUBSTITUTED RAW MATERIALS									
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
Employed Activity										
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W49	CONTINUED TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W42	SUBSTITUTED RAW MATERIALS									
<b>Non Numeric Objective:</b>	MAKING SOME CHANGES TO OUR PRODUCTS, ESPECIALLY THE PRODUCT SPECIFICATIONS AND COMPOSITION. TRYING TO SUBSTITUTE RAW MATERIALS. CONTINUING TO ENCOURAGE CUSTOMERS TO CONVERT TO HIGH SOLIDS AND/OR WATER-BASED PAINT.									
<b>Non Numeric Progress:</b>	CONTINUED TO IMPLEMENT OBJECTIVES FOR 1999. DUE TO CUSTOMER SPECIFICATIONS, IT IS DIFFICULT FOR US TO USE ALTERNATE PRODUCTS AND RAW MATERIALS.									
<b>Barriers to P2:</b>	F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE									
Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1994	2400					736	747	1999 / 1998 = 0.87	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W89	LOOK FOR A REPLACEMENT									
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W42	SUBSTITUTED RAW MATERIALS									
Employed Activity										
W42	SUBSTITUTED RAW MATERIALS									
W89	CONTINUED TO LOOK FOR A REPLACEMENT									
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
<b>Non Numeric Objective:</b>	WORKING TO FIND SUITABLE SUBSTITUTES THAT DO NOT COMPROMISE PRODUCT QUALITY AND ARE ACCEPTABLE TO OUR CUSTOMERS.									
<b>Non Numeric Progress:</b>	CONTINUED TO IMPLEMENT OBJECTIVES AND WERE ABLE TO PREVENT A SIGNIFICANT INCREASE IN EMISSIONS.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.87	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1994	7600					4,807	3,596		
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W42	SUBSTITUTED RAW MATERIALS									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
Employed Activity										
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W42	SUBSTITUTED RAW MATERIALS									
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W49	CONTINUED TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
<b>Non Numeric Objective:</b>	MAKING SOME CHANGES TO OUR PRODUCTS, ESPECIALLY THE PRODUCT SPECIFICATIONS AND COMPOSITION. TRYING TO SUBSTITUTE RAW MATERIALS. CONTINUING TO ENCOURAGE CUSTOMERS TO CONVERT TO HIGH SOLIDS AND/OR WATER-BASED PAINT.									
<b>Non Numeric Progress:</b>	CONTINUED TO IMPLEMENT OBJECTIVES FOR 1999. DUE TO CUSTOMER SPECIFICATIONS, IT IS DIFFICULT FOR US TO USE ALTERNATE PRODUCTS AND RAW MATERIALS. EMISSIONS DECREASED FROM 1998 TO 1999.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.87	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1994	10700					10,954	7,566		
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W49	CONTINUE TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W42	SUBSTITUTED RAW MATERIALS									
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
Employed Activity										
W55	CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS									
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE									
W49	CONTINUED TO ENCOURAGE CUSTOMERS TO SWITCH TO WATER-BASED PAINT AND/OR HIGH SOLID COATING.									
W32	IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS									
W42	SUBSTITUTED RAW MATERIALS									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** MAKING SOME CHANGES TO OUR PRODUCTS, ESPECIALLY THE PRODUCT SPECIFICATIONS AND COMPOSITION. TRYING TO SUBSTITUTE RAW MATERIALS. CONTINUING TO ENCOURAGE CUSTOMERS TO CONVERT TO HIGH SOLIDS AND/OR WATER-BASED PAINT.

**Non Numeric Progress:** CONTINUED TO IMPLEMENT OBJECTIVES FOR 1999. DUE TO CUSTOMER SPECIFICATIONS, IT IS DIFFICULT FOR US TO USE ALTERNATE PRODUCTS AND RAW MATERIALS. EMISSIONS DECREASED FROM 1998 TO 1999.

**Ramsey County, City of ST. PAUL -- LOES ENTERPRISES, INC. -- ERCID -- 620700036**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Di(2-ethylhexyl) Phthalate</i>	1998	50					1998 1,000 1999 700	1999 / 1998 = 0.9	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W71

CLEAN-UP OF PLANT AND LAB EQUIPMENT.

Employed Activity

W71

CLEAN-UP OF PLANT AND LAB EQUIPMENT.

**Non Numeric Objective:** THE AMOUNT RELEASED IS IN CLEAN-UP OF PLANT AND LAB EQUIPMENT AND SUBSEQUENT DISPOSAL OF TOWELS.

**Non Numeric Progress:** THE AMOUNT RELEASED IS IN CLEAN-UP OF PLANT AND LAB EQUIPMENT AND SUBSEQUENT DISPOSAL OF TOWELS.

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Ramsey County, City of ST. PAUL -- MIXON, INC. -- ERCID -- 620700047**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1991	144					1998 887,112 1999 1,151,765	1999 / 1998 = 0.99	Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W90

NOT APPLICABLE

**Ramsey County, City of ST. PAUL -- NORTH STAR STEEL-MINNESOTA -- ERCID -- 620700051**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1990	50000					1998 8,451 1999 7,035	1999 / 1998 = 1.04	Yes

- Process Code** P28 SMELTING  
Intended Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
Employed Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.
- Process Code** P36 METAL SHREDDING  
Intended Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
Employed Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.
- Non Numeric Objective:** REDUCE THE CONTENT OF REPORTABLE METALS IN OUR RAW MATERIALS THROUGH EFFORTS TO CONTROL THE QUALITY OF RAW MATERIALS, SUPPLIER EDUCATION, PENALTIES TO SUPPLIERS, AND SAMPLE ANALYSIS. WORK WITH OTHER INDUSTRIES TO REDUCE CONTENT OF METALS.
- Non Numeric Progress:** IMPROVED CONCENTRATIONS IN THE FLUFF MATERIAL, PROMOTE EXPANDED AUTO RECYCLING AND REDUCTIONS IN TOXICS CONTENT PRIOR TO MATERIAL REACHING US. AFTER SHREDDING, PARTICLES CANNOT BE SEPARATED FROM OUR WASTE STREAM WITH EXISTING TECHNOLOGY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1990	1300	820	820	820	820	1998 55,552 1999 51,764	1999 / 1998 = 1.04	Yes

- Process Code** P28 SMELTING  
Intended Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
Employed Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.
- Process Code** P36 METAL SHREDDING  
Intended Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
Employed Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>	1991	255	40	40	40	40	1998 74,872 1999 75,671	1999 / 1998 = 1.04	Yes

- Process Code** P28 SMELTING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
**Process Code** P36 METAL SHREDDING  
Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1990	11900	8,600	8,600	8,600	8,600	1998 346,664 1999 273,002	1999 / 1998 = 1.04	Yes

**Process Code** P28 SMELTING  
Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
**Process Code** P36 METAL SHREDDING  
Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1990	13500	8,950	8,950	8,950	8,950	1998 628,412 1999 654,718	1999 / 1998 = 1.04	Yes

**Process Code** P28 SMELTING  
Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
**Process Code** P36 METAL SHREDDING  
Intended Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
Employed Activity  
W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Molybdenum Trioxide</i>	1994	5					19	486	1999 / 1998 = 1.04	Yes

**Process Code** P28 SMELTING  
 Intended Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
 Employed Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
**Process Code** P36 METAL SHREDDING  
 Intended Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
 Employed Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
**Non Numeric Objective:** REDUCE THE CONTENT OF REPORTABLE METALS IN OUR RAW MATERIALS THROUGH EFFORTS TO CONTROL THE QUALITY OF RAW MATERIALS, SUPPLIER EDUCATION, PENALTIES TO SUPPLIERS, AND SAMPLE ANALYSIS. WORK WITH OTHER INDUSTRIES TO REDUCE CONTENT OF METALS.  
**Non Numeric Progress:** IMPROVED CONCENTRATIONS IN THE FLUFF MATERIAL, PROMOTE EXPANDED AUTO RECYCLING AND REDUCTIONS IN TOXICS CONTENT PRIOR TO MATERIAL REACHING US. AFTER SHREDDING, PARTICLES CANNOT BE SEPARATED FROM OUR WASTE STREAM WITH EXISTING TECHNOLOGY.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1990	1100	700	700	700	700	6,010	5,808	1999 / 1998 = 1.04	Yes

**Process Code** P28 SMELTING  
 Intended Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
 Employed Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.  
**Process Code** P36 METAL SHREDDING  
 Intended Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.  
 Employed Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.04	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1990	86900	63,000	63,000	63,000	63,000	3,388,375	3,921,344		

- Process Code** P28 SMELTING
  - Intended Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.
  - Employed Activity W58 RELEASES ARE MINIMIZED BY OUR NEW AIR POLLUTION CONTROL SYSTEM.
- Process Code** P36 METAL SHREDDING
  - Intended Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.
  - Employed Activity W58 RELEASES ARE MINIMIZED BY OUR \$1 MILLION AIR POLLUTION CONTROL SYSTEM.

**Ramsey County, City of ST. PAUL -- NSP - HIGH BRIDGE PLANT -- ERCID -- 620700031**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.78	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Barium Compounds	1998	150000					150,000	120,000		

- Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
    - Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
    - Employed Activity W90 NOT APPLICABLE
  - Process Code** P36 ELECTRICITY GENERATION
    - Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.
    - Employed Activity W49 PURCHASED RENEWABLE ENERGY AND HELPED CONSERVE ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL RELEASES OF SO2, NOX, CO2, AND PARTICULATES.
  - Non Numeric Objective:** INVESTIGATE/IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND ASH UTILIZATION. PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT.
  - Non Numeric Progress:** PURCHASED RENEWABLE ENERGY AND HELPED CONSERVE ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL RELEASES OF SO2, NOX, CO2, AND PARTICULATES.
- F10 NO OBJECTIVES FOR 1999

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	6800					1998	33,800		Yes
<b>Process Code</b> P36 Intended Activity W49	ELECTRICITY GENERATION									
Employed Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
<b>Non Numeric Objective:</b>	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
<b>Non Numeric Progress:</b>	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
	INVESTIGATE/IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND ASH UTILIZATION.									
	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT.									
	PURCHASED RENEWABLE ENERGY AND HELPED CONSERVE ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL RELEASES OF SO2, NOX, CO2, AND PARTICULATES.									
	F10 NO OBJECTIVES FOR 1999									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1998	22000					1998	44,000		No
<b>Process Code</b> P36 Intended Activity W49	ELECTRICITY GENERATION									
Employed Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
<b>Non Numeric Objective:</b>	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
<b>Non Numeric Progress:</b>	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT. FIND AND USE NEW MARKETS FOR UTILIZING ASH TO MINIMIZE THE AMOUNT LANDFILLED.									
	INVESTIGATE/IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND ASH UTILIZATION.									
	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVE ENERGY VIA CONSERVATION AND DEMAND SIDE MANAGEMENT.									
	PURCHASED RENEWABLE ENERGY AND HELPED CONSERVE ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER THAT WOULD HAVE PRODUCED ADDITIONAL RELEASES OF SO2, NOX, CO2, AND PARTICULATES.									
<b>Barriers to P2:</b>	F10 NO OBJECTIVES FOR 1999									

**Ramsey County, City of ST. PAUL -- PLATING, INC. -- ERCID -- 620700054**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1997	1383					1998	3,273	1999 / 1998 = 0.89	No
							1999	4,326		
<b>Process Code</b> P10 Intended Activity W90	ELECTROPLATING									
Employed Activity W90	NOT APPLICABLE									
	NOT APPLICABLE									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CURRENTLY THERE IS NO SUBSTITUTE MATERIAL FOR ZINC PLATING.

**Non Numeric Progress:** CURRENTLY THERE IS NO SUBSTITUTE MATERIAL FOR ZINC PLATING.

**Barriers to P2:** F10 CURRENTLY THERE IS NO SUBSTITUTE MATERIAL FOR ZINC PLATING.

**Ramsey County, City of ST. PAUL -- QUEBECOR PRINTING - ST. PAUL -- ERCID -- 620700193**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1994	19800					20,512	19,482	1999 / 1998 = 1.06	No

**Process Code** P24 PRINTING  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** LOOK FOR ALTERNATIVE MATERIALS WHICH ARE LESS TOXIC.

**Non Numeric Progress:** CONTINUED TO EVALUATE ALTERNATIVE MATERIALS WHICH ARE COMPATIBLE WITH THE PROCESS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Ramsey County, City of ST. PAUL -- REXAM BEVERAGE CAN COMPANY -- ERCID -- 620700003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1991	160000					142,804	124,318	1999 / 1998 = 0.95	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W73 SUBSTITUTED COATING MATERIALS USED  
 W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

**Process Code** P24 PRINTING  
 Intended Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE TO WORK TOWARDS DEVELOPING COATINGS WITH FEWER TRI CHEMICALS. THROUGH BETTER APPLICATION TECHNOLOGY, WE HOPE TO DECREASE THE QUANTITIES RELEASED.

**Non Numeric Progress:** OUR ANNUAL RELEASE QUANTITY IS CURRENTLY 35, 801 POUNDS LESS THAN OUR BASELINE. WE CONTINUE TO TRY NEW MATERIALS AND TECHNIQUES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1991	180					1998 61 1999 63	1999 / 1998 = 0.95	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

- W64 IMPROVED DRAINING PROCEDURES
- W66 MODIFIED OR INSTALLED RINSE SYSTEMS
- W68 IMPROVED RINSE EQUIPMENT OPERATION

Employed Activity

- W42 SUBSTITUTED RAW MATERIALS
- W66 MODIFIED OR INSTALLED RINSE SYSTEMS
- W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT

**Non Numeric Objective:** TRYING VARIOUS WASHER CHEMICALS TO HELP REDUCE THE AMOUNT RELEASED.

**Non Numeric Progress:** OUR ANNUAL RELEASE QUANTITY IS CURRENTLY 117 POUNDS LESS THAN OUR BASELINE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1991	120000					1998 114,193 1999 105,340	1999 / 1998 = 0.95	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

- W74 IMPROVED APPLICATION TECHNIQUES
- W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
- W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

Employed Activity

- W73 SUBSTITUTED COATING MATERIALS USED
- W74 IMPROVED APPLICATION TECHNIQUES
- W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS

**Non Numeric Objective:** CONTINUE TO WORK TOWARDS DEVELOPING COATINGS WITH FEWER TRI CHEMICALS. THROUGH BETTER APPLICATION TECHNOLOGY, WE HOPE TO DECREASE THE QUANTITIES RELEASED.

**Non Numeric Progress:** OUR ANNUAL RELEASE QUANTITY IS CURRENTLY 14,697 POUNDS LESS THAN OUR BASELINE. WE CONTINUE TO TRY NEW MATERIALS AND TECHNIQUES.

Ramsey County, City of ST. PAUL -- SILGAN CONTAINERS MFG. CORP. -- ERCID -- 620700002

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1991	N/A					1998 92,013 1999 131,153		1999 / 1998 = 1.42	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W89 OUR TECHNICAL SERVICES DEPT. IS CONSTANTLY WORKING WITH OUR COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED OUR CUSTOMER REQUIREMENTS.  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** THE TYPES OF SOLVENTS/COATINGS USED ARE DETERMINED BY OUR CUSTOMERS. REQUIREMENTS ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. OUR TECHNICAL SERVICES DEPARTMENT AND SUPPLIERS ARE EVALUATING COATINGS WITH LOWER EMISSION LEVELS.  
**Non Numeric Progress:** THE TYPES OF SOLVENTS/COATINGS USED ARE DETERMINED BY OUR CUSTOMERS. REQUIREMENTS ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. OUR TECHNICAL SERVICES DEPARTMENT AND SUPPLIERS ARE EVALUATING COATINGS WITH LOWER EMISSION LEVELS.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	10,109		
<i>Toluene</i>	1999	N/A					1999 10,109		1999 / 1998 = 0	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** THE TYPES OF SOLVENTS/COATINGS USED ARE DETERMINED BY OUR CUSTOMERS. REQUIREMENTS ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. OUR TECHNICAL SERVICES DEPARTMENT AND SUPPLIERS ARE EVALUATING COATINGS WITH LOWER EMISSION LEVELS.  
**Non Numeric Progress:** THE TYPES OF SOLVENTS/COATINGS USED ARE DETERMINED BY OUR CUSTOMERS. REQUIREMENTS ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. OUR TECHNICAL SERVICES DEPARTMENT AND SUPPLIERS ARE EVALUATING COATINGS WITH LOWER EMISSION LEVELS.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Ramsey County, City of ST. PAUL -- ST. PAUL BRASS FOUNDRY -- ERCID -- 620700065**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1993	100479					1998 104,313 1999 52,858		1999 / 1998 = 0.58	Yes

**Process Code** P01 CASTING ANY MATERIAL

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W89 WILL SEARCH FOR AND USE BETTER COVER FLUXES THAT REDUCE THE AMOUNT OF COPPER LOST.  
Employed Activity  
W58 WILL USE TEMPERATURE CONTROLS AND FLUXES TO REDUCE OXIDES.  
**Non Numeric Objective:** LOOK FORWARD TO LIMITING RELEASES BY REDUCING MELT LOSS BY 1% PER YEAR STARTING WITH 1996 AS OUR BASELINE YEAR.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR OBJECTIVES FOR 1999, AND WERE ABLE TO DECREASE RELEASES FROM 1998 TO 1999.

**Ramsey County, City of ST. PAUL -- VAN WATERS & ROGERS, INC. -- ERCID -- 620700079**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N,n-dimethylformamide</i>	1998	1024380					1998 908 1999 1,957	1999 / 1998 = 0	No

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19  
Employed Activity  
W19  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

**Barriers to P2:**  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 THROUGHPUT INCREASED BY A FACTOR OF 1.95. THIS WAS WELL MANAGED AND RESULTED IN ONLY A 5% NET/UNIT INCREASE IN GENERATION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	1637601					1998 3,833 1999 1,860	1999 / 1998 = 0	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W81 CHANGED PRODUCT SPECIFICATIONS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE

**Ramsey County, City of ST. PAUL -- VIKING DRILL & TOOL INC. -- ERCID -- 620700369**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1997	13137					1998 11,593 1999 25,603	1999 / 1998 = 1.07	No

**Process Code** P15

HEAT TREATING

Intended Activity

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W39 RESPONSE TO POTENTIAL SPILLS WILL BE INVESTIGATED AND CORRECTIVE MEASURES TAKEN. EMPLOYEES WILL BE TRAINED IN HAZARDOUS MATERIAL HANDLING AND STORAGE.

W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

W39 RESPONSE TO POTENTIAL SPILLS WAS INVESTIGATED AND CORRECTIVE MEASURES TAKEN. EMPLOYEES WERE TRAINED IN HAZARDOUS MATERIAL HANDLING AND STORAGE.

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

REDUCE THE AMOUNT OF THE WASTE STREAM FROM HEAT TREATED SALTS WHICH WILL LOWER THE RELEASE OF BARIUM COMPOUNDS. THE NEW FIXTURE DESIGN WILL FURTHER REDUCE THIS WASTE STREAM WHEN COMPARED TO OUR PRODUCTION.

**Non Numeric Progress:**

HAVE WRITTEN PROCEDURES TO ENSURE THAT WASTE FROM HEAT TREATED SALT IS KEPT TO A MINIMUM. THIS REDUCTION WILL DRAMATICALLY LOWER BARIUM COMPOUNDS.

**Barriers to P2:**

F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

F10 PRACTICAL ALTERNATIVES DO NOT EXIST. AS PRODUCTION INCREASES, SO WILL THE AMOUNT OF BARIUM COMPOUNDS EMITTED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1997	3476					1998 5,513 1999 5,942	1999 / 1998 = 1.07	No

**Process Code** P15

HEAT TREATING

Intended Activity

W39 EMPLOYEES WILL BE TRAINED IN MATERIAL HANDLING AND STORAGE.

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W39 EMPLOYEES WERE TRAINED IN MATERIAL HANDLING AND STORAGE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CHROMIUM IS A KEY CONSTITUENT OF OUR STOCK METAL. AS LONG AS IT REMAINS THE SAME, REDUCING THE USAGE WILL NOT BE FEASIBLE OR POSSIBLE.

**Non Numeric Progress:** CHROMIUM IS A KEY CONSTITUENT OF OUR STOCK METAL. AS LONG AS IT REMAINS THE SAME, REDUCING THE USAGE WILL NOT BE FEASIBLE OR POSSIBLE.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 PRACTICAL ALTERNATIVES DO NOT EXIST. AS LONG AS PRODUCTION CONTINUES TO INCREASE, REDUCING CHROMIUM EMISSIONS IS NOT FEASIBLE.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Trichloroethylene</i>	1997	22216					1998 120,120	1999 82,027	1999 / 1998 = 1.07	Yes

**Process Code P18** MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W71 IMPROVING OPERATING PROCEDURES FOR THE DISTILLER THAT WILL LEAD TO HIGHER RECOVERY RATES, THUS REDUCING THE AMOUNT OF WASTE PRODUCED.  
W39 RESPONSE TO POTENTIAL SPILLS WILL BE INVESTIGATED AND CORRECTIVE MEASURES TAKEN. EMPLOYEES WILL BE TRAINED IN HAZARDOUS MATERIAL HANDLING AND STORAGE.

Employed Activity  
W71 IMPROVED OPERATING PROCEDURES FOR THE DISTILLER THAT LED TO HIGHER RECOVERY RATES, THUS REDUCING THE AMOUNT OF WASTE PRODUCED.  
W39 RESPONSE TO POTENTIAL SPILLS WAS INVESTIGATED AND CORRECTIVE MEASURES TAKEN. EMPLOYEES WERE TRAINED IN HAZARDOUS MATERIAL HANDLING AND STORAGE.  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** THE STILL WILL BE MODIFIED TO INCORPORATE THIN FILM EVAPORATION TECHNOLOGY. THIS WILL INCREASE THE RECOVERY RATE AND LIMIT THE AMOUNT OF WASTE PRODUCED.

**Non Numeric Progress:** THE METHODS USED TO REACH OUR OBJECTIVES HAVE REDUCED RELEASES.

**Ramsey County, City of ST. PAUL -- WALDORF CORP. (A ROCK-TENN COMPANY) -- ERCID -- 620700081**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1991	261,695	110,000	110,000	110,000	110,000	1998 126,389	1999 116,400	1999 / 1998 = 1.07	Yes

**Process Code P24** PRINTING  
Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W73 SUBSTITUTED COATING MATERIALS USED  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
W89 REDUCED AMOUNT OF COATING NEEDED TO MEET PRODUCT SPECIFICATION.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Ramsey County, City of VADNAIS HEIGHTS -- H.B. FULLER CO.-CORPORATE PILOT FACILITY -- ERCID -- 620850011**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Diisocyanates</i>	1998	2897					1998 2,899 1999 6,682	1999 / 1998 = 5.03	No
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
Intended Activity									
W24	INSTITUTED BETTER LABELING PROCEDURES								
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE								
Employed Activity									
W24	INSTITUTED BETTER LABELING PROCEDURES								
W21	INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE								
<b>Non Numeric Objective:</b>	ESTIMATED AIR EMISSIONS TOTAL LESS THAN ONE POUND PER YEAR. NO FURTHER REDUCTIONS ARE PLANNED. WASTE WILL BE DECREASED, ON A WASTE TO PRODUCTION RATIO BASIS, DUE TO IMPROVED INVENTORY CONTROLS.								
<b>Non Numeric Progress:</b>	AIR EMISSIONS ARE MINIMAL DUE TO CLOSED PROCESSING SYSTEMS AND THE NATURE OF THE CHEMICAL. WASTE SHIPMENTS INCREASED DUE TO INCREASES IN PROCESSING AND A MAJOR CLEANOUT OF THE FACILITY. PROGRESS SHOULD BE APPARENT IN THE YEAR 2000.								
<b>Barriers to P2:</b>	F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE F10 THE FACILITY PRODUCES NEW PRODUCTS ON A SCALE-UP BASIS. THIS CAUSES AN INCREASE IN CHEMICAL USE AND WASTE PRODUCED.								

**Ramsey County, City of VADNAIS HEIGHTS -- INTERPLASTIC CORP. -- ERCID -- 620850002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Methacrylate</i>	1991	854					1998 618 1999 383	1999 / 1998 = 1.09	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
Intended Activity									
W39	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
W19	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS								
Employed Activity									
W39	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
W14	CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS								
W19	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
<b>Process Code</b> P03	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)								
Intended Activity									
W39	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
W19	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
Employed Activity									
W19	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								
W39	CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES THAT ARE ECONOMICAL, PRACTICAL, AND TECHNOLOGICALLY FEASIBLE. CONTINUE USE OF GOOD OPERATING PRACTICES. CURRENT REDUCTION EFFORTS HAVE BEEN EXHAUSTED.

**Non Numeric Progress:** A DUCT SYSTEM, WHICH WOULD ALLOW A CENTRALIZED EMISSION POINT AND MAKE POTENTIAL POLLUTION CONTROL DEVICES POSSIBLE REMAINS IN USE AT PLANT. TRAINING ON SPILL PROCEDURES AND CONTAINMENT WAS PERFORMED WITH PLANT PERSONNEL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1991	8855					1998 11,357 1999 5,709	1999 / 1998 = 1.09	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W19 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.  
W39 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.

Employed Activity

W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W19 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.  
W39 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W19 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.  
W39 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.

Employed Activity

W19 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.  
W39 CONTINUE TO REVIEW POLLUTION CONTROL OPTIONS AND USE GOOD SOP'S. SPILL PROCEDURES AND CONTAINMENT TO BE REVIEWED WITH PLANT PERSONNEL.

**Non Numeric Objective:** CONTINUE INVESTIGATION OF POLLUTION CONTROL OR EMISSION REDUCTION ALTERNATIVES THAT ARE ECONOMICAL, PRACTICAL, AND TECHNOLOGICALLY FEASIBLE. CONTINUE USE OF GOOD OPERATING PRACTICES. CURRENT REDUCTION EFFORTS HAVE BEEN EXHAUSTED.

**Non Numeric Progress:** A DUCT SYSTEM, WHICH WOULD ALLOW A CENTRALIZED EMISSION POINT AND MAKE POTENTIAL POLLUTION CONTROL DEVICES POSSIBLE REMAINS IN USE AT PLANT. TRAINING ON SPILL PROCEDURES AND CONTAINMENT WAS PERFORMED WITH PLANT PERSONNEL.

**Ramsey County, City of WHITE BEAR LAKE -- KOHLER MIX SPECIALTIES -- ERCID -- 620950003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	15799	12,600	15,799	16,600	17,150	1999 29,849	1999 / 1998 = 0.82	No

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W31 IMPROVED STORAGE OR STACKING PROCEDURES

Employed Activity

W24 INSTITUTED BETTER LABELING PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P05      CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
   W14      CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W14      CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P33      WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity  
   W58  
   W19  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Barriers to P2:**  
 F10 USE IS REQUIRED BY FDA  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1997	1610	18,600	24,589	27,500	28,600	18,600	24,589	1999 / 1998 = 0.82	No

**Process Code** P03      CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
   W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
   W31      IMPROVED STORAGE OR STACKING PROCEDURES  
 Employed Activity  
   W24      INSTITUTED BETTER LABELING PROCEDURES  
**Process Code** P05      CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
   W14      CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W14      CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Process Code** P33      WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W58  
   W19  
 Employed Activity  
   W52      MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**  
F06 SPECIFIC REGULATORY / PERMIT BURDENS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F10 USE IS REQUIRED BY FDA

**Ramsey County, City of WHITE BEAR LAKE -- SCHWING AMERICA, INC. -- ERCID -- 620920001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	12959					1998 12,959 1999 14,379	1999 / 1998 = 0.94	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W55 CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
W24 INSTITUTED BETTER LABELING PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** THE NUMBER OF UNITS PRODUCED IS DETERMINED BY THE SALES AND AMOUNT OF PAINT AND RELATED PRODUCTS WE USE.

**Non Numeric Progress:** TESTED OTHER PRIMERS.

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1991	7379					1998 10,196 1999 10,223	1999 / 1998 = 0.94	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W58 INSTALL A SOLVENT RECYCLER  
W24 INSTITUTED BETTER LABELING PROCEDURES  
Employed Activity  
W58 INSTALLED A SOLVENT RECYCLER

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W24 INSTITUTED BETTER LABELING PROCEDURES  
W58 INSTALL A SOLVENT RECYCLER  
Employed Activity  
W58 INSTALLED A SOLVENT RECYCLER

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** THE NUMBER OF UNITS PRODUCED DETERMINES THE AMOUNT OF PAINT AND RELATED PRODUCTS USED. CONTINUE USING LOW VOC COATINGS AND WORKING WITH VENDORS TO REDUCE POLLUTION. INSTALLED A SOLVENT RECYCLER.

**Non Numeric Progress:** USE OF A SOLVENT RECYCLER STARTED IN 10-99.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1991	31377					1998 26,450 1999 26,493	1999 / 1998 = 0.94	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity

W58

Employed Activity

W58

INSTALL A SOLVENT RECYCLER

INSTALLED A SOLVENT RECYCLER

**Non Numeric Objective:** THE NUMBER OF UNITS PRODUCED DETERMINES THE AMOUNT OF PAINT AND RELATED PRODUCTS USED. CONTINUE USING LOW VOC COATINGS AND WORKING WITH VENDORS TO REDUCE POLLUTION. INSTALLED A SOLVENT RECYCLER.

**Non Numeric Progress:** USE OF A SOLVENT RECYCLER STARTED IN 10-99.

**Ramsey County, City of WHITE BEAR LAKE -- WATER GREMLIN CO. -- ERCID -- 620950030**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1999	1,800,000					1998 1,500,100 1999 1,600,001	1999 / 1998 = 1.12	Yes

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W19

W39

Employed Activity

W39

W19

ENVIRONMENTAL TRAINING FOR EMPLOYEES

MANDATORY REQUIREMENTS OF EMPLOYEES FOR LEAD CONTAINMENT

MANDATORY REQUIREMENTS OF EMPLOYEES FOR LEAD CONTAINMENT

ENVIRONMENTAL TRAINING FOR EMPLOYEES

**Non Numeric Objective:** AN OVERALL REDUCTION IN LEAD WOULD BE DETRIMENTAL TO OUR COMPANY GOALS. WILL CONTINUE TO IMPLEMENT METHODS OF POLLUTION PREVENTION, MAINTAIN POLLUTION CONTROL EQUIPMENT, OVERSEE HOUSEKEEPING, AND REUSE OF MATERIAL WHEREVER POSSIBLE.

**Non Numeric Progress:** COMPANY FOCUSES ON ALL HYGIENE INCLUDING LEAD. HAD A 80,000 POUND REDUCTION BASED ON A PRODUCTION RATIO OF 12%.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1999	180000					1998 154,500 1999 158,860	1999 / 1998 = 1.12	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19  
W58 PURCHASE ORDER FOR OXIDIZER ISSUED 10/15/00.  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W58  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W19

**Non Numeric Objective:** VOC OXIDIZER INSTALLED AND AWAITING AN AIR PERMIT. FURTHER ENHANCE TRAINING OF PERSONNEL FOR SOLVENT MINIMIZATION. TRAIN EHS TECHNICIANS ON OXIDIZER COMPLIANCE AND OPERATION AND MAINTENANCE.

**Non Numeric Progress:** SUCCESSFUL YEAR FOR P2. TOTAL EMISSIONS OF 134,000 POUNDS DESPITE A 12% PRODUCTION RATIO INCREASE. PURCHASE OF A CATALYTIC OXIDIZER WILL REDUCE AIR EMISSIONS TO LESS THAN 10 TONS. HAD A 14,180 POUND REDUCTION BASED ON P2 OBJECTIVE FORMULA.

**Renville County, City of RENVILLE -- SOUTHERN MN BEET SUGAR COOPERATIVE -- ERCID -- 651550009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>							1998 136,790 1999 148,951	1999 / 1998 = 1.09	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
Employed Activity  
W41 INCREASED PURITY OF RAW MATERIALS

**Non Numeric Objective:** ADVISE GROWERS TO MAXIMIZE BEET QUALITY AND YIELD. REFER TO PROGRESS REPORT FOR MORE DETAILS.

**Non Numeric Progress:** TRENDS IN RECENT YEARS HAVE SHOWN A GENERAL DECREASE IN THE ALPHA AMINO NITROGEN IN RAW SUGAR BEETS. CONSTRUCTED A WASTEWATER TREATMENT FACILITY WHICH IS EXPECTED TO REDUCE AMMONIA NITROGEN RELEASE. FULL OPERATION IS EXPECTED IN THE YEAR 2000.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Rice County, City of FARIBAULT -- CROWN CORK & SEAL CO. -- ERCID -- 660300017**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>1,2,4-trimethylbenzene</i>	1999	1800					1999 12,200	1999 / 1998 = 0.61	No

**Process Code** P24 PRINTING  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W74 IMPROVED APPLICATION TECHNIQUES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1991	130000	9,600	19,000	24,000	24,000	1998 34,100	1999 89,500	1999 / 1998 = 0.63	No

**Process Code** P24 PRINTING

Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W21 INSTITUTED PROCEDURES TO ENSURE THAT MATERIALS DO NOT STAY IN INVENTORY BEYOND SHELF-LIFE  
W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1995	51000	11,000	13,000	13,000	13,000	1998 11,000	1999 13,000	1999 / 1998 = 1	No

**Process Code** P24 PRINTING

Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1991	73400	12,000	15,000	14,000	14,000	1998 78,000	1999 102,000	1999 / 1998 = 0.61	No

**Process Code** P24 PRINTING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1991	36000	14,000	21,000	18,000	18,000	1998 53,600	1999 68,000	1999 / 1998 = 0.63	No

**Process Code** P24 PRINTING  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	49000	34,000	47,000	40,000	40,000	1998 145,000	1999 95,000	1999 / 1998 = 0.63	No

**Process Code** P24 PRINTING  
Intended Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W42 SUBSTITUTED RAW MATERIALS  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Rice County, City of FARIBAUT -- K & G MANUFACTURING -- ERCID -- 660300078**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1999	20460	0	0	0	0	1998 27,720 1999 20,460	1999 / 1998 = 0.83	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Rice County, City of FARIBAUT -- LAND O'LAKES, INC.-DAIRY PRODUCTION DIV. -- ERCID -- 660300003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1998	9668					1998 32,993 1999 29,017	1999 / 1998 = 0.83	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** TO CONTROL NITRATE COMPOUND GENERATION, THE SOURCE CHEMICALS WILL BE USED ONLY AS REQUIRED BY FDA. CONTINUE TO RESEARCH OPTIONS IN CHANGING EQUIPMENT, PROCESSES, OR CLEANING CHEMICALS IN ORDER TO REDUCE CHEMICAL GENERATION.

**Non Numeric Progress:** TO CONTROL NITRATE COMPOUND GENERATION, THE SOURCE CHEMICALS WILL BE USED ONLY AS REQUIRED BY FDA. CONTINUE TO RESEARCH OPTIONS IN CHANGING EQUIPMENT, PROCESSES, OR CLEANING CHEMICALS IN ORDER TO REDUCE CHEMICAL GENERATION.

**Barriers to P2:**  
 F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

**Rice County, City of FARIBAUT -- MCQUAY INTERNATIONAL -- ERCID -- 660300004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Aluminum (fume or dust)</i>	1999	264000					1998 261,404 1999 263,168	1999 / 1998 = 0.95	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1999	5200					1998 6,198 1999 5,171		1999 / 1998 = 0.95	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1999	116000					1998 117,767 1999 115,677		1999 / 1998 = 0.95	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1999	26000					1998 25,532 1999 25,709		1999 / 1998 = 0.95	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.  
**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1999	5200					1998 6,199 1999 5,171	1999 / 1998 = 0.95	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.  
**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc (fume or dust)</i>	1999	136000					1998 132,843 1999 135,565	1999 / 1998 = 0.95	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 UTILIZES AN OPTIMIZATION SYSTEM THAT CREATES A NESTING OF SEVERAL PARTS ON A SHEET OF STEEL. THIS PROCESS CREATES A MINIMAL AMOUNT OF SCRAP. CONTINUOUS MONITORING OF PARTS MANUFACTURED INCORRECTLY.  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** SCRAP IS GENERATED DURING THE VARIOUS MFG. PROCESSES USED TO PRODUCE PARTS FOR THE FINAL PRODUCTS AND IS LARGELY FROM MACHINE FALL-OFF (ENGINEERED) AS PARTS ARE PRODUCED. A SMALL PORTION IS GENERATED FROM INCORRECTLY PRODUCED OR DAMAGED PARTS.  
**Non Numeric Progress:** NA

Rice County, City of NORTHFIELD -- SHELDAHL, INC. - EAST FACILITY -- ERCID -- 660600002

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1998	94664					94,664	58,726	1999 / 1998 = 1.04	Yes

**Process Code** P04  
Intended Activity  
W51  
Employed Activity  
W51

CHEMICAL MILLING (ETCHING)  
INSTITUTED RECIRCULATION WITHIN A PROCESS  
INSTITUTED RECIRCULATION WITHIN A PROCESS

**Non Numeric Objective:**

INVESTIGATE THE USE OF A WATER TREATMENT SYSTEM TO RECOVER AMMONIA FOR RECYCLING AND REUSE. ON AN ANNUAL BASIS, CONDUCT POLLUTION PREVENTION TRAINING FOR WET PROCESS OPERATORS. REVIEW OF OTHER ETCHING SYSTEMS HAS SHOWN NOT TO BE ECONOMICALLY VIABLE.

**Non Numeric Progress:**

DEVELOP A METHOD TO SEPARATE AND REUSE AMMONIA FROM OUR ETCHING PROCESS WASTE SOLUTION. EVALUATE METHODS FOR REUSE AS A FEED SOURCE FOR MAKE-UP OF NEW SOLUTION OR AS A SOURCE OF FERTILIZER. COMPLETED P2 TRAINING FOR WET PROCESS OPERATORS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Antimony Compounds</i>	1998	2960					2,960	3,440	1999 / 1998 = 1.03	Yes

**Process Code** P21  
Intended Activity  
W42  
Employed Activity  
W90

ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
SUBSTITUTED RAW MATERIALS  
NOT APPLICABLE

**Non Numeric Objective:**

ON AN ON-GOING BASIS WE WILL CONTINUE OUR RESEARCH TO IDENTIFY COST EFFECTIVE SUBSTITUTES FOR FLAME RETARDANTS. REVIEW OF CURRENT OPTIONS HAS NOT IDENTIFIED ANY OPTIONS.

**Non Numeric Progress:**

VIABLE ALTERNATIVES HAVE BEEN IDENTIFIED TO REPLACE ANTIMONY BUT MARKET DEMANDS/EXPECTATIONS HAVE NOT EMBRACED THESE ALTERNATIVES. WORK CONTINUES TO MEET MARKET EXPECTATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1998	917523					917,523	714,937	1999 / 1998 = 1.04	Yes

**Process Code** P10  
Intended Activity  
W58  
Employed Activity  
W58

ELECTROPLATING  
ADDITIVE ELECTROPLATING PROCESS  
INCREASE IN PRODUCT SALES OF NOVA CLAD MATERIALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ON ON-GOING BASIS, WILL CONTINUE RESEARCH AND DEVELOPMENT EFFORTS TO REDUCE USE OF COPPER IN THE MANUFACTURE OF FLEXIBLE CIRCUITS. NO ECONOMICALLY VIABLE ALTERNATIVE HAS BEEN IDENTIFIED.

**Non Numeric Progress:** THE NOVACLAD PROCESS, ADDITIVE IN NATURE, MADE UP A 63% SALES INCREASE FROM 1998. THIS ADDED TO OVERALL COPPER USE SINCE APPLICATIONS ARE DIFFERENT FROM STANDARD COPPER LAMINATE CIRCUIT PRODUCTS. PRODUCTS ARE EVALUATED ON A CASE-BY-CASE BASIS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Decabromodiphenyl Oxide</i>	1998	6240					1998 6,240 1999 6,119	1999 / 1998 = 1.03	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** ON AN ON-GOING BASIS WE WILL CONTINUE OUR RESEARCH TO IDENTIFY COST EFFECTIVE SUBSTITUTES FOR FLAME RETARDANTS. REVIEW OF CURRENT OPTIONS HAS NOT IDENTIFIED ANY OPTIONS.

**Non Numeric Progress:** VIABLE ALTERNATIVES HAVE BEEN IDENTIFIED TO REPLACE ANTIMONY BUT MARKET DEMANDS/EXPECTATIONS HAVE NOT EMBRACED THESE ALTERNATIVES. WORK CONTINUES TO MEET MARKET EXPECTATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead Compounds</i>	1996	28410	25,000	25,000	20,000	20,000	1998 9,600 1999 9,472	1999 / 1998 = 1.04	Yes

**Process Code** P10 ELECTROPLATING  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1998	19435					1998 19,435 1999 17,211	1999 / 1998 = 1.03	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ON ANNUAL BASIS, WILL CONDUCT POLLUTION PREVENTION TRAINING FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES. REVIEW OPERATING PROCEDURES FOR WET PROCESSES CONTAINING METHANOL IN ORDER TO UTILIZE THE CHEMISTRY MOST EFFECTIVELY.

**Non Numeric Progress:** CONDUCTED POLLUTION PREVENTION TRAINING FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES. IMPROVED BATH MAINTENANCE PROCEDURES ARE CONTINUING TO REDUCE THE AMOUNT OF MAKE-UP CHEMISTRY AND EVAPORATIVE LOSSES FROM THE PROCESS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1998	313061					1998 313,061 1999 350,190	1999 / 1998 = 1.03	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W58

W71

Employed Activity

W58

EVALUATE USE OF ALTERNATIVES TO SOLVENT CLEANING SYSTEMS FOR ADHESIVE CLEAN UP.  
POLLUTION PREVENTION FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES.

**Non Numeric Objective:** ON ANNUAL BASIS, WILL CONDUCT POLLUTION PREVENTION TRAINING FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES AND EVALUATE USE OF ALTERNATIVES TO SOLVENT CLEANING SYSTEMS FOR ADHESIVE CLEAN-UP. EVALUATE INCREASING THE PERCENT SOLIDS OF OUR ADHESIVE SYSTEMS.

**Non Numeric Progress:** POLLUTION PREVENTION TRAINING COMPLETED FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES. R&D EFFORTS IDENTIFIED NO NEW ALTERNATE SOLVENTS. IMPROVED EQUIPMENT OPERATING PARAMETERS AND EFFICIENCIES ALLOWED US TO INCREASE THE PERCENT SOLIDS OF ADHESIVE SYSTEMS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1998	127098					1998 127,098 1999 22,066	1999 / 1998 = 1.04	Yes

**Process Code** P30 STRIPPING ANY COATING

Intended Activity

W58

W13

Employed Activity

W58

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity

W42

Employed Activity

W90

SUBSTITUTED RAW MATERIALS

NOT APPLICABLE

**Non Numeric Objective:** NITRATES PRIMARILY PRODUCED THROUGH NEUTRALIZATION OF NITRIC ACID WASTE WATER. OBJECTIVES FOR POLLUTION PREVENTION FOLLOW NITRIC ACID REDUCTION ACTIVITIES.

**Non Numeric Progress:** SIGNIFICANT REDUCTION IN LEAD PLATING WITH TIN PLATING AS SUBSTITUTE. NITRIC ACID USED TO STRIP TIN. WATER RELEASES TREATED AND NEUTRALIZED IN ON-SITE SYSTEM. ION EXCHANGE RESIN IN WATER TREATMENT SYSTEM REPLACED 12/98, GREATLY REDUCED USE IN 1999.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	86663					1998 86,663 1999 14,456	1999 / 1998 = 0.19	Yes

**Process Code** P30 STRIPPING ANY COATING  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W58  
 Employed Activity W58 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W13  
**Non Numeric Objective:** CONTINUE RESEARCH TO REDUCE AND ELIMINATE USE OF LEAD FOR PLATING AND OTHER SURFACE PREPARATIONS OF FLEXIBLE CIRCUITS. THIS MUST BE DONE TO ELIMINATE USE OF NITRIC ACID IN LEAD ION EXCHANGE COLUMN REGENERATION.

**Non Numeric Progress:** SIGNIFICANT REDUCTION IN LEAD PLATING WITH TIN PLATING AS SUBSTITUTE. NITRIC ACID USED TO STRIP TIN. WATER RELEASES TREATED AND NEUTRALIZED IN ON-SITE SYSTEM. ION EXCHANGE RESIN IN WATER TREATMENT SYSTEM REPLACED 12/98, GREATLY REDUCED USE IN 1999.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1998	773891					1998 773,891 1999 893,751	1999 / 1998 = 1.03	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W71 POLLUTION PREVENTION TRAINING WAS COMPLETED  
 W58 NO NEW ALTERNATIVE SOLVENTS FOR CLEAN UP WHERE FOUND.  
 Employed Activity W58 EVALUATE INCREASING THE PERCENT SOLIDS OF OUR ADHESIVE SYSTEMS.  
**Non Numeric Objective:** ON ANNUAL BASIS, WILL CONDUCT POLLUTION PREVENTION TRAINING FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES AND EVALUATE USE OF ALTERNATIVES TO SOLVENT CLEANING SYSTEMS FOR ADHESIVE CLEAN-UP. EVALUATE INCREASING THE PERCENT SOLIDS OF OUR ADHESIVE SYSTEMS.

**Non Numeric Progress:** POLLUTION PREVENTION TRAINING COMPLETED FOR ALL LAMINATIONS DEPARTMENT EMPLOYEES. R&D EFFORTS IDENTIFIED NO NEW ALTERNATE SOLVENTS. IMPROVED EQUIPMENT OPERATING PARAMETERS AND EFFICIENCIES ALLOWED US TO INCREASE THE PERCENT SOLIDS OF ADHESIVE SYSTEMS

**Roseau County, City of ROSEAU -- POLARIS INDUSTRIES, INC. -- ERCID -- 681550001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1994	49000	41,100	31,500	24,000	24,000	1998 41,100 1999 31,500	1999 / 1998 = 1.15	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W42 SUBSTITUTED RAW MATERIALS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1994	36000	21,960	20,770	19,750	19,750	1998 21,960 1999 20,770	1999 / 1998 = 1.15	Yes	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1994	110000	11,400	10,900	10,800	10,800	1998 11,400 1999 10,900	1999 / 1998 = 1.15	Yes	

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity  
W74 IMPROVED APPLICATION TECHNIQUES

**Scott County, City of NEW PRAGUE -- CHART/MVE, INC. - MAIN PLANT -- ERCID -- 700700001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1999	90					1998 37,610 1999 21,088	1999 / 1998 = 0.7	No	

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** CURRENTLY, WE'RE RECYCLING 99.6% OF ALL CHROMIUM TRANSFERRED OR RELEASED. REMOVED RECYCLING FROM BASELINE QUANTITY BECAUSE THE AMOUNT HAS NO IMPACT ON THE ENVIRONMENT. CONTINUE TO OPERATE AS CLEANLY AS POSSIBLE.

**Non Numeric Progress:** RECYCLE AS MUCH AS POSSIBLE, KEEP OUR IN-HOUSE WASTEWATER TREATMENT SYSTEM AND BLAST BOOTHS OPERATING AT MAXIMUM EFFICIENCY, AND WELD AND GRIND AS CLEANLY AS POSSIBLE.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1999	130					1998 17,170 1999 13,135	1999 / 1998 = 0.7	No	

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** CURRENTLY, WE'RE RECYCLING 99% OF ALL MANGANESE TRANSFERRED OR RELEASED. REMOVED RECYCLING FROM BASELINE QUANTITY BECAUSE THE AMOUNT HAS NO IMPACT ON THE ENVIRONMENT. CONTINUE TO OPERATE AS CLEANLY AS POSSIBLE.

**Non Numeric Progress:** RECYCLE AS MUCH AS POSSIBLE, KEEP OUR IN-HOUSE WASTEWATER TREATMENT SYSTEM AND BLAST BOOTHS OPERATING AT MAXIMUM EFFICIENCY, AND WELD AND GRIND AS CLEANLY AS POSSIBLE.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1999	380					1998 17,600 1999 30,389	1999 / 1998 = 0.7	No	

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** CURRENTLY, WE'RE RECYCLING 98.7% OF ALL NICKEL TRANSFERRED OR RELEASED. REMOVED RECYCLING FROM BASELINE QUANTITY BECAUSE THE AMOUNT HAS NO IMPACT ON THE ENVIRONMENT. CONTINUE TO OPERATE AS CLEANLY AS POSSIBLE.

**Non Numeric Progress:** RECYCLE AS MUCH AS POSSIBLE, KEEP OUR IN-HOUSE WASTEWATER TREATMENT SYSTEM AND BLAST BOOTHS OPERATING AT MAXIMUM EFFICIENCY, AND WELD AND GRIND AS CLEANLY AS POSSIBLE.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Scott County, City of SAVAGE -- CONTINENTAL MACHINES, INC. -- ERCID -- 700820003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.25	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>		27330					31,114	27,330		

**Process Code** P15 HEAT TREATING  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** USED IN HEAT TREATING PROCESS DISPLACING OXYGEN, ENABLING QUENCHING PROCESS. USE DEPENDENT ON WORKLOAD SO NO OBJECTIVES CAN BE DETERMINED.

**Non Numeric Progress:** USED IN HEAT TREATING PROCESS DISPLACING OXYGEN, ENABLING QUENCHING PROCESS. USE DEPENDENT ON WORKLOAD SO NO OBJECTIVES CAN BE DETERMINED.

**Barriers to P2:** F10 USED IN HEAT TREATING PROCESS DISPLACING OXYGEN, ENABLING QUENCHING PROCESS. USE DEPENDENT ON WORKLOAD SO NO OBJECTIVES CAN BE DETERMINED.

**Scott County, City of SAVAGE -- SILGAN CONTAINERS MFG. CORP. -- ERCID -- 700820004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.3	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1989	N/A					33,977	39,267		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W89 OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.

**Non Numeric Progress:** NA

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.4	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1991	N/A					32,769	41,980		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
**Intended Activity** W89 OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Employed Activity** W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.  
**Non Numeric Progress:** NA  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.85	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1989	N/A					274,811	238,663		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
**Intended Activity** W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W89 OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Employed Activity** W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
**Non Numeric Objective:** TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.  
**Non Numeric Progress:** NA  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.76	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1991	N/A					18,248	26,540		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
**Intended Activity** W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

<p>W89</p> <p>W32 Employed Activity W14</p> <p><b>Non Numeric Objective:</b></p> <p><b>Non Numeric Progress:</b></p> <p><b>Barriers to P2:</b></p>	<p>OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.</p> <p>IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS</p> <p>CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS</p> <p>TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.</p> <p>NA</p> <p>F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION</p> <p>F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS</p>
<p><b>Process Code</b> P21 Intended Activity</p> <p>W32</p> <p>W89</p> <p>W14 Employed Activity W14</p> <p><b>Non Numeric Objective:</b></p> <p><b>Non Numeric Progress:</b></p> <p><b>Barriers to P2:</b></p>	<p>ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)</p> <p>IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS</p> <p>OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.</p> <p>CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS</p> <p>CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS</p> <p>TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.</p> <p>NA</p> <p>F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION</p> <p>F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS</p>
<p><b>Process Code</b> P21 Intended Activity</p> <p>W32</p> <p>W89</p> <p>W14 Employed Activity W14</p> <p><b>Non Numeric Objective:</b></p> <p><b>Non Numeric Progress:</b></p> <p><b>Barriers to P2:</b></p>	<p>ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)</p> <p>IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS</p> <p>OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.</p> <p>CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS</p> <p>CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS</p> <p>TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.</p> <p>NA</p> <p>F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION</p> <p>F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS</p>

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1991	N/A					1998 70,079 1999 80,205	1999 / 1998 = 1.28	No

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-hexane</i>	1989	N/A					1998 16,699 1999 16,270	1999 / 1998 = 1.03	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.

**Non Numeric Progress:** NA

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	N/A					160,966	204,087	1999 / 1998 = 1.33	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W89

OUR TECHNICAL SERVICES DEPARTMENT IS CONSTANTLY WORKING WITH OUR SUPPLIERS TO DERIVE COATINGS WITH NO OR REDUCED HAZARDOUS COMPONENTS WHICH WILL MEET OR EXCEED CUSTOMER REQUIREMENTS.

W32  
W14

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Employed Activity  
W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** TYPES OF SOLVENTS AND COATINGS USED ARE DETERMINED BY CUSTOMER REQUIREMENTS WHICH ARE DRIVEN BY THE CONTENT OF AGRICULTURAL PRODUCT BEING PROCESSED. WORKING WITH COATING SUPPLIERS TO EVALUATE COATINGS WITH LOWER EMISSIONS.

**Non Numeric Progress:** NA

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Scott County, City of SHAKOPEE -- ADC TELECOMMUNICATIONS -- ERCID -- 700850057**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1995	430,916					650,914	942,863	1999 / 1998 = 1.44	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W58

EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.

Employed Activity  
W58

EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.

**Non Numeric Objective:** NO SUBSTITUTE MATERIALS HAVE BEEN FOUND. STRIVES TO MAXIMIZE OPERATIONS AND RECYCLE ALL WASTE GENERATED.

**Non Numeric Progress:** NO SUBSTITUTE MATERIALS HAVE BEEN FOUND. STRIVES TO MAXIMIZE OPERATIONS AND RECYCLE ALL WASTE GENERATED.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methylene Chloride</i>	1988	37,609							No
<b>Process Code</b> P05 Intended Activity	CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)								
W59 Employed Activity	MODIFIED STRIPPING / CLEANING EQUIPMENT								
W59	MODIFIED STRIPPING / CLEANING EQUIPMENT								
<b>Non Numeric Objective:</b>	ONGOING EVALUATION OF ALTERNATIVE CLEANING SOLVENTS. TESTING IN PROCESS.								
<b>Non Numeric Progress:</b>	ONGOING EVALUATION OF ALTERNATIVES FOR EQUIPMENT AND SOLVENT.								
<b>Barriers to P2:</b>	F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE F10 SPECIFIC LIMITATIONS CURRENTLY HINDER THE ABILITY TO INSTALL AN AQUEOUS WASHING SYSTEM.								

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1995	35,553							No
<b>Process Code</b> P18 Intended Activity	MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)								
W58 Employed Activity	EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.								
W58	EFFORTS TO MAXIMIZE OPERATIONS AND REDUCE WASTE IS ONGOING.								
<b>Non Numeric Objective:</b>	NO SUBSTITUTE MATERIALS HAVE BEEN FOUND. STRIVES TO MAXIMIZE OPERATIONS AND RECYCLE ALL WASTE GENERATED.								
<b>Non Numeric Progress:</b>	NO SUBSTITUTE MATERIALS HAVE BEEN FOUND. STRIVES TO MAXIMIZE OPERATIONS AND RECYCLE ALL WASTE GENERATED.								
<b>Barriers to P2:</b>	F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE								

**Scott County, City of SHAKOPEE -- CONKLIN COMPANY, INC. -- ERCID -- 700850006**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1993	545							No
<b>Process Code</b> P02 Intended Activity	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)								
W42 Employed Activity	SUBSTITUTED RAW MATERIALS								
W42	SUBSTITUTED RAW MATERIALS								
<b>Process Code</b> P03 Intended Activity	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)								
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES								

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	18600					1998	1,031	1999 / 1998 = 1.06	No
							1999	1,105		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Sherburne County, City of BECKER -- NSP - SHERCO PLANT -- ERCID -- 710090001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1994	12000	10,000	10,000	10,000	10,000	1998	30,100	1999 / 1998 = 0.97	No
							1999	14,770		

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity W58 A PILOT SCRUBBING PROJECT WAS INITIATED IN 1999 TO INVESTIGATE THE POTENTIAL FOR REMOVING AMMONIA FROM CONDENSER OFF-GASES.

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 AMMONIA CAN BE CAPTURED IN THE SCRUBBER BUT THE PRESENCE OF CARBONATE COMPOUNDS IN THE CAPTURED OFF-GAS STREAM AND THEIR SUBSEQUENT REACTIONS WITH ION EXCHANGE RESINS MAY BE DETRIMENTAL TO OPERATIONS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Antimony Compounds</i>	1998	4300					1998 4,300	1999 4,000	1999 / 1998 = 0.97	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W90 NOT APPLICABLE  
**Process Code** P36 ELECTRICITY GENERATION  
Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY.  
USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.  
Employed Activity W49 SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Barium Compounds</i>	1998	5600000					1998 5,600,000	1999 5,200,000	1999 / 1998 = 0.97	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W90 NOT APPLICABLE  
**Process Code** P36 ELECTRICITY GENERATION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.

Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Chromium Compounds	1998	68000					1998 68,000	1999 74,000	1999 / 1998 = 0.97	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W90 NOT APPLICABLE  
**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.

Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper Compounds	1998	130000					1998 130,000	1999 130,000	1999 / 1998 = 0.97	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W90 NOT APPLICABLE  
**Process Code** P36 ELECTRICITY GENERATION

Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W49

SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	6400					216,400	205,900	1999 / 1998 = 0.97	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W49

PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.

Employed Activity  
W49

SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1998	17000					297,000	202,000	1999 / 1998 = 0.97	No

**Process Code** P36 ELECTRICITY GENERATION

Intended Activity  
W49

PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.

Employed Activity  
W49

SEE NON-NUMERIC PROGRESS

**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.97	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1998	47000					47,000	43,000		
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.									
Employed Activity W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.97	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1998	620,000					620,000	560,000		
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.									
Employed Activity W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	20,000		
<i>Molybdenum Trioxide</i>	1998	20000					1998	20,000		No
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity										
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity										
W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity										
W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.									
Employed Activity										
W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	55,000		
<i>Nickel Compounds</i>	1998	55000					1998	55,000	1999 / 1998 = 0.97	No
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity										
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity										
W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity										
W49	PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.									
Employed Activity										
W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sulfuric Acid (aerosol forms only)</i>	1998	28000					124,000	117,000	1999 / 1998 = 0.97	No

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.  
 Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.  
**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.  
**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Zinc Compounds</i>	1998	87000					87,000	85,000	1999 / 1998 = 0.97	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W90 NOT APPLICABLE  
**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY AND CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED TO GENERATE ADDITIONAL ELECTRICITY. USE MARKETS FOR UTILIZING ASH TO MINIMIZE LANDFILLING.  
 Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND INCREASE ASH UTILIZATION.  
**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY IN 1999. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE TRADITIONAL POWER AND REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.  
**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

**Sherburne County, City of PRINCETON -- CRYSTAL CABINET WORKS, INC. -- ERCID -- 710050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>1,2,4-trimethylbenzene</i>	1998	8822					10,610		1999 / 1998 = 0.87	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** REPORTING YEAR 1999 WAS THE FIRST YEAR THAT THIS CHEMICAL WAS REPORTED ON THE FORM R, THEREFORE, IT WAS NOT INCLUDED IN OUR P2 PLAN.

**Non Numeric Progress:** REPORTING YEAR 1999 WAS THE FIRST YEAR THAT THIS CHEMICAL WAS REPORTED ON THE FORM R, THEREFORE, IT WAS NOT INCLUDED IN OUR P2 PLAN.

**Barriers to P2:** F10 REPORTING YEAR 1999 WAS THE FIRST YEAR THAT THIS CHEMICAL WAS REPORTED ON THE FORM R, THEREFORE, IT WAS NOT INCLUDED IN OUR P2 PLAN.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylbenzene</i>	1998	14512					1998 14,512 1999 14,006	1999 / 1998 = 0.87	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1998	12337					1998 12,337 1999 10,178	1999 / 1998 = 0.87	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1998	15422					1998 15,422 1999 25,586	1999 / 1998 = 0.87	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1998	13502					1998 13,635	1999 12,963	1999 / 1998 = 0.87	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1998	16554					1998 16,554	1999 12,395	1999 / 1998 = 0.87	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1998	84701					1998 84,701	1999 80,947	1999 / 1998 = 0.87	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS

**Barriers to P2:**  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1998	497289					1998	497,289	1999 / 1998 = 0.87	Yes
							1999	84,057		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity W42 SUBSTITUTED RAW MATERIALS  
Employed Activity W42 SUBSTITUTED RAW MATERIALS

**Sibley County, City of GAYLORD -- M. G. WALDBAUM CO. -- ERCID -- 720400012**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1999	30754					1998	21,023	1999 / 1998 = 1.46	No
							1999	30,754		

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
Employed Activity W59 MODIFIED STRIPPING / CLEANING EQUIPMENT  
**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** VENDOR ASSISTANCE AND PARTICIPATIVE TEAM MANAGEMENT.

**Non Numeric Progress:** VENDOR ASSISTANCE AND PARTICIPATIVE TEAM MANAGEMENT.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**St Louis County, City of AURORA -- LASKIN ENERGY CENTER - MN POWER -- ERCID -- 690350001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	140000					1998 140,000 1999 140,000	1999 / 1998 = 1	No

**Process Code** P36 ELECTRICITY GENERATION  
 Intended Activity  
 W49 REVIEW FUEL SOURCES TO CONFIRM OPTIMAL PERFORMANCE. CONSIDER SWITCHING WHEN OVERALL PERFORMANCE AND ECONOMICS ARE FAVORABLE.  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** STUDYING MEASURES TO PREVENT OR REDUCE POLLUTION OF ANY TYPE. WILL SEEK ALL OPPORTUNITIES TO FURTHER REDUCE TRI COMBUSTION RELEASES AND IMPLEMENT PROJECTS THAT ARE TECHNICALLY AND ECONOMICALLY VIABLE.  
**Non Numeric Progress:** OPTIMIZE OPERATING CONDITION EFFICIENCY, UPGRADE BOILER CONTROLS, MAINTENANCE REPLACEMENTS WITH HIGH EFFICIENCY MOTORS AND MAINTENANCE WORK WHICH RESTORES WORN EQUIPMENT TO ORIGINAL PERFORMANCE.  
**Barriers to P2:**  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**St Louis County, City of BIWABIK -- MINNESOTA EXPLOSIVES CO. -- ERCID -- 690580002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1996	180	190	185	190	190	1998 360 1999 370	1999 / 1998 = 1.2	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 Employed Activity  
 W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1996	600	620	580	600	600	1998 1,300 1999 1,160	1999 / 1998 = 1.23	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
   W51                    INSTITUTED RECIRCULATION WITHIN A PROCESS  
 Employed Activity  
   W90                    NOT APPLICABLE

**St Louis County, City of CHISHOLM -- MINNESOTA TWIST DRILL, INC. -- ERCID -- 690950008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1995	15737					1998 28,287 1999 40,560	1999 / 1998 = 1.28	No

**Process Code** P15      HEAT TREATING  
 Intended Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W14                    CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
   W90                    NOT APPLICABLE

**Barriers to P2:**      F10 INCREASE OF POUNDS OF TOOL STEEL GOING THROUGH BOTH HEAT TREATING SYSTEMS INCREASES THE AMOUNT OF CONTAMINATED SALT THAT NEEDS TO BE CLEANED OUT OF THE FURNACES.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1994	13889					1998 24,844 1999 28,643	1999 / 1998 = 1.28	Yes

**Process Code** P18      MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
   W90                    NOT APPLICABLE  
 Employed Activity  
   W90                    NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1998	8761					1998 8,761 1999 13,257	1999 / 1998 = 1.28	No

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P05      CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
 W59                      MODIFIED STRIPPING / CLEANING EQUIPMENT  
 Employed Activity  
 W90                      NOT APPLICABLE  
**Non Numeric Objective:** TO ELIMINATE ITS USE IN THE PARTS DEGREASER, A REPLACEMENT DETERGENT SYSTEM WOULD BE NEEDED.  
**Non Numeric Progress:** NO REPLACEMENT CLEANING SYSTEM FOR THE DRILLS HAS BEEN FOUND.  
**Barriers to P2:** F10 THE AMOUNT OF DRILLS BEING CLEANED BY THE DEGREASER HAS INCREASED. THEREFORE, REGULAR CLEANING OF THE DEGREASER IS REQUIRED.

**St Louis County, City of COOK -- POTLATCH CORPORATION -- ERCID -- 691100001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Formaldehyde	1991	147688					1998 36,233 1999 43,467	1999 / 1998 = 0.95	No

**Process Code** P08      DRYING  
 Intended Activity  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W58                      VOC EMISSION CONTROL EQUIPMENT FOR DRYERS WILL BE INSTALLED BY 7/97; OTHER CONTROL EQUIPMENT EVALUATION IS ONGOING.  
 W19                      IMPROVED MAINTENANCE AND HOUSEKEEPING PROCEDURES WITH REGARD TO RESIN BLENDING SYSTEMS.  
 W81                      CHANGED PRODUCT SPECIFICATIONS  
 W42                      SUBSTITUTED RAW MATERIALS  
 W52                      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W90                      NOT APPLICABLE  
**Process Code** P16      LAMINATING/PRESSING ANY MATERIAL  
 Intended Activity  
 W42                      SUBSTITUTED RAW MATERIALS  
 W13                      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W81                      CHANGED PRODUCT SPECIFICATIONS  
 W19                      IMPROVED MAINTENANCE AND HOUSEKEEPING PROCEDURES WITH REGARD TO RESIN BLENDING SYSTEMS.  
 W58                      VOC EMISSION CONTROL EQUIPMENT FOR DRYERS WILL BE INSTALLED BY 7/97; OTHER CONTROL EQUIPMENT EVALUATION IS ONGOING.  
 W52                      MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
 W90                      NOT APPLICABLE  
**Non Numeric Objective:** PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY AND CONTROL EQUIPMENT. IMPROVE UTILIZATION OF RESIN AND WOOD. REVIEW LITERATURE, EVALUATE, AND IMPLEMENT METHODS TO REDUCE RESIN AND WOOD USAGE. REVIEW OPERATING PROCEDURES, MAINTAIN INTERNAL COMPLIANCE.  
**Non Numeric Progress:** PROGRESS WAS ATTEMPTED, BUT NOT ALWAYS REALIZED, REGARDING THE ITEMS LISTED UNDER NON-NUMERIC OBJECTIVES.  
**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
 F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.95	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1995	100040					93,495	118,895		
<b>Process Code</b> P08	DRYING									
Intended Activity										
W52	MODIFIED EQUIPMENT, LAYOUT, OR PIPING									
W58	VOC EMISSION CONTROL EQUIPMENT FOR DRYERS WILL BE INSTALLED BY 7/97; OTHER CONTROL EQUIPMENT EVALUATION IS ONGOING.									
W19	IMPROVED MAINTENANCE AND HOUSEKEEPING PROCEDURES WITH REGARD TO RESIN BLENDING SYSTEMS.									
W81	CHANGED PRODUCT SPECIFICATIONS									
W42	SUBSTITUTED RAW MATERIALS									
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity										
W90	NOT APPLICABLE									
<b>Process Code</b> P16	LAMINATING/PRESSING ANY MATERIAL									
Intended Activity										
W19	IMPROVED MAINTENANCE AND HOUSEKEEPING PROCEDURES WITH REGARD TO RESIN BLENDING SYSTEMS.									
W81	CHANGED PRODUCT SPECIFICATIONS									
W52	MODIFIED EQUIPMENT, LAYOUT, OR PIPING									
W42	SUBSTITUTED RAW MATERIALS									
W58	VOC EMISSION CONTROL EQUIPMENT FOR DRYERS WILL BE INSTALLED BY 7/97; OTHER CONTROL EQUIPMENT EVALUATION IS ONGOING.									
W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity										
W90	NOT APPLICABLE									
<b>Non Numeric Objective:</b>	PARTICIPATE IN ADVANCES IN RESIN TECHNOLOGY AND CONTROL EQUIPMENT. IMPROVE UTILIZATION OF RESIN AND WOOD. REVIEW LITERATURE, EVALUATE, AND IMPLEMENT METHODS TO REDUCE RESIN AND WOOD USAGE. REVIEW OPERATING PROCEDURES, MAINTAIN INTERNAL COMPLIANCE.									
<b>Non Numeric Progress:</b>	PROGRESS WAS ATTEMPTED, BUT NOT ALWAYS REALIZED, REGARDING THE ITEMS LISTED UNDER NON-NUMERIC OBJECTIVES.									
<b>Barriers to P2:</b>	F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE									

**St Louis County, City of DULUTH -- A.E. STALEY MFG. CO. -- ERCID -- 691250003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.76	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Maleic Anhydride</i>	1992	35					3,488	2,618		
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W19	CUT EMISSIONS VIA SLOWING THE RATE OF ADDITION DURING BATCH MAKE-UP									
Employed Activity										
W19	SLOW THE RATE OF ADDITION DURING BATCH MAKE-UP									
<b>Process Code</b> P03	CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
Employed Activity W58 REDUCE THE AMOUNT OF SAMPLING EVENTS  
**Non Numeric Objective:** MAINTAIN EFFORT TO RECEIVE IT IN JUMBO RAIL CARS AS MUCH AS POSSIBLE. OF THE AMOUNT THAT IS RELEASED, A LARGE PERCENTAGE OCCURS DURING SAMPLING. BY REDUCING THE NUMBER OF SAMPLING EVENTS, WE SHOULD REDUCE THE AMOUNT OF VAPORS RELEASED.  
**Non Numeric Progress:** CONTINUED THE PRACTICE OF GETTING CHEMICAL IN BULK CONTAINERS AND INTEND TO KEEP DOING THIS. DEVELOPED A PLAN TO PROVIDE FOR INCREASED VENTING OF MAKE-UP VESSEL.

**St Louis County, City of DULUTH -- GEORGIA-PACIFIC CORPORATION -- ERCID -- 691250014**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1998	253,717	253,717	248,339	160,000	0	1998 254,105 1999 248,340	1999 / 1998 = 0.95	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W58 ALUMINUM SULFATE WAS REMOVED FROM THE PROCESS AND REPLACED WITH POLYALUMINUM CHLORIDE. THIS NEW CHEMICAL HAS REDUCED SCALING, THUS ELIMINATING THE NEED TO USE NITRIC ACID AS A CLEANING AGENT.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 BASED ON OUR 1998 AND 1999 USAGE AND APPLYING THE PRODUCTION INDEX, OUR USAGE INCREASED IN 1999. BY 2001, PREDICTED USAGE WILL BE 0.

**St Louis County, City of DULUTH -- LAKE SUPERIOR PAPER IND. -- ERCID -- 691250008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1995	59000					1998 133,000 1999 136,000	1999 / 1998 = 1.05	Yes

**Process Code** P22 PAPER MANUFACTURING  
Intended Activity W58 EVALUATE BEST AVAILABLE CONTROL TECHNOLOGY FOR VOC EMISSIONS. BACT MAY BE INSTALLED. NUMERIC OBJECTIVES WILL BE DEVELOPED.  
Employed Activity W58 BACT ANALYSIS BEGAN IN 1999. PROGRESS HAS BEEN MADE IN EVALUATING TECHNICAL AND ECONOMIC FEASIBILITY OF THE CONTROL TECHNOLOGIES.  
**Non Numeric Objective:** GENERATED AS AN IMPURITY OF THE WOOD PULPING PROCESS. EVALUATING BEST AVAILABLE CONTROL TECHNOLOGY (BACT) FOR VOC EMISSIONS IN CONJUNCTION WITH OUR BACKWARD-LOOKING PSD PERMIT APPLICATION. BACT MAY BE INSTALLED. NUMERIC OBJECTIVES WILL BE DEVELOPED.  
**Non Numeric Progress:** BACT ANALYSIS WAS BEGUN IN 1999. PROGRESS HAS BEEN MADE IN EVALUATING TECHNICAL AND ECONOMIC FEASIBILITY OF THE CONTROL TECHNOLOGIES.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**St Louis County, City of DULUTH -- M.E. INTERNATIONAL - DULUTH -- ERCID -- 691250013**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Barium</i>	1991	12268					1998 15,200	1999 6,120	1999 / 1998 = 0.75	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W42

SUBSTITUTED RAW MATERIALS

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** KEEP CURRENT WITH MATERIAL SUBSTITUTIONS WHICH WILL REDUCE OR ELIMINATE THE USE OF BARIUM.

**Non Numeric Progress:** BARIUM FREE MATERIALS MEETING OUR MANUFACTURING REQUIREMENTS CURRENTLY ARE NOT AVAILABLE. SUPPLIER INQUIRIES ARE CONTINUING.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1990	292					1998 75,160	1999 4,725	1999 / 1998 = 0.6	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W90

NOT APPLICABLE

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** NO SUITABLE SUBSTITUTE EXISTS. WE WILL CONTINUE RECYCLING AND CONTROL EFFORTS AND KEEP CURRENT WITH TECHNICAL DEVELOPMENTS.

**Non Numeric Progress:** PRESENTLY, NO ALTERNATIVE EXISTS. RECYCLING AND CONTROL EFFORTS WILL CONTINUE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1990	200					1998 35,730			No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity

W90

NOT APPLICABLE

Employed Activity

W90

NOT APPLICABLE

**Non Numeric Objective:** NO SUITABLE SUBSTITUTE EXISTS. WE WILL CONTINUE RECYCLING AND CONTROL EFFORTS AND KEEP CURRENT WITH TECHNICAL DEVELOPMENTS.

**Non Numeric Progress:** PRESENTLY, NO ALTERNATIVE EXISTS. RECYCLING AND CONTROL EFFORTS WILL CONTINUE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.59	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Molybdenum Trioxide</i>	1993	17					8,430	197		
<b>Process Code</b> P01	CASTING ANY MATERIAL									
Intended Activity W90	NOT APPLICABLE									
Employed Activity W90	NOT APPLICABLE									
<b>Non Numeric Objective:</b>	CONTINUE TO SEEK ALTERNATIVES WHILE MAINTAINING AN EFFECTIVE RECYCLING PROGRAM. THE CHEMICAL IS A REQUIRED ALLOYING ELEMENT FOR STEEL PRODUCTION AND CURRENTLY THERE IS NO KNOWN SUBSTITUTE.									
<b>Non Numeric Progress:</b>	METAL RECYCLING PROGRAM CONTINUES. SUPPLIER INQUIRIES CONTINUE.									
<b>Barriers to P2:</b>	F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.63	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1991	103					510	265		
<b>Process Code</b> P01	CASTING ANY MATERIAL									
Intended Activity W90	NOT APPLICABLE									
Employed Activity W90	NOT APPLICABLE									
<b>Non Numeric Objective:</b>	NO SUITABLE SUBSTITUTE EXISTS. WE WILL CONTINUE RECYCLING AND CONTROL EFFORTS AND KEEP CURRENT WITH TECHNICAL DEVELOPMENTS.									
<b>Non Numeric Progress:</b>	PRESENTLY, NO ALTERNATIVE EXISTS. RECYCLING AND CONTROL EFFORTS WILL CONTINUE.									
<b>Barriers to P2:</b>	F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS									

**St Louis County, City of DULUTH -- NORTH STAR STEEL MINNESOTA - DULUTH DIV. -- ERCID -- 691250087**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.85	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium Compounds</i>							1,480			
<b>Process Code</b> P20	MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)									
Intended Activity W90	NOT APPLICABLE									
Employed Activity W90	NOT APPLICABLE									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT.

**Non Numeric Progress:** THERE IS NO ECONOMICALLY FEASIBLE MEANS OF FURTHER REDUCING THE LOW CONCENTRATIONS OF THE METAL IN OUR WASTEWATER. WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT TO RECYCLE IT.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper Compounds</i>							1999 1,233	1999 / 1998 = 0.85	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT.

**Non Numeric Progress:** THERE IS NO ECONOMICALLY FEASIBLE MEANS OF FURTHER REDUCING THE LOW CONCENTRATIONS OF THE METAL IN OUR WASTEWATER. WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT TO RECYCLE IT.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>							1999 1,973	1999 / 1998 = 0.85	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT.

**Non Numeric Progress:** THERE IS NO ECONOMICALLY FEASIBLE MEANS OF FURTHER REDUCING THE LOW CONCENTRATIONS OF THE METAL IN OUR WASTEWATER. WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT TO RECYCLE IT.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>							1999 685	1999 / 1998 = 0.85	No

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT.  
**Non Numeric Progress:** THERE IS NO ECONOMICALLY FEASIBLE MEANS OF FURTHER REDUCING THE LOW CONCENTRATIONS OF THE METAL IN OUR WASTEWATER. WILL CONTINUE TO TRY TO FIND A CUSTOMER FOR OUR CLEAN MILL SCALE BYPRODUCT TO RECYCLE IT.  
**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**St Louis County, City of HIBBING -- INTERMET HIBBING FOUNDRY -- ERCID -- 692350004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper	1998	1305	1,305	1,387	1,350	1,350	1998 1,305 1999 1,389	1999 / 1998 = 1.11	No	

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F10 INCREASED PRODUCTION / USE OF THIS CHEMICAL.

**St Louis County, City of HIBBING -- L & M RADIATOR, INC. -- ERCID -- 692350038**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper	1998	66946	66,946	64,795	60,000	58,000	1998 66,946 1999 64,795	1999 / 1998 = 0.95	No	

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 WERE TOO OPTIMISTIC IN SETTING OUR GOALS FOR REDUCTION.

**St Louis County, City of HIBBING -- NOBLE INDUSTRIES, LTD. -- ERCID -- 692350002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>							1998 17,350 1999 26,740	1999 / 1998 = 1.11	Yes

**Process Code** P04 CHEMICAL MILLING (ETCHING)  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W67 IMPROVED RINSE EQUIPMENT DESIGN  
W81 CHANGED PRODUCT SPECIFICATIONS  
**Process Code** P09 ELECTROLESS/IMMERSION COATING  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W81 CHANGED PRODUCT SPECIFICATIONS  
**Process Code** P10 ELECTROPLATING  
Intended Activity  
W81 CHANGED PRODUCT SPECIFICATIONS  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W81 CHANGED PRODUCT SPECIFICATIONS

**Non Numeric Objective:** ATTEMPTS TO MAXIMIZE COPPER USED WHILE MINIMIZING SCRAP CREATED. OPTIMIZED SIZE OF PANELS TO CREATE THIS RESULT AND RECYCLES FOR REUSE A VERY HIGH PERCENTAGE OF THE CHEMICAL.

**Non Numeric Progress:** IMPROVED MAINTENANCE PROCEDURES, ESTABLISHED FIXED PREVENTIVE MAINTENANCE SCHEDULES.

**St Louis County, City of VIRGINIA -- BORDEN CHEMICAL, INC. -- ERCID -- 694400002**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formaldehyde</i>	1994	100					906	277	0.17	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** CURRENTLY, REVIEWING AND EVALUATING VARIOUS METHODS FOR QUANTIFYING SARA 313 LOSSES.  
**Non Numeric Progress:** COMPLETED EVALUATION OF THE PROCESS EQUIPMENT AND REFINED THE METHODOLOGIES USED IN DETERMINING LOSS(ES). APLLIED EMISSION FACTORS FROM OTHER COMPANY SITES.  
**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methanol</i>	1994	50					1,470	673	0.17	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
**Non Numeric Objective:** CURRENTLY, REVIEWING AND EVALUATING VARIOUS METHODS FOR QUANTIFYING SARA 313 LOSSES.  
**Non Numeric Progress:** COMPLETED EVALUATION OF THE PROCESS EQUIPMENT AND REFINED THE METHODOLOGIES USED IN DETERMINING LOSS(ES). APLLIED EMISSION FACTORS FROM OTHER COMPANY SITES.  
**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Stearns County, City of HOLDINGFORD -- POLAR TANK TRAILER, INC. -- ERCID -- 731050001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1996						141,037	152,032	1.16	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR CHROMIUM. CHROMIUM IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL.  
**Non Numeric Progress:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR CHROMIUM. CHROMIUM IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL.

Chemical Name	Baseline	Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000			
<i>Manganese</i>	1996					1998 26,044 1999 23,034	1999 / 1998 = 1.16	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Non Numeric Objective:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR MANGANESE. MANGANESE IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL WE PRODUCE.  
**Non Numeric Progress:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR MANGANESE. MANGANESE IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL WE PRODUCE.

Chemical Name	Baseline	Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000			
<i>Nickel</i>	1996					1998 66,021 1999 66,018	1999 / 1998 = 1.16	Yes

**Process Code** P20 MOLDING ANY MATERIAL (BENDING, FORMING, SHAPING, ETC.)  
Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR NICKEL. NICKEL IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE, AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL WE PRODUCE.

**Non Numeric Progress:** IT IS NOT FEASIBLE TECHNICALLY OR ECONOMICALLY TO IMPLEMENT SOURCE REDUCTION TECHNIQUES FOR NICKEL. NICKEL IS AN ESSENTIAL COMPONENT OF STAINLESS STEEL AND THEREFORE, AN ESSENTIAL COMPONENT OF OUR PRODUCT. WE RECYCLE ALL SCRAP METAL WE PRODUCE.

**Stearns County, City of MELROSE -- CARSTENS INDUSTRIES, INC. -- ERCID -- 731500010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1993	14824	36,828	30,450	28,927	28,927	1998 36,828 1999 30,450	1999 / 1998 = 0.81	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

Intended Activity  
W58 CLOSED MOLDING PROCESSES WILL CONTINUE TO BE USED ON ALL APPLICABLE PARTS.

W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
W58 USED CLOSED MOLDING PROCESS WHENEVER TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE.

**Stearns County, City of MELROSE -- KRAFT FOODS, INC. -- ERCID -- 731500003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1996	552,754					1998 726,357 1999 531,006	1999 / 1998 = 1	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W89 CHANGED CLEANING CHEMICAL

**Non Numeric Objective:** EMISSIONS ARE DUE TO THE USE OF NITRIC ACID, REQUIRED BY USDA, IN THE CLEANING OF PROCESS EQUIPMENT. IT REPLACED PHOSPHORIC ACID IN 1994. EFFORTS INCLUDE USING A LESS CONCENTRATED MIXTURE AND PROPER STORAGE AND HANDLING TO ELIMINATE SPILLS.

**Non Numeric Progress:** USING A LOWER CONCENTRATION OF NITRIC ACID IN THE CLEANING MIXTURE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Stearns County, City of PAYNESVILLE -- ASSOCIATED MILK PRODUCERS, INC. -- ERCID -- 731840001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>							1998 72,921 1999 84,675	1999 / 1998 = 1.06	No

**Process Code** P14 FOOD PROCESSING (HUMAN AND ANIMAL)  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** NITRATE COMPOUNDS ARE COINCIDENTALLY MANUFACTURED AS A BYPRODUCT OF THE NEUTRALIZATION OF NITRIC ACID. STRICT SANITATION REQUIREMENTS CAUSE US TO USE NITRIC ACID FOR CLEANING BECAUSE IT CURRENTLY WORKS THE BEST. SEEKING A SUBSTITUTE CHEMICAL.

**Non Numeric Progress:** CHEMICAL SUPPLIER CONTINUES RESEARCH AND DEVELOPMENT ON CLEANING SOLUTIONS THAT CAN BE SUBSTITUTED FOR NITRIC ACID AT A COMPARABLE PRICE.

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

**Stearns County, City of PAYNESVILLE -- CROMWELL MOLDING -- ERCID -- 731840025**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Styrene</i>	1994	18079					1998 9,856 1999 8,239	1999 / 1998 = 0.81	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING  
Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W78 CONTINUE EMPLOYEE TRAINING IN APPLICATION PROCESSES  
Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
W78 CONTINUED EMPLOYEE TRAINING IN APPLICATION PROCESSES

**Non Numeric Objective:** CONTINUE OUR RESEARCH EFFORTS TO REDUCE STYRENE. IN 1998, WE BEGAN USING UEF FACTORS, WHICH SIGNIFICANTLY INCREASED REPORTABLE EMISSIONS.

**Non Numeric Progress:** CONTINUED IMPLEMENTING NON-NUMERIC OBJECTIVES FOR 1999. IN 1998, WE SWITCHED TO THE UEF FACTORS, WHICH INCREASED REPORTABLE EMISSIONS.

**Stearns County, City of SARTELL -- DEZURIK -- ERCID -- 732620002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1996	7190					1998 10,280 1999 10,146	1999 / 1998 = 1.03	Yes

**Process Code** P01 CASTING ANY MATERIAL

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W53 USE OF A DIFFERENT PROCESS CATALYST  
Employed Activity  
W90 NOT APPLICABLE  
**Non Numeric Objective:** EVALUATE RESINS WITH LOWER PHENOL CONTENT THAT COULD REPLACE THE CURRENT SAND MOLDING RESIN. MINIMIZE USE OF SAND MOLDING RESIN.  
**Non Numeric Progress:** RESINS ARE EVALUATED FOR COST, PERFORMANCE, AND PHENOL CONTENT. IN 1999, A RESIN WITH A SLIGHTLY HIGHER CONTENT WAS SELECTED FOR USE DUE TO COST CONSIDERATIONS.

**Stearns County, City of ST. CLOUD -- DCI, INC. -- ERCID -- 732300056**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium Compounds</i>	1991	65,515					1998 75,420 1999 76,200	1999 / 1998 = 0.83	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W29 BETTER INVENTORY CONTROL - LESS OF CHEMICAL ON SITE.

Employed Activity  
W29 BETTER INVENTORY CONTROL - LESS OF CHEMICAL ON SITE.  
W82 MODIFIED DESIGN OR COMPOSITION

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W29 BETTER INVENTORY CONTROL - LESS OF CHEMICAL ON SITE

Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W29 BETTER INVENTORY CONTROL - LESS OF CHEMICAL ON SITE

**Non Numeric Objective:** TO REDUCE OR ELIMINATE WOULD REQUIRE THE USE OF ANOTHER MATERIAL WHICH IS NOT FEASIBLE. WILL CONTINUE TO RECYCLE STAINLESS STEEL AND WORK WITH EMPLOYEES TO REDUCE SCRAP AND WASTE.

**Non Numeric Progress:** CUSTOM FABRICATION CREATES VARIABLE PRODUCT MIX, THIS IS NOT AN IMPLEMENTED TECHNIQUE, AND IS CONTROLLED ONLY BY INDUSTRY DEMAND.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese Compounds</i>	1991	6510					1998 7,774 1999 7,725	1999 / 1998 = 0.83	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W29 BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
W82	MODIFIED DESIGN OR COMPOSITION
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
Intended Activity W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
W82	MODIFIED DESIGN OR COMPOSITION
Employed Activity W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
W82	MODIFIED DESIGN OR COMPOSITION
<b>Non Numeric Objective:</b>	TO REDUCE OR ELIMINATE WOULD REQUIRE THE USE OF ANOTHER MATERIAL WHICH IS NOT FEASIBLE. WILL CONTINUE TO RECYCLE STAINLESS STEEL AND WORK WITH EMPLOYEES TO REDUCE SCRAP AND WASTE.
<b>Non Numeric Progress:</b>	CUSTOM FABRICATION CREATES VARIABLE PRODUCT MIX, THIS IS NOT AN IMPLEMENTED TECHNIQUE, AND IS CONTROLLED ONLY BY INDUSTRY DEMAND.
<b>Barriers to P2:</b>	F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE
Chemical Name	Baseline Numeric Objective, If Applicable / Releases and Transfers (#)
<i>Nickel Compounds</i>	Year Quantity 1998 1999 2000 2001 Reported P.R. Met Objective
	1991 14515 1998 36,870 1999 / 1998 = 0.83 No
	1999 36,234
<b>Process Code</b> P18	MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)
Intended Activity W82	MODIFIED DESIGN OR COMPOSITION
W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
Employed Activity W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
W82	MODIFIED DESIGN OR COMPOSITION
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)
Intended Activity W82	MODIFIED DESIGN OR COMPOSITION
W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
Employed Activity W82	MODIFIED DESIGN OR COMPOSITION
W29	BETTER INVENTORY CONTROL - LESS CHEMICAL ON SITE.
<b>Non Numeric Objective:</b>	TO REDUCE OR ELIMINATE WOULD REQUIRE THE USE OF ANOTHER MATERIAL WHICH IS NOT FEASIBLE. WILL CONTINUE TO RECYCLE STAINLESS STEEL AND WORK WITH EMPLOYEES TO REDUCE SCRAP AND WASTE.
<b>Non Numeric Progress:</b>	CUSTOM FABRICATION CREATES VARIABLE PRODUCT MIX, THIS IS NOT AN IMPLEMENTED TECHNIQUE, AND IS CONTROLLED ONLY BY INDUSTRY DEMAND.
<b>Barriers to P2:</b>	F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Stearns County, City of ST. CLOUD -- FRIGIDAIRE HOME PRODUCTS-FREEZERS -- ERCID -- 732300008

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,1-dichloro-1-fluoroethane	1999	725300					1998 415,000	1999 725,300	1999 / 1998 = 1.17	No

**Process Code** P13      FOAM BLOWING  
Intended Activity  
W42                      SUBSTITUTED RAW MATERIALS  
Employed Activity  
W81                      CHANGED PRODUCT SPECIFICATIONS

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 PRODUCT DESIGN CHANGE INCREASING CHEMICAL USAGE PER UNIT AND INCREASED PRODUCTION.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Diisocyanates	1999	86700					1998 32,000	1999 86,700	1999 / 1998 = 1.17	No

**Process Code** P13      FOAM BLOWING  
Intended Activity  
W41                      INCREASED PURITY OF RAW MATERIALS  
Employed Activity  
W81                      CHANGED PRODUCT SPECIFICATIONS

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F10 PRODUCT DESIGN CHANGE INCREASING CHEMICAL USAGE PER UNIT AND INCREASED PRODUCTION.

**Stearns County, City of ST. CLOUD -- GREDE - ST. CLOUD -- ERCID -- 732300084**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Aluminum Oxide (fibrous forms)	1998	29000	29,000	161,000	56,000	62,000	1998 29,000	1999 161,000	1999 / 1998 = 1.57	No

**Process Code** P01      CASTING ANY MATERIAL  
Intended Activity  
W90                      NOT APPLICABLE  
Employed Activity  
W90                      NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1998	50700	60,700	105,940	113,200	121,500	1998 51,700	1999 105,940	1999 / 1998 = 1.57	No

**Process Code** P01  
Intended Activity  
W90  
Employed Activity  
W90

CASTING ANY MATERIAL  
NOT APPLICABLE  
NOT APPLICABLE

**Barriers to P2:**

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1996	770	37,400	125,390	156,050	181,800	1998 37,410	1999 125,390	1999 / 1998 = 1.57	No

**Process Code** P01  
Intended Activity  
W90  
Employed Activity  
W90

CASTING ANY MATERIAL  
NOT APPLICABLE  
NOT APPLICABLE

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1996	170	8,300	10,750	12,700	12,700	1998 8,293	1999 10,750	1999 / 1998 = 1.57	Yes

**Process Code** P02  
Intended Activity  
W90  
Employed Activity  
W90

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
NOT APPLICABLE  
NOT APPLICABLE

**Process Code** P03

CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	2000		
<i>Ethylene Glycol</i>	1998	5400	5,400	25,200	6,700	6,700	1999	25,200	1999 / 1998 = 1.57	No

**Process Code** P28 SMELTING  
Intended Activity W19 IMPROVING THE MATERIALS AND PROCEDURES OF RELINING AND REPAIRING REFRACTORY MATERIALS.  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1996	52000	69,304	134,300	134,000	145,100	1998	69,300	1999 / 1998 = 1.57	No
							1999	134,300		

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE  
Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1998	22000	22,000	58,400	66,000	69,000	1998	27,000	1999 / 1998 = 1.57	No
							1999	58,400		

**Process Code** P01 CASTING ANY MATERIAL  
Intended Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1998	1216	1,216	2,072	2,368	2,540	1998 1,216 1999 2,072	1999 / 1998 = 1.57	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Stearns County, City of ST. CLOUD -- VISION EASE LENS, INC. -- ERCID -- 732300020**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium</i>	1990	17613					1998 17,830 1999 11,271	1999 / 1998 = 0.39	Yes

**Process Code** P17 LENS GRINDING

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** OBJECTIVE WAS MET IN 1991. SINCE THAT TIME, WE'VE BEEN ABLE TO REUSE ALL GLASS GRINDINGS GENERATED BY FEEDSTOCKING THIS MATERIAL. OUR PRIMARY LEAD SMELTER UTILIZES THIS WASTE BY REUSE AS WELL AS THE RECOVERY OF VALUABLE METALS.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead</i>	1990	41536					1998 46,730 1999 28,815	1999 / 1998 = 0.39	Yes

**Process Code** P17 LENS GRINDING

Intended Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W90 NOT APPLICABLE  
**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity W58 MODIFIED WASTEWATER TREATMENT SYSTEM BY ADDING NEW PH CONTROLLER FOR GREATER PH ACCURACY AND BALANCE.  
**Non Numeric Objective:** OBJECTIVE WAS MET IN 1991. SINCE THAT TIME, WE'VE BEEN ABLE TO REUSE ALL GLASS GRINDINGS GENERATED BY FEEDSTOCKING THIS MATERIAL. OUR PRIMARY LEAD SMELTER UTILIZES THIS WASTE BY REUSE AS WELL AS THE RECOVERY OF OTHER VALUABLE METALS.  
**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Trichloroethylene</i>	1990	25031					1998 29,444 1999 9,323	1999 / 1998 = 0.39	Yes

**Process Code** P17 LENS GRINDING  
 Intended Activity W71 REPLACEMENT OR SUBSTITUTE CLEANER IN OPERATION AS OF 11/99.  
 W71 STARTED TESTING SUBSTITUTE CLEANER FOR TCE REPLACEMENT AS OF 06/98.  
 Employed Activity W58 SOME MANUAL MODIFICATIONS HAVE BEEN ADDED OR IMPLEMENTED TO OUR PAD REMOVAL SYSTEM, AIDING IN EFFICIENCY OF THE PROCESS.  
**Non Numeric Objective:** NONE  
**Non Numeric Progress:** THE SUBSTITUTE NON-CHLORINATED DEGREASER WE CURRENTLY USE (N-PROPYL BROMIDE) SEEMS TO BE WORKING VERY WELL AS A REPLACEMENT TO TRICHLOROETHYLENE (TCE). AS OF 11/99, WE NO LONGER USE TCE IN OUR FACILITY.

**Steele County, City of BLOOMING PRAIRIE -- ATOFINA CHEMICALS, INC. -- ERCID -- 740140002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Formic Acid</i>	1993	1270	3,194	330	732	732	1998 3,193 1999 330	1999 / 1998 = 0.22	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W58 IMPROVE OPERATION OF THE PRODUCTION PROCESS TO REDUCE THE NUMBER OF BATCHES THAT USE FORMIC ACID AS A RAW MATERIAL.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Peracetic Acid</i>	1993	438	3,688	1,754	1,954	2,154	1998 3,688	1999 1,754	1999 / 1998 = 1.19	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity W42 SUBSTITUTED RAW MATERIALS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W89 PRODUCTION WITH PERACETIC ACID GENERATION WAS LOWER IN 1999.

**Steele County, City of OWATONNA -- BLOUNT, INC. --ERCID -- 740700124**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium</i>	1998	23					1998 69,423	1999 38,805	1999 / 1998 = 0.77	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
 Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
 Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE UNNECESSARY MACHINING AND WELDING, RESEARCH ALTERNATIVE MATERIALS, MAXIMIZE USAGE, AND REDUCE DEFECTIVE PARTS.

**Non Numeric Progress:** REDUCED RELEASES BY 35% IN 1999 COMPARED TO 1998. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARDS THE OBJECTIVES, RELEASES WERE REDUCED BY 15% WHEN COMPARED TO 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	8					1998 24,248	1999 16,076	1999 / 1998 = 0.77	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE UNNECESSARY MACHINING AND WELDING, RESEARCH ALTERNATIVE MATERIALS, MAXIMIZE USAGE, AND REDUCE DEFECTIVE PARTS.  
**Non Numeric Progress:** REDUCED RELEASES BY 25% IN 1999 COMPARED TO 1998. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARDS THE OBJECTIVES, RELEASES WERE REDUCED BY 2% WHEN COMPARED TO 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1998	24					1998 39,919 1999 29,980	1999 / 1998 = 0.77	No

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
Intended Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
Employed Activity W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
**Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE UNNECESSARY MACHINING AND WELDING, RESEARCH ALTERNATIVE MATERIALS, MAXIMIZE USAGE, AND REDUCE DEFECTIVE PARTS.  
**Non Numeric Progress:** REDUCED RELEASES BY 17% IN 1999 COMPARED TO 1998. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARDS THE OBJECTIVES, RELEASES WERE INCREASED BY 8.6% WHEN COMPARED TO 1998.

**Barriers to P2:** F10 THE TYPE OF STEEL UTILIZED IS BASED ON CLIENT SPECIFICATIONS AND DESIRED QUALITIES OF THE STEEL.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1998	21					1998 64,195 1999 34,994	1999 / 1998 = 0.77	Yes

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

- Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
 Employed Activity  
 W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.
- Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity  
 W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.  
 Employed Activity  
 W19 MAXIMIZE STEEL USE AND MINIMIZE SCRAP AND DEFECTIVE PARTS.
- Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE UNNECESSARY MACHINING AND WELDING, RESEARCH ALTERNATIVE MATERIALS, MAXIMIZE USAGE, AND REDUCE DEFECTIVE PARTS.
- Non Numeric Progress:** REDUCED RELEASES BY 33% IN 1999 COMPARED TO 1998. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARDS THE OBJECTIVES, RELEASES WERE REDUCED BY 13% WHEN COMPARED TO 1998.

**Steele County, City of OWATONNA -- CROWN CORK & SEAL CO., INC. -- ERCID -- 740700127**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1995	110,000					1998 135,000 1999 145,000	1999 / 1998 = 0.97	No

- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 Employed Activity  
 W74 IMPROVED APPLICATION TECHNIQUES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>N-butyl Alcohol</i>	1995	170,000					1998 220,000 1999 230,000	1999 / 1998 = 0.97	No

- Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
 W74 IMPROVED APPLICATION TECHNIQUES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W74 IMPROVED APPLICATION TECHNIQUES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

**Steele County, City of OWATONNA -- JOSTENS INC. - SOUTHTOWN -- ERCID -- 740700007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitrate Compounds (water dissociable)</i>	1999	28000					1998 28,030 1999 28,020	1999 / 1998 = 1	No

**Process Code** P25 REFINING  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F10 THE 1999 REPORTING YEAR WILL BE USED AS A BASELINE YEAR AND THIS CHEMICAL WILL BE INCORPORATED INTO OUR P2 PLAN.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nitric Acid</i>	1994	40	23	23	23	23	1998 28,150 1999 28,326	1999 / 1998 = 1.01	Yes

**Process Code** P25 REFINING  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Steele County, City of OWATONNA -- MUSTANG MFG. CO. -- ERCID -- 740700057**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1995	32000					1998 28,000 1999 20,400	1999 / 1998 = 0.82	Yes

**Process Code** P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W71  
Employed Activity  
W71

**Non Numeric Objective:** CONSIDER SUITABLE ALTERNATIVES SUCH AS ACETONE OR NON-HAP SOLVENT BLENDS.

**Non Numeric Progress:** REPLACEMENT WITH ACETONE FAILED. TRIED A MIX OF ACETONE AND MEK, BUT EXPERIENCED PRODUCT QUALITY PROBLEMS.

**Steele County, City of OWATONNA -- SLIDELL, INC. --ERCID -- 740700135**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1998	32					1998 11,952 1999 6,200	1999 / 1998 = 0.9	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W82 MODIFIED DESIGN OR COMPOSITION

Employed Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W58 INCREASED USE OF LASER CUTTER VS. OTHER TRADITIONAL STEEL CUTTING METHODS WHICH IS MORE ACCURATE, REQUIRED LESS CUTTING AND GENERATES LESS SCRAP DUE TO THE NESTING FEATURE.

W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE EXCESS OR UNNECESSARY MACHINING AND WELDING OPERATIONS, RESEARCH ALTERNATIVE WELDING WIRE AND STEEL THAT CONTAIN LESS CHROMIUM, MAXIMIZE STEEL USAGE AND REDUCE DEFECTIVE PARTS OR COMPONENTS.

**Non Numeric Progress:** WHEN COMPARING 1999 TOTAL RELEASES TO 1998, RELEASES WERE REDUCED BY 29%. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARD THE OBJECTIVES, RELEASES WERE REDUCED BY 13% WHEN COMPARED TO 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1998	30					1998 12,150 1999 6,356	1999 / 1998 = 0.9	Yes

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W82 MODIFIED DESIGN OR COMPOSITION  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W82 MODIFIED DESIGN OR COMPOSITION  
W58 INCREASED USE OF THE LASER CUTTER VS. OTHER TRADITIONAL STEEL CUTTING METHODS, REQUIRES LESS CUTTING AND GENERATES LESS SCRAP DUE TO NESTING FEATURES.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** IMPLEMENT GOOD WORK PRACTICES, MINIMIZE EXCESS OR UNNECESSARY MACHINING AND WELDING OPERATIONS, RESEARCH ALTERNATIVE WELDING WIRE AND STEEL THAT CONTAIN LESS NICKEL, MAXIMIZE STEEL USAGE AND REDUCE DEFECTIVE PARTS OR COMPONENTS.

**Non Numeric Progress:** WHEN COMPARING 1999 TOTAL RELEASES TO 1998, RELEASES WERE REDUCED BY 26%. WHEN UTILIZING THE PRODUCTION RATIO TO DETERMINE IF PROGRESS WAS MADE TOWARD THE OBJECTIVES, RELEASES WERE REDUCED BY 4% WHEN COMPARED TO 1998.

**Steele County, City of OWATONNA -- TRUTH HARDWARE -- ERCID -- 74070002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Glycol Ethers</i>	1997	12834	13,603	11,500	11,500	11,500	1998 13,603 1999 10,896	1999 / 1998 = 0.97	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Non Numeric Objective:** 100% DEPENDENT ON PRODUCTION DEMANDS. DEVELOPMENT OF AN ENVIRONMENTAL MANAGEMENT SYSTEM INCLUDING EMPLOYEE EDUCATION AND TRAINING, SYSTEM/PRODUCT USE EVALUATION (ONGOING) AND OPERATION/CLEAN-UP PROCEDURE EVALUATION.

**Non Numeric Progress:** PROCESS IS 100% DEPENDANT ON PRODUCTION DEMANDS MAKING FUTURE REDUCTIONS LIMITED AT BEST.

**Barriers to P2:**

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Steele County, City of OWATONNA -- TRUTH HARDWARE - PAINT PLANT -- ERCID -- 740700113**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1995	61900					1998 33,646 1999 25,854	1999 / 1998 = 1.3	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ENVIRONMENTAL MANAGEMENT SYSTEM IN PLACE CONTAINING: EMPLOYEE EDUCATION, SPECIFIC PRODUCT USE EVALUATION, PRODUCT USE SUBSTITUTION, SOLVENT COMPONENT COMPOSITION EVALUATION, CLEAN-UP PROCESS EVALUATION, AND EMPHASIS ON POWDER PAINT USAGE.

**Non Numeric Progress:** SIGNIFICANT POLLUTION PREVENTION OPPORTUNITIES ARE DEPENDANT UPON OUTSIDE CUSTOMER DEMANDS FOR SOLVENT BASED PAINT VERSUS POWDER COATING.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Toluene	1995	10800					1998	18,735	1999 / 1998 = 1.3	No
							1999	16,832		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** ENVIRONMENTAL MANAGEMENT SYSTEM IN PLACE CONTAINING: EMPLOYEE EDUCATION, SPECIFIC PRODUCT USE EVALUATION, PRODUCT USE SUBSTITUTION, SOLVENT COMPONENT COMPOSITION EVALUATION, CLEAN-UP PROCESS EVALUATION, AND EMPHASIS ON POWDER PAINT USAGE.

**Non Numeric Progress:** SIGNIFICANT POLLUTION PREVENTION OPPORTUNITIES ARE DEPENDANT UPON OUTSIDE CUSTOMER DEMANDS FOR SOLVENT BASED PAINT VERSUS POWDER COATING.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Xylene (mixed isomers)	1991	10000					1998	24,915	1999 / 1998 = 1.3	No
							1999	24,279		

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Non Numeric Objective:** ENVIRONMENTAL MANAGEMENT SYSTEM IN PLACE CONTAINING: EMPLOYEE EDUCATION, SPECIFIC PRODUCT USE EVALUATION, PRODUCT USE SUBSTITUTION, SOLVENT COMPONENT COMPOSITION EVALUATION, CLEAN-UP PROCESS EVALUATION, AND EMPHASIS ON POWDER PAINT USAGE.

**Non Numeric Progress:** SIGNIFICANT POLLUTION PREVENTION OPPORTUNITIES ARE DEPENDANT UPON OUTSIDE CUSTOMER DEMANDS FOR SOLVENT BASED PAINT VERSUS POWDER COATING.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Steele County, City of OWATONNA -- VIRACON, INC. -- ERCID -- 740700065**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds							1998	9,244	1999 / 1998 = 0.99	Yes
							1999	9,440		

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P05      CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)  
 Intended Activity  
   W60                    CHANGED TO MECHANICAL STRIPPING / CLEANING DEVICES (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity  
   W42                    SUBSTITUTED RAW MATERIALS  
**Process Code** P32      VACUUM DEPOSITING (VAPOR, ION, EPITAXY, ETC.)  
 Intended Activity  
   W52                    MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
 Employed Activity  
   W58                    A LASER INSPECTION SYSTEM WILL REDUCE ERRORS BY IDENTIFYING BAD PRODUCT SOONER.

**Swift County, City of BENSON -- CASE TYLER -- ERCID -- 760150028**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Chromium</i>	1999	3					1999 15,003	1999 / 1998 = 0.89	No

**Process Code** P18      MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
   W41                    INCREASED PURITY OF RAW MATERIALS  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
   W39                    HIRED AN ENVIRONMENTAL HEALTH AND SAFETY MANAGER WHO HAS IMPLEMENTED IMPROVED TRAINING FOR SPILL AND LEAK PREVENTION.  
**Non Numeric Objective:** CONTINUAL IMPROVEMENT. TO DETERMINE NUMERIC PROGRESS FOR 2000, WE DEVELOPED A SYSTEM USING A CALCULATED INDEX, REFERRED TO AS THE PROCESS EFFICIENCY IMPROVEMENT (PEI) INDEX, TO DETERMINE IMPROVEMENT.

**Non Numeric Progress:** 1999 WAS ESTABLISHED AS THE BASELINE YEAR, WHICH WILL BE USED TO DETERMINE PROGRESS FOR 2000. CHROMIUM WAS NOT REPORTED IN 1998, THEREFORE, THERE WAS NO EFFECTIVE MEANS TO DETERMINE PROGRESS FOR 1999.

**Barriers to P2:** F10 1999 WAS THE FIRST YEAR THAT CHROMIUM WAS REPORTED.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Manganese</i>	1999	125					1998 30,651 1999 33,425	1999 / 1998 = 0.89	Yes

**Process Code** P18      MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
   W13                    IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
   W41                    INCREASED PURITY OF RAW MATERIALS  
 Employed Activity  
   W39                    HIRED AN ENVIRONMENTAL HEALTH AND SAFETY MANAGER WHO HAS IMPLEMENTED IMPROVED TRAINING FOR SPILL AND LEAK PREVENTION.  
**Process Code** P35      WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W39 HIRED AN ENVIRONMENTAL HEALTH AND SAFETY MANAGER WHO HAS IMPLEMENTED IMPROVED TRAINING FOR SPILL AND LEAK PREVENTION.

**Non Numeric Objective:** CONTINUAL IMPROVEMENT. TO DETERMINE NUMERIC PROGRESS FOR 2000, WE DEVELOPED A SYSTEM USING A CALCULATED INDEX, REFERRED TO AS THE PROCESS EFFICIENCY IMPROVEMENT (PEI) INDEX, TO DETERMINE IMPROVEMENT.

**Non Numeric Progress:** 1999 WAS ESTABLISHED AS THE BASELINE YEAR, WHICH WILL BE USED TO DETERMINE PROGRESS FOR 2000. THERE WAS A REDUCTION OF RELEASES IN 1999 COMPARED TO 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1999	9,330					1998 10,961 1999 10,000	1999 / 1998 = 0.89	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT  
W81 CHANGED PRODUCT SPECIFICATIONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W68 IMPROVED RINSE EQUIPMENT OPERATION

Employed Activity  
W39 IMPROVED TRAINING FOR SPILL AND LEAK PREVENTION.

**Non Numeric Objective:** CONTINUAL IMPROVEMENT. TO DETERMINE NUMERIC PROGRESS FOR 2000, WE DEVELOPED A SYSTEM USING A CALCULATED INDEX, REFERRED TO AS THE PROCESS EFFICIENCY IMPROVEMENT (PEI) INDEX, TO DETERMINE IMPROVEMENT.

**Non Numeric Progress:** 1999 WAS ESTABLISHED AS THE BASELINE YEAR, WHICH WILL BE USED TO DETERMINE PROGRESS FOR 2000. THERE WAS A REDUCTION OF RELEASES IN 1999 COMPARED TO 1998.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel</i>	1999	1					1999 33,301	1999 / 1998 = 0.89	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity  
W41 INCREASED PURITY OF RAW MATERIALS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W39 HIRED AN ENVIRONMENTAL HEALTH AND SAFETY MANAGER WHO HAS IMPLEMENTED IMPROVED TRAINING FOR SPILL AND LEAK PREVENTION.

**Non Numeric Objective:** CONTINUAL IMPROVEMENT. TO DETERMINE NUMERIC PROGRESS FOR 2000, WE DEVELOPED A SYSTEM USING A CALCULATED INDEX, REFERRED TO AS THE PROCESS EFFICIENCY IMPROVEMENT (PEI) INDEX, TO DETERMINE IMPROVEMENT.

**Non Numeric Progress:** 1999 WAS ESTABLISHED AS THE BASELINE YEAR, WHICH WILL BE USED TO DETERMINE PROGRESS FOR 2000. NICKEL WAS NOT REPORTED IN 1998, THEREFORE, THERE WAS NO EFFECTIVE MEANS TO DETERMINE PROGRESS FOR 1999.

**Barriers to P2:** F10 1999 WAS THE FIRST YEAR THAT NICKEL WAS REPORTED.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Todd County, City of LONG PRAIRIE -- LONG PRAIRIE PACKING CO. -- ERCID -- 771240004**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ammonia</i>	1994	22720					1998 16,190 1999 10,035	1999 / 1998 = 1.1	Yes

**Process Code** P26

REFRIGERATING/FREEZING

Intended Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Todd County, City of STAPLES -- 3M STAPLES PLANT -- ERCID -- 771550021**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1995	11005					1998 4,731 1999 2,695	1999 / 1998 = 0.88	Yes

**Process Code** P18

MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)

Intended Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

CANNOT PLAN FOR REDUCTION OF RELEASES OR ELIMINATE THE PROCESS WHICH PRODUCES WASTE/RECYCLING BECAUSE QUANTITIES OF MATERIAL PROCESSED AND METHODS ARE TOTALLY CUSTOMER DRIVEN. WE CONTINUE TO STRIVE TO RECAPTURE ALL GENERATED WASTES FOR RECYCLING.

**Non Numeric Progress:**

CONTINUED TO RECYCLE ALL CAPTURABLE AMOUNTS OF COPPER.

**Wabasha County, City of LAKE CITY -- FEDERAL-MOGUL POWERTRAIN SYSTEMS -- ERCID -- 790670003**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Copper</i>	1992	561					1998 1,635 1999 1,081	1999 / 1998 = 1.28	Yes

**Process Code** P01

CASTING ANY MATERIAL

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W14 CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

Employed Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Non Numeric Objective:** COPPER ALLOY IS REQUIRED BY OUR CUSTOMERS AND ONLY NICKEL HAS BEEN FOUND TO BE AN ALTERNATIVE ALLOY.

**Non Numeric Progress:** BY INSTALLING NEW BATCH MELTING FURNACES WITH DUST COLLECTION HOODING, WE EMIT LESS TO THE AIR THROUGH MELT LOSSES AND SLAG SHIPPED TO A LANDFILL.

**Wabasha County, City of LAKE CITY -- HEAT-N-GLO -- ERCID -- 790670034**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1996	94000	100,268	84,120	100,000	100,000	1998 100,268 1999 85,800	1999 / 1998 = 0.89	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Wabasha County, City of LAKE CITY -- VALLEY CRAFT, INC. -- ERCID -- 790670007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1990	21400	9,199	8,379	6,706	6,036	1998 15,293 1999 16,888	1999 / 1998 = 0.89	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
Intended Activity  
W74 IMPROVED APPLICATION TECHNIQUES  
Employed Activity  
W72 MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Barriers to P2:**  
F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES  
F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1990	72138	31,054	27,949	25,155	22,640	22,180	21,212	1999 / 1998 = 0.89	Yes

**Process Code** P21      ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity  
 W74                      IMPROVED APPLICATION TECHNIQUES  
 Employed Activity  
 W72                      MODIFIED SPRAY SYSTEMS OR EQUIPMENT

**Wadena County, City of MENAHA -- SALO MANUFACTURING INC. -- ERCID -- 800450007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1998	29016					29,608	16,287	1999 / 1998 = 1.14	Yes

**Process Code** P12      FIBERGLASS PRODUCT MANUFACTURING  
 Intended Activity  
 W41                      INCREASED PURITY OF RAW MATERIALS  
 Employed Activity  
 W41                      INCREASED PURITY OF RAW MATERIALS

**Waseca County, City of WASECA -- BROWN PRINTING CO. -- ERCID -- 810700008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1991	105077					27,270	37,618	1999 / 1998 = 1.01	Yes

**Process Code** P24      PRINTING  
 Intended Activity  
 W81                      CHANGED PRODUCT SPECIFICATIONS  
 Employed Activity  
 W89

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ELIMINATION THROUGH SUBSTITUTION HAS BEEN THE DIRECTION TAKEN . WE ARE CONFIDENT THAT WE WILL FIND A REPLACEMENT ETCH WITH LESS GYCOL ETHERS THAT WILL WORK IN ALL OF OUR PRESSES WITH NO EFFECT ON QUALITY.

**Non Numeric Progress:** INTRODUCED SUBSTITUTES FOR THIS PROCESS STARTING IN 1994. HAD REDCUTIONS OF 69% FROM 1994-1998. AT PRESENT, USAGE HAS INCREASED DUE TO A CHANGE IN PRODUCT WHICH WILL ELIMINATE ETHYLENE GLYCOL. COMMITTED TO REMOVING BOTH CHEMICALS FROM THE FACILITY.

**Waseca County, City of WASECA -- JOHNSON COMPONENTS INC. -- ERCID -- 810700040**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.14	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Copper	1995	125000	153,180	159,060	171,990	170,556	147,587	165,515	No	

**Process Code** P05

Intended Activity

W58

Employed Activity

W58

CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)

RINSE WATER USED AND TREATED TO MINIMIZE COPPER RELEASE TO WASTE STREAM.

RINSE WATER USED AND TREATED TO MINIMIZE COPPER RELEASE TO WASTE STREAM.

**Process Code** P10

Intended Activity

W19

Employed Activity

W19

ELECTROPLATING

AUTOMATION OF BILL OF MATERIAL ALLOCATION CALCULATION WORK PRACTICE TO USE NEAR-NET SIZE TO REDUCE CHIPS.

AUTOMATION OF BILL OF MATERIAL ALLOCATION CALCULATION WORK PRACTICE TO USE NEAR-NET SIZE TO REDUCE CHIPS.

**Process Code** P15

Intended Activity

W14

Employed Activity

W14

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

**Process Code** P18

Intended Activity

W13

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W14

W19

CHANGE PRODUCTION SCHEDULE TO MAXIMIZE EQUIPMENT AND FEEDSTOCK CHANGEOVERS

AUTOMATION OF BILL OF MATERIAL ALLOCATION CALCULATION WORK PRACTICE TO USE NEAR-NET SIZE TO REDUCE CHIPS.

WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)

**Process Code** P33

Intended Activity

W58

Employed Activity

W58

RINSE WATER USED AND TREATED TO MINIMIZE COPPER RELEASE TO WASTE STREAM.

RINSE WATER USED AND TREATED TO MINIMIZE COPPER RELEASE TO WASTE STREAM.

**Barriers to P2:**

F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Washington County, City of BAYPORT -- ANDERSEN WINDOW CORP. - MAIN FACILITY -- ERCID -- 820150002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
1,2,4-trimethylbenzene	1998	10,428					1998 10,861 1999 11,225	1999 / 1998 = 1.09	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

**Process Code** P34 WEATHERIZING (WOOD TREATING, CORROSION INHIBITING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** PROJECTS HAVE BEEN TARGETED TO REDUCE USAGE TO LESS THAN REPORTABLE THRESHOLDS FOR 2000.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Chromium Compounds	1988	530					1998 7,250 1999 11,106	1999 / 1998 = 1.09	Yes

**Process Code** P11 EXTRUDING ANY MATERIAL

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** ESSENTIAL AS PIGMENTS FOR OUR PAINTS AND VINYL COMPOUNDS. GOAL IS TO CONTINUE TO EVALUATE NON-CHROMIUM PIGMENTS. REPLACEMENT NON-CHROMIUM PIGMENTS THAT PROVIDE SIMILAR DURABILITY ARE NOT AVAILABLE.

**Non Numeric Progress:** NA

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Isobutyl Ketone</i>	1998	19,463					1998 21,030 1999 25,833	1999 / 1998 = 1.09	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** CURRENTLY THERE IS NO REPLACEMENT IN OUR CURRENT FORMULATIONS DUE TO THE CURE REACTION THAT OCCURS.  
**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1998	785,846					1998 24,068 1999 26,139	1999 / 1998 = 1.09	Yes

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)  
 Intended Activity W82 MODIFIED DESIGN OR COMPOSITION  
 Employed Activity W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
**Process Code** P34 WEATHERIZING (WOOD TREATING, CORROSION INHIBITING, ETC.)  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W90 NOT APPLICABLE  
**Non Numeric Objective:** CONTINUE TO EVALUATE NON-XYLENE PAINT FORMULATIONS. REPLACEMENTS THAT PROVIDE SIMILAR DURABILITY ARE NOT CURRENTLY AVAILABLE.  
**Non Numeric Progress:** NA

**Washington County, City of BAYPORT -- NSP - A.S. KING -- ERCID -- 820150005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Barium Compounds</i>	1998	460000					1998 460,000 1999 500,000	1999 / 1998 = 1.22	No

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P36 ELECTRICITY GENERATION  
Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.

Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrochloric Acid (aerosol forms only)</i>	1998	9300					1998 46,300 1999 57,000	1999 / 1998 = 1.22	No

**Process Code** P36 ELECTRICITY GENERATION  
Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.

Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Hydrogen Fluoride</i>	1998	24000					1998 48,000 1999 58,000	1999 / 1998 = 1.22	No

**Process Code** P36 ELECTRICITY GENERATION  
Intended Activity W49 PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.

Employed Activity W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.

**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.

**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese Compounds</i>	1998	23000					1998 23,000 1999 27,000		1999 / 1998 = 1.22	No
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.									
Employed Activity W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1998	73000					1998 73,000 1999 81,000		1999 / 1998 = 1.22	No
<b>Process Code</b> P35	WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)									
Intended Activity W13	IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES									
Employed Activity W90	NOT APPLICABLE									
<b>Process Code</b> P36	ELECTRICITY GENERATION									
Intended Activity W49	PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.									
Employed Activity W49	SEE NON-NUMERIC PROGRESS									
<b>Non Numeric Objective:</b>	THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.									
<b>Non Numeric Progress:</b>	PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.									
<b>Barriers to P2:</b>	F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.22	Met Objective No
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Sulfuric Acid (aerosol forms only)</i>	1998	46000					68,000	86,000		

**Process Code** P36 ELECTRICITY GENERATION  
**Intended Activity** W49 PURCHASE/GENERATE RENEWABLE ENERGY, IMPLEMENT CONSERVATION AND DEMAND SIDE MANAGEMENT PROGRAMS TO REDUCE THE NEED FOR ADDITIONAL ELECTRICITY. USE MARKETS FOR ASH UTILIZATION TO MINIMIZE LANDFILLING.  
**Employed Activity** W49 SEE NON-NUMERIC PROGRESS  
**Non Numeric Objective:** THE FACILITY'S OBJECTIVES DURING 2000-2002 ARE TO INVESTIGATE AND IMPLEMENT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE METHODS TO INCREASE COMBUSTION AND GENERATION EFFICIENCIES AND TO INCREASE ASH UTILIZATION.  
**Non Numeric Progress:** PURCHASED 1709 MW OF RENEWABLE ENERGY AND HELPED ITS CUSTOMERS CONSERVE APPROXIMATELY 155,800,000 KWh OF ENERGY. THESE PROGRAMS ELIMINATED THE NEED TO GENERATE ADDITIONAL POWER WHICH REDUCED SO2, NOX, CO2, AND PARTICULATE EMISSIONS.  
**Barriers to P2:** F10 THERE WERE NO OBJECTIVES FOR 1999. THE FACILITY'S P2 PLAN COVERS YEARS 2000-2002.

**Washington County, City of COTTAGE GROVE -- 3M COTTAGE GROVE CENTER -- ERCID -- 820300001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.64	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>2-ethoxyethanol</i>	1990	2760					157,869	121,380		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDED, ETC.)  
**Intended Activity** W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58  
**Employed Activity** W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.4	Met Objective Yes
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Acetonitrile</i>	1990						26,957	23,830		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDED, ETC.)  
**Intended Activity** W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Acrylic Acid</i>	1990	126					1998 113,452 1999 105,105	1999 / 1998 = 1.32	Yes	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58  
Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1990	52900					1998 21,776 1999 23,545	1999 / 1998 = 0.95	Yes	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58  
Employed Activity  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	2,547		
<i>Antimony Compounds</i>	1990						1999 2,547	1999 / 1998 = 1.02	Yes	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58

Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Catechol</i>	1990						1998 14,082	1999 19,560	1999 / 1998 = 17.55	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W58 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W19

Employed Activity  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chromium Compounds</i>	1990						1998 101,580	1999 90,814	1999 / 1998 = 1.18	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58

Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper Compounds</i>	1990						202,766	102,546	0.5	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19										
W58										
Employed Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyclohexane</i>	1990						272,754	36,757	0.9	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19										
W58										
Employed Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Di(2-ethylhexyl) Phthalate</i>	1990						27,407	10,667	0.92	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58										
W19										
Employed Activity	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Dichloromethane</i>	1990	37850					68,177	48,471	1999 / 1998 = 1.42	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

W58  
Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1990						148,157	63,360	1999 / 1998 = 1.13	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

W58  
Employed Activity  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethyl Acrylate</i>	1990	3330					7,360	40,821	1999 / 1998 = 1.36	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58  
Employed Activity  
W19  
W58  
**Non Numeric Objective:** CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylbenzene</i>	1990	4720					1998 77,146 1999 85,818	1999 / 1998 = 1.36	Yes

**Process Code** P02  
Intended Activity  
W19  
W58  
Employed Activity  
W58  
W19  
**Non Numeric Objective:** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Ethylene Glycol</i>	1990						1998 58,334 1999 45,182	1999 / 1998 = 0.75	Yes

**Process Code** P02  
Intended Activity  
W19  
W58  
Employed Activity  
W19  
W58  
**Non Numeric Objective:** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formaldehyde</i>	1990	3910					120,313	76,724	0.69	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19										
W58										
Employed Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Formic Acid</i>	1990						69,771	50,352	0.88	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19										
W58										
Employed Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1990	108					369,633	131,495	1.2	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19										
W58										
Employed Activity	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W19	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrochloric Acid (aerosol forms only)</i>	1990	1540					606,005	327,269	1999 / 1998 = 1.76	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

W58  
Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1990	5300					460,537	220,565	1999 / 1998 = 0.09	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W58 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

W19  
Employed Activity  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Lead Compounds</i>	1990						60,813	53,833	1999 / 1998 = 1.26	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58  
Employed Activity  
W19  
W58  
**Non Numeric Objective:** CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Maleic Anhydride</i>	1990	18					1998 660 1999 641	1999 / 1998 = 0.36	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58  
Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1990	333300					1998 1,152,726 1999 889,004	1999 / 1998 = 0.73	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W58  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Acrylate</i>	1990	4600					15,815	4,060	1.16	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W58										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
Employed Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Ethyl Ketone</i>	1990	48200					4,538,203	4,643,595	1.82	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W58										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
Employed Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Isobutyl Ketone</i>	1990	12020					196,717	144,630	0.68	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58										
Employed Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Methyl Methacrylate</i>	1990	5240					20,097	19,819	1999 / 1998 = 0.96	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W58

W19

Employed Activity

W19

W58

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N,n-dimethylformamide</i>	1990						48,214	29,759	1999 / 1998 = 0.76	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W58

W19

Employed Activity

W58

W19

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-butyl Alcohol</i>	1990	47					118,468	100,791	1999 / 1998 = 1.44	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W19

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58  
Employed Activity  
W58  
W19  
**Non Numeric Objective:** OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1990						47,724	38,716	1999 / 1998 = 0.41	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W58  
W19  
Employed Activity  
W58  
W19  
**Non Numeric Objective:** OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel Compounds</i>	1990						43,006	22,888	1999 / 1998 = 0.53	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W58  
W19  
Employed Activity  
W58  
W19  
**Non Numeric Objective:** OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF  
PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitrate Compounds (water dissociable)</i>	1990						149,266	172,281	1999 / 1998 = 1.15	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W58										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
Employed Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1990						182,765	201,196	1999 / 1998 = 0.79	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58										
Employed Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
<b>Non Numeric Objective:</b>	ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.									

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phenol</i>	1990	1630					79,069	59,662	1999 / 1998 = 0.84	Yes
<b>Process Code</b> P02	CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)									
Intended Activity										
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									
W58										
Employed Activity										
W58	OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.									
W19	CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.									

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Phthalic Anhydride</i>	1990						32,698	38,890	1999 / 1998 = 1.15	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W58

W19

Employed Activity

W58

W19

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	10,496		
<i>Pyridine</i>	1990						10,496		1999 / 1998 = 0	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W58

W19

Employed Activity

W19

W58

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	189,914		
<i>Sulfuric Acid (aerosol forms only)</i>	1990						189,914	6,113	1999 / 1998 = 1	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W19

W58

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W58  
W19

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Tert-butyl Alcohol</i>	1990						1999 18,578	1999 / 1998 = 0	Yes

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19  
W58

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Employed Activity  
W58  
W19

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluene</i>	1990	1004058					1998 5,169,096 1999 5,222,855	1999 / 1998 = 0.83	Yes

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19  
W58

CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

Employed Activity  
W58  
W19

OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Toluenediisocyanate (mixed isomers)</i>	1990	460					1998 2,727 1999 2,136	1999 / 1998 = 0.58	Yes

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58

Employed Activity  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Xylene (mixed isomers)</i>	1990	10734					1998 3,954,180 1999 4,102,137	1999 / 1998 = 1.35	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W58 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W19

Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Zinc Compounds</i>	1990	6100					1998 27,478 1999 23,798	1999 / 1998 = 0.46	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58

Employed Activity  
W19 CONTINUOUSLY TRYING TO IMPROVE PROCESS EFFICIENCY AND REDUCE WASTE.  
W58 OVERALL EMISSIONS FROM THE SITE DECREASED 82% FROM THE BASELINE YEAR.

**Non Numeric Objective:** ENVIRONMENTAL GOALS FOR THE YEAR 2000 INCLUDE CUTTING OVERALL EMISSIONS TO THE ENVIRONMENT BY 90% AND REDUCING ALL WASTE, AS A PERCENTAGE OF PRODUCT PRODUCED BY 50%. THE COMPANY IS ON TRACK FOR REACHING THESE GOALS.

**Washington County, City of COTTAGE GROVE -- LSP-COTTAGE GROVE, LP -- ERCID -- 820300033**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1999	107000	120,000	107,000	107,000	107,000	120,000	107,000	1999 / 1998 = 0.94	Yes

**Process Code** P36  
Intended Activity  
W19

ELECTRICITY GENERATION

Employed Activity  
W19

INJECT ENOUGH AMMONIA TO KEEP THE PLANT IN COMPLIANCE WITH OUR NOX EMISSIONS LIMIT WHICH IS SET BY OUR AIR PERMIT. OUR YEARLY TOTAL IS DICTATED BY NSP, WHO REQUESTS WHEN THE PLANT IS OPERATED.

INJECT ENOUGH AMMONIA TO KEEP THE PLANT IN COMPLIANCE WITH OUR NOX EMISSIONS LIMIT WHICH IS SET BY OUR AIR PERMIT. OUR YEARLY TOTAL IS DICTATED BY NSP, WHO REQUESTS WHEN THE PLANT IS OPERATED.

**Washington County, City of FOREST LAKE -- ROYALINE INDUSTRIES, INC. -- ERCID -- 820490009**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1996	4000	10,000	19,156	8,000	7,000	10,000	19,156	1999 / 1998 = 1.98	No

**Process Code** P12  
Intended Activity  
W90

FIBERGLASS PRODUCT MANUFACTURING

Employed Activity  
W55  
W54

NOT APPLICABLE

CHANGED FROM SMALL VOLUME CONTAINERS TO BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
LAMINATING/PRESSING ANY MATERIAL

**Process Code** P16  
Intended Activity  
W52

MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W90

NOT APPLICABLE

**Barriers to P2:**

- F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS
- F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE
- F10 CONTACTED SMALL BUSINESS ASSISTANCE PROGRAM. THEY ADVISED ME TO USE A DIFFERENT WAY TO CALCULATE MY POLLUTION CONTROL.

**Washington County, City of ST. PAUL PARK -- MARATHON ASHLAND PETROLEUM, LLC --ERCID -- 821650001**

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,2,4-trimethylbenzene	1996	75455					145,045	102,073		No

**Process Code** P02

CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Employed Activity

W90

NOT APPLICABLE

**Process Code** P03

CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)

Intended Activity

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

W32

IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

W35

INSTALLED VAPOR RECOVERY SYSTEMS

**Process Code** P25

REFINING

Intended Activity

W58

IN-PROCESS RECYCLING; UPGRADE OF STORAGE TANKS; INSTALLATION OF CLOSED-LOOP SAMPLERS

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Employed Activity

W58

ON-SITE RECOVERY OF OIL FROM WASTEWATER SLUDGES

**Barriers to P2:**

F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
1,3-butadiene	1996	3763					873	881		Yes

**Process Code** P25

REFINING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W58

IN-PROCESS RECYCLING OF HYDROCARBONS; CLOSED-LOOP SAMPLERS

W36

IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Employed Activity

W90

NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ammonia</i>	1996	4781					6,499	11,161	No	

**Process Code** P25      REFINING  
 Intended Activity  
 W58      UPGRADE OF WASTEWATER TREATMENT PLANT  
 W58      INSTALLATION OF FOUL WATER STRIPPER  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity  
 W90      NOT APPLICABLE

**Barriers to P2:**      F08      POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Benzene</i>	1996	87379					77,514	66,190	Yes	

**Process Code** P02      CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W36      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90      NOT APPLICABLE  
**Process Code** P03      CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W35      INSTALLED VAPOR RECOVERY SYSTEMS  
 W36      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90      NOT APPLICABLE  
**Process Code** P25      REFINING  
 Intended Activity  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W58      UPGRADE OF STORAGE TANKS TO ADD INTERNAL FLOATING ROOFS  
 W36      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Employed Activity  
 W58      ON-SITE RECOVERY OF OIL FROM WASTEWATER TREATMENT SLUDGES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Biphenyl</i>	1996	1399					1,342	1,300	1999 / 1998 = 0.94	No

**Process Code** P25      REFINING  
 Intended Activity  
 W58      IN-PROCESS RECYCLING OF HYDROCARBONS VERSUS SEWERING/RECOVERY; CLOSED-LOOP SAMPLERS  
 W36      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Activity  
 W90      NOT APPLICABLE

**Barriers to P2:**  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Carbon Disulfide</i>	1996	1					1	1	1999 / 1998 = 0.94	Yes

**Process Code** P25      REFINING  
 Intended Activity  
 W36      IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W39      VOLUNTARY LDAR PROGRAM FOR SULFUR RECOVERY UNIT  
 Employed Activity  
 W90      NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Carbonyl Sulfide</i>	1996	2					3	2	1999 / 1998 = 0.94	Yes

**Process Code** P25      REFINING  
 Intended Activity  
 W13      IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W31      IMPROVED STORAGE OR STACKING PROCEDURES  
 W32      IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90      NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Chlorine</i>	1996	250					6,202	6,202	No	

**Process Code** P33 WATER TREATING (NEUTRALIZING, EVAPORATING, ETC.)  
 Intended Activity  
 W54 INSTITUTED BETTER CONTROLS ON OPERATING BULK CONTAINERS TO MINIMIZE DISCARDING OF EMPTY CONTAINERS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90 NOT APPLICABLE

**Barriers to P2:** F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Cyclohexane</i>	1996	21342					26,874	21,416	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P25 REFINING  
 Intended Activity  
 W58 UPGRADE OF STORAGE TANKS TO INTERNAL FLOATING ROOFS; INSTALLATION OF CLOSED-LOOP SAMPLERS  
 W19 IN-PROCESS RECYCLING OF HYDROCARBONS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylbenzene</i>	1996	33822					53,345	39,456	No	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS

Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P25 REFINING  
 Intended Activity  
 W58 ADDING INTERNAL FLOATING ROOFS TO STORAGE TANKS; INSTALLATION OF CLOSED-LOOP SAMPLERS  
 W19 IN-PROCESS RECYCLING OF HYDROCARBONS  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
 W58 ON-SITE RECOVERY OF OIL FROM WASTEWATER SLUDGE

**Barriers to P2:** F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Ethylene</i>	1996	16277					13,450	9,093	Yes	

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P25 REFINING  
Intended Activity  
W58 UPGRADE OF STORAGE TANKS TO INTERNAL FLOATING ROOFS; CLOSED-LOOP SAMPLERS  
W19 IN-PROCESS RECYCLING OF HYDROCARBONS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Hydrogen Fluoride</i>	1996	325045					205,346		1999 / 1998 = 0.94	Yes
							259,206			

**Process Code** P25 REFINING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Molybdenum Trioxide</i>	1999	37477					0		1999 / 1998 = 0.94	Yes
							37,477			

**Process Code** P25 REFINING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W58 MATERIAL IS USED IN CATALYST, AND IS USED UNTIL SPENT  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-hexane</i>	1995	57462					99,749		1999 / 1998 = 0.94	No
							76,649			

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P25 REFINING  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 W58 IN-PROCESS RECYCLING; UPGRADING OF STORAGE TANKS; INSTALLATION OF CLOSED-LOOP SAMPLERS  
 Employed Activity  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Barriers to P2:**  
 F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Naphthalene</i>	1996	17507					22,463	12,893	1999 / 1998 = 0.94	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
 Intended Activity  
 W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
 W35 INSTALLED VAPOR RECOVERY SYSTEMS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 Employed Activity  
 W90 NOT APPLICABLE

**Process Code** P25 REFINING  
 Intended Activity  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W58 IN-PROCESS RECYCLING OF HYDROCARBONS; UPGRADING OF STORAGE TANKS TO INTERNAL FLOATING ROOFS; INSTALLATION OF CLOSED-LOOP SAMPLERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Polycyclic Aromatic Compounds</i>	1996	800					1998 511 1999 860		1999 / 1998 = 0.94	No

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W19 OPERATOR TRAINING ON LEAKS AND SPILL PREVENTION  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W90 NOT APPLICABLE

**Process Code** P25 REFINING  
Intended Activity  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
Employed Activity  
W39 IMPROVED TANK FARM AND LOADING AREA INSPECTIONS

**Barriers to P2:** F10 IMPROVE OPERATOR AWARENESS ABOUT SOURCES OF PAC'S THROUGH TRAINING AND INCREASED MONITORING.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Propylene</i>	1996	27549					1998 24,732 1999 22,145		1999 / 1998 = 0.94	Yes

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W90 NOT APPLICABLE

**Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)  
Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
W35 INSTALLED VAPOR RECOVERY SYSTEMS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity  
W90 NOT APPLICABLE  
**Process Code** P25 REFINING  
Intended Activity  
W58 STORAGE TANK UPGRADE; INSTALLATION OF CLOSED-LOOP SAMPLERS  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W19 IN-PROCESS RECYCLING OF HYDROCARBONS VERSUS SEWERING  
Employed Activity  
W90 NOT APPLICABLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1996	1328					23,074	1,745	No	

**Process Code** P25 REFINING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:**  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.94	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Tetrachloroethylene</i>	1998	3403					3,403	4,292	No	

**Process Code** P25 REFINING  
Intended Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:**  
F02 LACK OF TECHNICAL INFORMATION ON POLLUTION PREVENTION TECHNIQUES APPLICABLE TO THE SPECIFIC PRODUCTION PROCESS  
F10 NEED TO IDENTIFY SOURCE OF RELEASES AND DETERMINE OPTIONS FOR REDUCTION

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Toluene</i>	1996	188540					243,326	197,431	1999 / 1998 = 0.94	No

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
  - Intended Activity
    - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
    - W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES
  - Employed Activity
    - W90 NOT APPLICABLE
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
  - Intended Activity
    - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
    - W35 INSTALLED VAPOR RECOVERY SYSTEMS
    - W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES
  - Employed Activity
    - W90 NOT APPLICABLE
- Process Code** P25 REFINING
  - Intended Activity
    - W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES
    - W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES
    - W58 UPGRADE OF STORAGE TANKS TO INTERNAL FLOATING ROOFS; CLOSED-LOOP SAMPLERS
  - Employed Activity
    - W58 ON-SITE RECOVERY OF HYDROCARBONS FROM WASTEWATER SLUDGES

- Barriers to P2:**
- F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE
  - F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1996	219016					311,589	238,025	1999 / 1998 = 0.94	No

- Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
  - Intended Activity
    - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
    - W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES
  - Employed Activity
    - W90 NOT APPLICABLE
- Process Code** P03 CHEMICAL TRANSFERRING (PACKAGING, METERING, ETC.)
  - Intended Activity
    - W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS
    - W35 INSTALLED VAPOR RECOVERY SYSTEMS
    - W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Employed Activity W90 NOT APPLICABLE  
**Process Code** P25 REFINING  
 Intended Activity W58 IN-PROCESS RECYCLING OF HYDROCARBONS; STORAGE TANK UPGRADES TO INTERNAL FLOATING ROOFS; CLOSED-LOOP SAMPLERS  
 W36 IMPLEMENTED INSPECTION OR MONITORING PROGRAM OF POTENTIAL SPILL OR LEAK SOURCES  
 W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
 Employed Activity W58 ON-SITE RECOVERY OF HYDROCARBONS FROM WASTEWATER SLUDGES

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
 F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Washington County, City of STILLWATER -- 3M-STILLWATER -- ERCID -- 821700005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Diisocyanates</i>	1996	370	1,540	1,402	1,332	1,265	1998 1,902 1999 1,404	1999 / 1998 = 0.74	No	

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W19 YIELD IMPROVEMENT TO CASTING OPERATIONS  
 Employed Activity W19 YIELD IMPROVEMENT TO CASTING OPERATIONS

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Glycol Ethers</i>	1991	16700	12,273	10,049	11,075	10,522	1998 19,962 1999 10,049	1999 / 1998 = 0.74	No	

**Process Code** P24 PRINTING  
 Intended Activity W90 NOT APPLICABLE  
 Employed Activity W89 YIELD IMPROVEMENT ON PRINTING LINES

**Barriers to P2:** F05 TECHNICAL LIMITATIONS OF THE PRODUCTION PROCESS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.74	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>N-methyl-2-pyrrolidone</i>	1997	14952	14,204	12,397	11,797	11,207	15,056	12,397	No	

**Process Code** P01 CASTING ANY MATERIAL  
 Intended Activity W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
 Employed Activity W90 NOT APPLICABLE

**Barriers to P2:** F04 CONCERN THAT PRODUCT QUALITY MAY DECLINE AS A RESULT OF SOURCE REDUCTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 0.74	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	73600	54,104	26,378	25,059	23,806	57,648	26,378	Yes	

**Process Code** P08 DRYING  
 Intended Activity W58 YIELD IMPROVEMENT TO PRINTING OPERATIONS  
 Employed Activity W58 YIELD IMPROVEMENT TO PRINTING OPERATIONS  
**Process Code** P24 PRINTING  
 Intended Activity W58 YIELD IMPROVEMENT TO PRINTING OPERATIONS  
 Employed Activity W58 YIELD IMPROVEMENT TO PRINTING OPERATIONS

**Washington County, City of WOODBURY -- ECOWATER SYSTEMS, INC. -- ERCID -- 821910002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 = 1.09	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1990	9000					5,900	6,200	No	

**Process Code** P11 EXTRUDING ANY MATERIAL  
 Intended Activity W19 UTILIZE SOUND OPERATING AND MAINTENANCE PRACTICES  
 Employed Activity W19 UTILIZE SOUND OPERATING AND MAINTENANCE PRACTICES  
**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W49 RESEARCH AND EXPERIMENT WITH ALTERNATIVE CHEMICALS  
W19 UTILIZE SOUND OPERATING AND MAINTENANCE PRACTICES

Employed Activity  
W49 RESEARCH AND EXPERIMENT WITH ALTERNATIVE CHEMICALS  
W19 UTILIZE SOUND OPERATING AND MAINTENANCE PRACTICES

**Non Numeric Objective:** CONTINUE TO RESEARCH AND EXPERIMENT WITH ALTERNATIVES TO ABS PLASTICS AND STYRENE RESINS. INVESTIGATE ABS PLASTICS AND STYRENE RESINS WITH LOWER RESIDUAL STYRENE CONTENT.

**Non Numeric Progress:** NA

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Watsonwan County, City of ST. JAMES -- WESTIN AUTOMOTIVE PRODUCTS, INC. -- ERCID -- 830900001**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Nickel Compounds</i>	1994	4604	48	5	4	3			No

**Process Code** P10 ELECTROPLATING

Intended Activity  
W65 REDESIGNED PARTS RACKS TO REDUCE DRAGOUT  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W68 IMPROVED RINSE EQUIPMENT OPERATION

**Barriers to P2:** F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES

**Winona County, City of LEWISTON -- RIVERSIDE ELECTRONICS LTD. -- ERCID -- 850550016**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Lead</i>	1995	3200					1998 4,468 1999 6,155	1999 / 1998 = 1.38	Yes

**Process Code** P15 HEAT TREATING

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ALL GENERATED QUANTITIES ARE TRANSPORTED TO AN OFF-SITE RECYCLER. FLUCTUATIONS IN THE MANUFACTURING PROCESS, DUE TO CUSTOMER VOLUME AND SPECIFICATIONS, PROHIBITS ESTABLISHMENT OF A NUMERIC OBJECTIVE.

**Non Numeric Progress:** ALL WASTE AMOUNTS ARE RECYCLED DUE TO A STRONG RECYCLING EFFORT THROUGHOUT THE FACILITY.

**Winona County, City of WINONA -- BADGER EQUIPMENT CO. -- ERCID -- 851450037**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Manganese</i>	1990						64,862	32,233	1999 / 1998 = 0.49	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)  
 Intended Activity  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Non Numeric Objective:** CONTINUE TO USE BEST PRACTICE TO REDUCE POLLUTION.

**Non Numeric Progress:** REDUCTION OF INVENTORY OF RAW MATERIALS. CONTINUED TO IMPROVE SCRAP HANDLING PROCESSES. IMPROVEMENT OF STORAGE AND HANDLING PROCEDURES.

**Barriers to P2:**  
 F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
 F10 CONTINUE TO USE BEST PRACTICES IN REDUCTION OF POLLUTION

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nickel</i>	1990						37,977	31,931	1999 / 1998 = 0.84	No

**Process Code** P18 MACHINING ANY MATERIAL (POLISHING, ROUTING, DRILLING, ETC.)  
 Intended Activity  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 Employed Activity  
 W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
 W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
**Process Code** P35 WELDING ANY MATERIAL (SOLDERING, BRAZING, JOINING, ETC.)

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)  
W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS

Employed Activity  
W23 ELIMINATED SHELF-LIFE REQUIREMENTS FOR STABLE MATERIALS  
W61 CHANGED TO AQUEOUS CLEANERS (FROM SOLVENTS OR OTHER MATERIALS)

**Non Numeric Objective:** CONTINUE TO USE BEST PRACTICE TO REDUCE POLLUTION.

**Non Numeric Progress:** REDUCTION OF INVENTORY OF RAW MATERIALS. CONTINUED TO IMPROVE SCRAP HANDLING PROCESSES. IMPROVEMENT OF STORAGE AND HANDLING PROCEDURES.

**Barriers to P2:** F03 POLLUTION PREVENTION / SOURCE REDUCTION IS NOT ECONOMICALLY FEASIBLE  
F10 USE BEST PRACTICES IN REDUCTION OF POLLUTION

**Winona County, City of WINONA -- BADGER FOUNDRY CO. -- ERCID -- 851450005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1999	34,270		
Copper	1993	1754	1,357	1,289	1,225	1,163	1999	34,270	1999 / 1998 = 0.75	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W19 GOOD WORK PRACTICES, REDUCE WASTE, BETTER TRAINING ON POLLUTION CONTROL EQUIPMENT AND MINIMIZE REJECT CASTINGS.  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS

Employed Activity  
W42 SUBSTITUTED RAW MATERIALS  
W19 GOOD WORK PRACTICES, REDUCE WASTE, BETTER TRAINING ON POLLUTION CONTROL EQUIPMENT AND MINIMIZE REJECT CASTINGS.  
W49 SUCCESSFULLY REDUCED THE QUANTITY OF PREMIX USED PER MOLD AND STILL MAINTAINED THE DESIRED QUALITY OF THE CASTINGS. BY USING LESS SAND AND PREMIX PER MOLD, WASTE WAS REDUCED.

**Barriers to P2:** F10 CURRENT POLLUTION PREVENTION OBJECTIVE IS NOT REASONABLE.  
F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
F09 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE FEASIBLE DUE TO PERMITTING REQUIREMENTS

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	64,460		
Manganese	1993	28743	22,241	21,129	20,073	19,069	1999	86,745	1999 / 1998 = 0.75	No

**Process Code** P01 CASTING ANY MATERIAL

Intended Activity  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W19 GOOD WORK PRACTICES, REDUCE WASTE, BETTER TRAINING ON POLLUTION CONTROL EQUIPMENT AND MINIMIZE REJECT CASTINGS.

Employed Activity  
W19 GOOD WORK PRACTICES, REDUCE WASTE, BETTER TRAINING ON POLLUTION CONTROL EQUIPMENT AND MINIMIZE REJECT CASTINGS.  
W42 SUBSTITUTED RAW MATERIALS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

W49 SUCCESSFULLY REDUCED THE QUANTITY OF PREMIX USED PER MOLD AND STILL MAINTAINED THE DESIRED QUALITY OF THE CASTINGS. BY USING LESS SAND AND PREMIX PER MOLD, WASTE WAS REDUCED.

- Barriers to P2:**
- F10 CURRENT POLLUTION PREVENTION OBJECTIVE IS NOT REASONABLE.
  - F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE
  - F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE
  - F09 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE FEASIBLE DUE TO PERMITTING REQUIREMENTS

**Winona County, City of WINONA -- BEHRENS INC -- ERCID -- 851450092**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Zinc Compounds	1997	51000					1998 50,000 1999 59,900	1999 / 1998 = 1.22	Yes

- Process Code P09** ELECTROLESS/IMMERSION COATING
- Intended Activity  
W19 RECYCLE ALL MATERIAL  
W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED
- Employed Activity  
W25 INSTITUTED CLEARINGHOUSE TO EXCHANGE MATERIALS THAT WOULD OTHERWISE BE DISCARDED  
W19 RECYCLED ALL MATERIAL
- Non Numeric Objective:** ALL MATERIAL WAS RECYCLED.

**Non Numeric Progress:** CONTINUE TO SELL ALL BYPRODUCTS FOR RECYCLING.

**Winona County, City of WINONA -- CYTEC FIBERITE,INC. -- ERCID -- 851450010**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
Formaldehyde	1995	28421					1998 49,859 1999 67,064	1999 / 1998 = 1.22	No

- Process Code P02** CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
- Intended Activity  
W90 NOT APPLICABLE
- Employed Activity  
W90 NOT APPLICABLE
- Process Code P21** ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)
- Intended Activity  
W90 NOT APPLICABLE
- Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN. FUTURE RELEASES AND TRANSFERS ARE EXPECTED TO REMAIN STABLE EXCEPT FOR VARIATIONS IN PRODUCTION.

**Non Numeric Progress:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN PRIOR TO 1995.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methanol</i>	1995	493950					1998 344,681 1999 329,622	1999 / 1998 = 1.22	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN. FUTURE RELEASES AND TRANSFERS ARE EXPECTED TO REMAIN STABLE EXCEPT FOR VARIATIONS IN PRODUCTION.

**Non Numeric Progress:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN PRIOR TO 1995.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Methyl Ethyl Ketone</i>	1995	224600					1998 218,662 1999 197,282	1999 / 1998 = 1.22	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W90 NOT APPLICABLE

Employed Activity  
W90 NOT APPLICABLE

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Non Numeric Objective:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN. FUTURE RELEASES AND TRANSFERS ARE EXPECTED TO REMAIN STABLE EXCEPT FOR VARIATIONS IN PRODUCTION.

**Non Numeric Progress:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN PRIOR TO 1995.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Phenol</i>	1995	141740					1998 181,367 1999 245,371	1999 / 1998 = 1.22	No

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN. FUTURE RELEASES AND TRANSFERS ARE EXPECTED TO REMAIN STABLE EXCEPT FOR VARIATIONS IN PRODUCTION.

**Non Numeric Progress:** ALL TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE POLLUTION PREVENTION MEASURES HAVE BEEN TAKEN PRIOR TO 1995.

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE

**Winona County, City of WINONA -- MILLER WASTE MILLS, INC. -RTP -- ERCID -- 851450019**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Antimony Compounds</i>	1992						1998 1,006 1999 781	1999 / 1998 = 0.89	Yes

**Process Code** P36 CUSTOM COMPOUNDER OF PLASTIC MATERIALS

Intended Activity W90 NOT APPLICABLE

Employed Activity W90 NOT APPLICABLE

**Non Numeric Objective:** INVESTIGATE DIFFERENT TYPES OF PACKAGING MATERIALS WHICH WOULD REDUCE THE RESIDUAL LEFT IN BAGS.

**Non Numeric Progress:** NA

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported	P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001			
<i>Decabromodiphenyl Oxide</i>	1992						1998 3,429 1999 1,727	1999 / 1998 = 0.89	Yes

**Process Code** P36 CUSTOM COMPOUNDER OF PLASTIC MATERIALS

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W90 NOT APPLICABLE

**Non Numeric Objective:** INVESTIGATE DIFFERENT TYPES OF PACKAGING MATERIALS WHICH WOULD REDUCE THE RESIDUAL LEFT IN BAGS.

**Non Numeric Progress:** NA

**Winona County, City of WINONA -- PEERLESS CHAIN CO. -- ERCID -- 851450002**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Zinc Compounds	1998	17605	17,605	20,700	22,000	22,700	1998 17,605	1999 22,015	1.16	No

**Process Code** P10 ELECTROPLATING

Intended Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W51 INSTITUTED RECIRCULATION WITHIN A PROCESS  
W64 IMPROVED DRAINING PROCEDURES  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W67 IMPROVED RINSE EQUIPMENT DESIGN

**Barriers to P2:**  
F08 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE  
F09 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE FEASIBLE DUE TO PERMITTING REQUIREMENTS  
F10 DISCONTINUE REUSE OF WASTEWATER DUE TO A CLIMBING CONCENTRATION OF DISSOLVED ZINC IN THE DISCHARGE TO THE SEWER, PUTTING US IN DANGER OF EXCEEDING OUR PERMIT LIMITS. RINSE QUALITY WAS QUESTIONABLE.

**Winona County, City of WINONA -- WE-NO-NAH CANOE -- ERCID -- 851450071**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R. 1999 / 1998 =	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
Styrene	1990	9465	8,322	9,146	9,300	9,400	1998 8,322	1999 9,146	0.99	No

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

Intended Activity  
W90 NOT APPLICABLE  
Employed Activity  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

**Barriers to P2:** F10 EMISSION FACTORS CHANGED AP42 TO UNIFIED EMISSION FACTORS (UEF). THESE FACTORS ARE HIGHER, THEREFORE EMISSIONS ARE HIGHER.

**Wright County, City of BUFFALO -- HONEYWELL ADVANCED CIRCUITS, INC. -- ERCID -- 860190025**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Copper</i>	1998	64725					1998 64,725 1999 140,989	1999 / 1998 = 2	No	

**Process Code P04**

CHEMICAL MILLING (ETCHING)

Intended Activity

W58

INCREASE LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W58

INCREASED LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

**Process Code P09**

ELECTROLESS/IMMERSION COATING

Intended Activity

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

W58

INCREASE LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

Employed Activity

W58

INCREASED LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Process Code P10**

ELECTROPLATING

Intended Activity

W58

INCREASE LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity

W58

INCREASED LEVEL OF OPERATOR TRAINING INCLUDING A CERTIFICATION REQUIREMENT FOR ALL OPERATORS.

W13

IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:**

MAXIMIZE CIRCUIT DENSITY TO THE EXTENT POSSIBLE TO REDUCE COPPER ETCHING. SCRAP AND WASTE IS RECYCLED. IMPROVE TRAINING, INSTITUTE WORK INSTRUCTIONS, PROCESS CONTROL PLANS, PREVENTIVE MAINTENANCE SCHEDULES, AND PRODUCTION YIELDS.

**Non Numeric Progress:**

NO OVERALL REDUCTIONS ACHIEVED EVEN THOUGH ALL OBJECTIVES WERE SUCCESSFULLY IMPLEMENTED.

**Barriers to P2:**

F10 ALTHOUGH OPERATION CONTROLS HAVE BEEN IMPLEMENTED, OVERALL REDUCTIONS WERE NOT ACHIEVED DUE TO CHANGES IN CUSTOMER REQUIREMENTS FOR HIGHER LAYER COUNT CIRCUIT BOARDS.

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Nitric Acid</i>	1998	16804					1998 16,804 1999 43,504	1999 / 1998 = 2	No	

**Process Code P30**

STRIPPING ANY COATING

Minnesota Pollution Prevention Progress  
Report Summary of Activities for 1999

State of  
Department of Public  
Emergency Response

Sorted by County, City,

Intended Activity  
W58 INCREASE LEVEL OF OPERATOR TRAINING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W58 INCREASED LEVEL OF OPERATOR TRAINING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

**Non Numeric Objective:** MINIMIZE CHEMICAL USAGE PER PANEL PROCESSED AT THE TIN STRIPPING PROCESS THROUGH THE USE OF IMPROVED OPERATIONAL CONTROLS.

**Non Numeric Progress:** NO OVERALL REDUCTIONS ACHIEVED THOUGH ALL OBJECTIVES WERE SUCCESSFULLY IMPLEMENTED.

**Barriers to P2:** F10 OVERALL INCREASE DUE TO AN IMMERSION GOLD PROCESS ADDED, RESULTING IN AN INCREASE IN THE AMOUNT USED PER PANEL, EVEN THOUGH THE ACID IS REUSED TWICE IN THAT PROCESS.

**Wright County, City of HOWARD LAKE -- DURA SUPREME, INC. -- ERCID -- 860850007**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Xylene (mixed isomers)</i>	1991	22000	16,900	25,411	25,382	26,651	1998 25,501	1999 25,411	1999 / 1998 = 1.07	No

**Process Code** P21 ORGANIC COATING (PAINTING, VARNISHING, ADHESIVE, ETC.)

Intended Activity  
W42 SUBSTITUTED RAW MATERIALS  
W49 CONTINUE TO USE UNTIL OUR SUPPLIERS CAN SWITCH TO AN ALTERNATE MATERIAL.

Employed Activity  
W90 NOT APPLICABLE

**Barriers to P2:** F07 POLLUTION PREVENTION PREVIOUSLY IMPLEMENTED - ADDITIONAL REDUCTION DOES NOT APPEAR TO BE TECHNICALLY FEASIBLE

**Wright County, City of MAPLE LAKE -- SUN PATIO INC. -- ERCID -- 860890008**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	1999		
<i>Styrene</i>	1997	13240					1998 18,945	1999 10,832	1999 / 1998 = 0.92	Yes

**Process Code** P12 FIBERGLASS PRODUCT MANUFACTURING

Intended Activity  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES

Employed Activity  
W13 IMPROVED MAINTENANCE SCHEDULING, RECORDKEEPING, OR PROCEDURES  
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING  
W32 IMPROVED PROCEDURES FOR LOADING, UNLOADING, AND TRANSFER OPERATIONS

Minnesota Pollution Prevention Progress  
 Report Summary of Activities for 1999

State of  
 Department of Public  
 Emergency Response

Sorted by County, City,

W74 IMPROVED APPLICATION TECHNIQUES  
 W39 TRAIN AN IN-HOUSE TEAM TO RESPOND QUICKLY TO SPILLS AND LEAKS.  
**Non Numeric Objective:** CONTINUE OUR RESEARCH EFFORTS THROUGH TRADE JOURNALS AND COMMUNICATION WITH THOSE IN THE INDUSTRY IN AN ATTEMPT TO REDUCE OUR STYRENE.  
**Non Numeric Progress:** CONTINUED TO IMPLEMENT OUR NON-NUMERIC OBJECTIVES FOR 1999. DUE TO STYRENE BEING A MAIN COMPONENT OF OUR RAW MATERIAL, IT IS DIFFICULT TO DECREASE RELEASES. HOWEVER, WE WERE ABLE TO REDUCE EMISSIONS FROM 1998 TO 1999.

**Wright County, City of MONTROSE -- KNIGHT COLORS & CHEMICALS CO. -- ERCID -- 861200005**

Chemical Name	Baseline		Numeric Objective, If Applicable / Releases and Transfers (#)				Reported		P.R.	Met Objective
	Year	Quantity	1998	1999	2000	2001	1998	10,000		
<i>N-hexane</i>	1999	10080	10,000	9,580	9,000	8,000	1998	10,000	1999 / 1998 = 0.97	Yes
							1999	9,580		

**Process Code** P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)  
 Intended Activity  
 W42 SUBSTITUTED RAW MATERIALS  
 Employed Activity  
 W90 NOT APPLICABLE



## **P CODES MANUFACTURING PROCESS DESCRIPTIONS**

P01	Casting any material
P02	Chemical mixing (denaturing, formulating, blending, etc.)
P03	Chemical transferring (packaging, metering, etc.)
P04	Chemical milling (etching)
P05	Cleaning any material (degreasing, washing, etc.)
P06	De-icing
P07	Developing (non-photographic)
P08	Drying
P09	Electroless/Immersion coating
P10	Electroplating
P11	Extruding any material
P12	Fiberglass Product Manufacturing
P13	Foam Blowing
P14	Food Processing (human and animal)
P15	Heat Treating
P16	Laminating/Pressing any material
P17	Lens Grinding
P18	Machining any material (polishing, routing, drilling, etc.)
P19	Metal Treating (anodizing, phosphating, pickling, etc.)
P20	Molding any material (bending, forming, shaping, etc.)
P21	Organic coating (painting, varnishing, adhesive, etc.)
P22	Paper Manufacturing
P23	Photographic processing
P24	Printing
P25	Refining
P26	Refrigerating/Freezing
P27	Regenerating resin
P28	Smelting
P29	Sterilizing (fumigating, disinfecting, etc.)
P30	Stripping any coating
P31	Tanning
P32	Vacuum Depositing (vapor, ion, epitaxy, etc.)
P33	Water Treating (neutralizing, evaporating, etc.)
P34	Weatherizing (wood treating, corrosion inhibiting, etc.)
P35	Welding any material (soldering, brazing, joining, etc.)
P36	Other

## **W CODES SOURCE REDUCTION ACTIVITIES**

### **Cleaning and Degreasing**

- W59 Modified stripping / cleaning equipment
- W60 Changed to mechanical stripping / cleaning devices (from solvents or other materials)
- W61 Changed to aqueous cleaners (from solvents or other materials)
- W63 Modified containment procedures for cleaning units
- W64 Improved draining procedures
- W65 Redesigned parts racks to reduce dragout
- W66 Modified or installed rinse systems
- W67 Improved rinse equipment design
- W68 Improved rinse equipment operation
- W71 Other cleaning and degreasing modifications (Please explain)

### **Good Operating Practices**

- W13 Improved maintenance scheduling, recordkeeping, or procedures
- W14 Change production schedule to maximize equipment and feedstock changeovers
- W19 Other changes in operating practices (Please explain)

### **Inventory Control**

- W21 Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
- W22 Began to test outdated material - continue to use if still effective
- W23 Eliminated shelf-life requirements for stable materials
- W24 Instituted better labeling procedures
- W25 Instituted clearinghouse to exchange materials that would otherwise be discarded
- W29 Other changes in inventory control (Please explain)

### **Process Modifications**

- W51 Instituted recirculation within a process
- W52 Modified equipment, layout, or piping
- W53 Use of a different process catalyst
- W54 Instituted better controls on operating bulk containers to minimize discarding of empty containers
- W55 Changed from small volume containers to bulk containers to minimize discarding of empty containers
- W58 Other process modifications (Please explain)

### **Product Modifications**

- W81 Changed product specifications
- W82 Modified design or composition
- W83 Modified packaging
- W89 Other product modifications (Please explain)

## **W CODES SOURCE REDUCTION ACTIVITIES (CONTINUED)**

### **Raw Material Modifications**

- W41 Increased purity of raw materials
- W42 Substituted raw materials
- W49 Other raw material modifications (Please explain)

### **Spill and Leak Prevention**

- W31 Improved storage or stacking procedures
- W32 Improved procedures for loading, unloading, and transfer operations
- W33 Installed overflow alarms or automatic shutoff valves
- W35 Installed vapor recovery systems
- W36 Implemented inspection or monitoring program of potential spill or leak sources
- W39 Other spill and leak prevention (Please explain)

### **Surface Preparation and Finishing**

- W72 Modified spray systems or equipment
- W73 Substituted coating materials used
- W74 Improved application techniques
- W75 Changed from spray to other system
- W78 Other surface preparation and finishing modifications (Please explain)

## **F CODES BARRIERS TO POLLUTION PREVENTION**

- F01 Insufficient capital to install new source reduction equipment or implement new source reduction activities/initiatives
- F02 Lack of technical information on pollution prevention techniques applicable to the specific production process
- F03 Pollution prevention / source reduction is not economically feasible
- F04 Concern that product quality may decline as a result of source reduction
- F05 Technical limitations of the production process
- F06 Specific regulatory / permit burdens
- F07 Pollution prevention previously implemented - additional reduction does not appear to be technically feasible
- F08 Pollution prevention previously implemented - additional reduction does not appear to be economically feasible
- F09 Pollution prevention previously implemented - additional reduction does not appear to be feasible due to permitting requirements
- F10 Other

**Facilities not subject to Pollution Prevention Progress reporting in 1999**

<b><u>Facility Name &amp; Location</u></b>	<b><u>ERC ID #</u></b>	<b><u>County</u></b>
Mentor Minnesota Operations, Anoka	02-005-0055	Anoka
Steris-Isomedix Services, Coon Rapids	02-050-0004	Anoka
Design Line Cabinets Inc., Sauk Rapids	05-073-0030	Benton
Bongards Creameries, Bongards	10-010-0001	Carver
Finishing Equipment Inc., Eagan	19-025-0111	Dakota
Lexington Standard, Farmington	19-040-0028	Dakota
Cenex Harvest States, Inver Grove Heights	19-071-0004	Dakota
U of M - Rosemount Research Center, Rosemount	19-145-0017	Dakota
Dakota Premium Foods, Inc., South St. Paul	19-155-0019	Dakota
Northern Food and Dairy Inc., Alexandria	21-005-0003	Douglas
Darling International Inc., Blue Earth	22-010-0001	Faribault
Dairy Farmers of America, Zumbrota	25-160-0002	Goodhue
Hanson Spancrete Midwest Inc., Maple Grove	27-115-0036	Hennepin
Northern Star Co., Minneapolis	27-135-0053	Hennepin
Prospect Foundry Inc., Minneapolis	27-135-0061	Hennepin
Foam Enterprises Inc., Plymouth	27-180-0069	Hennepin
Minnesota Rubber, St. Louis Park	27-215-0021	Hennepin
Stanley Hydraulic Tools, Two Harbors	38-035-0026	Lake
Davisco Le Sueur Cheese Division, Le Sueur	40-070-0011	Le Sueur
Associated Milk Producers, Inc., Glencoe	43-030-0010	McLeod
Pollock Mfg., Inc., Darwin	47-039-0002	Meeker
First District Assn., Litchfield	47-100-0001	Meeker
Anderson Chemical Co., Litchfield	47-100-0005	Meeker
Merit Enterprises, Inc., Isle	48-048-0002	Mille Lacs
Nor-Lakes Services Midwest, Inc., St. Paul	62-070-0189	Ramsey
U of M-SW Experiment Station, Lamberton	64-059-0003	Redwood
U of M-Sanders Crop Mgmt. Ctr., Redwood Falls	64-110-0031	Redwood
U of M-Sanders Crop Mgmt. Ctr., Redwood Falls	64-110-0033	Redwood
U of M-Sanders Crop Mgmt. Ctr., Redwood Falls	64-110-0034	Redwood
U of M-Sanders Crop Mgmt. Ctr., Redwood Falls	64-110-0036	Redwood
Viking Explosives and Supply, Inc., Hibbing	69-235-0029	St. Louis
Becker RDF Ash Landfill, Becker	71-009-0018	Sherburne
Dairy Farmers of America, Winthrop	72-120-0003	Sibley
Tandem Products, Inc., Blooming Prairie	74-014-0039	Steele
U of M – Southern Experiment Station, Waseca	81-070-0010	Waseca
Midwest Metal Products, Winona	85-145-0101	Winona



## VI. MINNESOTA'S INDEXING SYSTEM

The following information is republished from the Minnesota Pollution Control Agency's (MPCA) "Air Pollutants-Strategy Update and Facility Emission Profile," January 1995, and from the article "An Indexing System For Comparing Toxic Air Pollutants Based Upon Their Potential Environmental Impacts," by Pratt et al \*\*, 1993, used with permission.

In response to the need for a procedure to evaluate the potential environmental impacts of chemicals released to the air and to help prioritize regulatory work involving the toxic air pollutants, the MPCA has developed a method for comparing toxic air emissions. This method is referred to as the Indexing System and it incorporates information about the environmental fate and the toxicity (to humans and other species) of chemicals emitted into the air. The environmental fate of a substance depends upon its physical and chemical characteristics and encompasses phenomena such as transport, persistence, partitioning among environmental compartments (water, air, land, biota), and bioaccumulation. Toxicity is the potential of a substance to cause an adverse effect on the health of a human or other organism.

The Indexing System does not predict whether an effect will occur; it compares chemicals in terms of their potential to be hazardous. The Indexing System assigns numerical values to substances according to the hazard potential of the substance in any of several environmental compartments following emission into the air. The numerical value assigned to a chemical is the result of a standardized modeling scenario that predicts the potential exposure of humans or other organisms to the chemical. Depending upon the chemical, any one of a set of possible routes of uptake is evaluated in the modeling process to determine the highest potential impact from the chemical.

The environmental exposure is estimated for a number of environmental compartments using a level 3 fugacity model developed for Minnesota by Professor Don Mackay of the University of Toronto. Human intake values are taken from standard U.S. Environmental Protection Agency (EPA) values, and human toxicity is estimated using values from EPA's Integrated Risk Information System (IRIS) and Health Effects Assessment Summary Tables (Threshold Limit Values (TLVs) are used if no other values are available). Ecological toxicity is estimated for aquatic organisms using MPCA Water Quality Division Final Acute Values, and for fish-eating wildlife using a method developed by the Great Lakes Initiative. The ranking of potential environmental impact of chemicals released into the air is done by combining toxicity and environmental fate information. The quality of environmental fate and toxicity data varies among chemicals. The MPCA has applied the Indexing System to over 183 substances, and is in the process of adding more substances (about 400).

$$\text{Index} = \frac{\text{Potential exposure}}{\text{Toxicity}} = \text{Hazard Potential}$$

## Discussion of the Indexing System Results

It is important to recognize that the Indexing System does not predict actual concentrations that are expected to occur in the environment. The environmental fate modeling assumed a standard emission of ten kilograms per hour to the air compartment. That amount is much greater than actual emissions of some substances and much less than emissions of others. Thus the modeling results do not represent actual concentrations of pollutant that can be expected to occur. Also, the index results cannot be viewed as indicating whether effects will occur. Instead, the value of the Indexing System is in comparing chemicals to see which is likely to be more hazardous and where in the environment that hazard is most likely to occur.

The MPCA views the modeling of organic substances with greater confidence than the modeling of inorganics or metals. Current models are not able to simulate the intricacies of the speciation process. The present modeling is based on total metal concentration, and the speciated forms were not considered. However, models for speciated forms of mercury and other metals are being evaluated. The acidification caused by inorganic (as well as organic) acidity was not factored into this method.

Despite the many difficulties of compiling this Indexing System, the benefits and potential uses are numerous. The MPCA is using results from the Indexing System to develop air toxics regulations and to assist the MPCA in setting program goals. The Indexing System may be used to assist in:

- \* Setting thresholds for inventory and registration requirements;
- \* Setting air emissions fees using hazard-based fee rates (rather than a flat rate);
- \* Setting thresholds for environmental monitoring and testing requirements;
- \* Identifying environmentally persistent and bioaccumulating chemicals that require further study;
- \* Refining environmental monitoring needs;
- \* Identifying emission reduction goals; and
- \* Setting priorities for facility review.

To summarize, the Indexing System provides a method for comparing the potential environmental impacts of toxic substances emitted into the air. The system does not predict actual concentrations or toxicity, but rather allows a comparison of substances according to their potential to cause a hazard in the environment. The system also indicates where in the environment a substance is most likely to cause harmful effects. The system is useful in setting priorities and to those involved in developing, manufacturing and regulating toxic pollutants. For more information on this system, please contact Greg Pratt of the MPCA at 651-296-7664.

(\*\* Gregory Pratt, Paul Gerbec, Sherryl Livingston, Fardin Oliaei, George Bollweg, Sally Paterson, and Donald Mackay)

## **Application of Indexing System to Air Emissions from TRI Data**

For this report, the Minnesota Emergency Response Commission applied the Indexing System Values (weighted emissions) to state-wide air emissions from the 1999 Minnesota Toxic Release Inventory. The next five pages rank emissions by mass and hazard potential, and includes the following information:

- \* Chemical (Substance) name
- \* Rank: State-wide ranking by hazard potential
- \* Total Amount of Air Emissions: Total pounds of air emissions reported on 1999 Form R(s)
- \* Index Value: Index of hazard potential; the larger the index value, the greater the hazard potential
- \* Index Weighted Emissions: Product of application of index value to total air emissions
- \* Basis for the Index: Primary environmental area of concern (including human exposure)



**Chemicals Released for the year in order  
from the largest to smallest total air releases**

**1999 State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in pounds)**

**Sections: 5.1, 5.2 of EPA Form "R"**

<b>Chemical</b>	<b>Fugitive Air</b>	<b>Stack Air</b>	<b>Total Air Releases</b>
Styrene	570,257	1,333,707	1,903,964
Toluene	298,238	1,384,630	1,682,868
N-hexane	808,771	804,305	1,613,076
Methanol	69,413	1,490,153	1,559,566
Xylene (mixed isomers)	251,283	1,198,099	1,449,382
Ammonia	102,459	1,032,877	1,135,336
Methyl Ethyl Ketone	74,745	785,210	859,955
Glycol Ethers	155,225	622,272	777,497
N-butyl Alcohol	138,764	578,466	717,230
1,1-dichloro-1-fluoroethane	85,725	620,000	705,725
Hydrochloric Acid (aerosol forms only)	1,080	438,566	439,646
Trichloroethylene	30,440	311,460	341,900
Sulfuric Acid (aerosol forms only)	275	279,437	279,712
Methyl Isobutyl Ketone	13,641	207,026	220,667
Carbonyl Sulfide	112	211,102	211,214
Formaldehyde	4,164	170,480	174,644
1,2,4-trimethylbenzene	28,126	126,881	155,007
Ethylbenzene	27,611	116,447	144,058
Hydrogen Fluoride	479	139,268	139,747
Phenol	9,667	109,657	119,324
Tetrachloroethylene	8,562	101,262	109,824
Dichloromethane	29,754	79,106	108,860
Chloromethane	85,365	0	85,365
Barium Compounds	3,396	76,888	80,284
2-chloro-1,1,1,2-tetrafluoroethane	0	79,293	79,293
Cyclohexane	18,331	47,194	65,525
Methyl Methacrylate	31,974	21,795	53,769
Acetaldehyde	5	52,265	52,270
Propylene	38,470	3,606	42,076
Nitric Acid	2,414	39,087	41,501
N-methyl-2-pyrrolidone	592	29,292	29,884
1-chloro-1,1-difluoroethane	25,764	0	25,764
Aluminum (fume or dust)	818	24,221	25,039
Ethylene Glycol	23,261	399	23,660
Benzene	8,892	11,278	20,170
Copper	5,668	14,068	19,736
2-ethoxyethanol	3,362	15,697	19,059
Zinc Compounds	4,252	14,721	18,973
1,3-dichloro-1,1,2,2,3-pentafluoropropane	865	16,445	17,310
Nickel Compounds	975	16,330	17,305
Chlorine Dioxide	10	15,958	15,968
Freon 113	15,870	0	15,870
Vinyl Acetate	0	15,158	15,158
Acrylic Acid	1,582	12,779	14,361
3,3-dichloro-1,1,1,2,2-pentafluoropropane	700	13,312	14,012
1,4-dioxane	1,179	11,305	12,484
Manganese Compounds	1,296	11,154	12,450
Formic Acid	7,003	5,363	12,366

**Chemicals Released for the year in order  
from the largest to smallest total air releases**

**1999 State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in pounds)**

**Sections: 5.1, 5.2 of EPA Form "R"**

<b>Chemical</b>	<b>Fugitive Air</b>	<b>Stack Air</b>	<b>Total Air Releases</b>
Chlorine	7,872	4,167	12,039
Naphthalene	8,942	2,667	11,609
Bromomethane	10,213	0	10,213
N,n-dimethylformamide	9,831	66	9,897
Chloroform	5,400	3,300	8,700
Copper Compounds	557	7,622	8,179
Lead	1,109	6,403	7,512
Ethylene	6,831	608	7,439
Ethylene Oxide	86	5,714	5,800
Nickel	941	3,497	4,438
Diisocyanates	521	3,348	3,869
Ethyl Acrylate	3,200	517	3,717
Toluenediisocyanate (mixed isomers)	514	3,142	3,656
Lead Compounds	288	3,097	3,385
Methyl Acrylate	2,285	994	3,279
Manganese	731	2,532	3,263
Tert-butyl Alcohol	0	3,099	3,099
Chromium	485	2,366	2,851
Chromium Compounds	30	1,935	1,965
Cyanide Compounds	290	1,309	1,599
Biphenyl	1,443	17	1,460
Dicyclopentadiene	264	832	1,096
Polycyclic Aromatic Compounds	670	366	1,036
Chlorodifluoromethane	1,011	0	1,011
Nitrate Compounds (water dissociable)	0	925	925
Peracetic Acid	48	854	902
Dimethylamine	5	891	896
Zinc (fume or dust)	182	641	823
Phthalic Anhydride	75	682	757
Propylene Oxide	750	0	750
Cumene	610	75	685
1,3-butadiene	401	275	676
Maleic Anhydride	157	441	598
Antimony Compounds	10	459	469
Aluminum Oxide (fibrous forms)	0	467	467
Dimethyl Phthalate	0	310	310
Sodium Dimethyldithiocarbamate	255	0	255
Di(2-ethylhexyl) Phthalate	56	118	174
Sodium Nitrite	0	130	130
Antimony	14	79	93
Arsenic	7	64	71
Pyridine	0	64	64
Anthracene	55	2	57
Selenium Compounds	6	44	50
Acetonitrile	0	19	19
Cobalt Compounds	0	16	16
Molybdenum Trioxide	5	6	11
Barium	5	5	10

**Chemicals Released for the year in order  
from the largest to smallest total air releases**

**1999 State of Minnesota  
Department of Public Safety  
Emergency Response Commission  
(Amount in pounds)**

**Sections: 5.1, 5.2 of EPA Form "R"**

<b>Chemical</b>	<b>Fugitive Air</b>	<b>Stack Air</b>	<b>Total Air Releases</b>
Catechol	9	0	9
Carbon Disulfide	9	0	9
Cobalt	0	4	4
Pentachlorophenol	1	0	1
1,3-phenylenediamine	0	0	0
Toluene-2,4-diisocyanate	0	0	0
Decabromodiphenyl Oxide	0	0	0
4,4'-methylenedianiline	0	0	0
2-methoxyethanol	0	0	0
<b>Totals</b>	3,057,009	12,752,188	15,809,197



## AIR TOXICS INDEXING SYSTEM

### Air Toxics Indexing System

Substance	Rank	Total Amount (pounds/yr) of Air Emissions	Index Value (log units)	Index (pounds/yr) Weighted Emissions	Basis for the Index
lead (Pb)	1	10897	15.55	19.59	water
copper	2	27915	15.06	19.51	water
chromium (VI)*	3	4816	15.63	19.31	water
nickel	4	21743	14.96	19.29	aq biota
aluminum	5	25039	13.96	18.35	water
zinc	6	19796	14.03	18.33	water
antimony	7	562	15.53	18.28	aq biota
chloroform	8	8700	14.17	18.10	air
barium	9	80294	12.69	17.60	water
manganese	10	15713	13.38	17.58	water
bromomethane (methy bromide)	11	10213	13.50	17.51	air
dichloromethane (methylene chloride)	12	108860	12.32	17.36	air
tetrachloroethylene	13	109824	12.30	17.34	air
selenium	14	50	15.35	17.05	water
arsenic	15	71	15.08	16.93	aq biota
trichloroethylene	16	341900	11.09	16.62	air
formaldehyde	17	174644	10.91	16.15	air
styrene	18	1903964	9.63	15.91	air
acrylic acid	19	13601	11.74	15.88	air
chromium (III)*	20	4816	12.12	15.80	water
hexane (n-)	21	1613076	9.57	15.78	air
acetaldehyde	22	52270	10.96	15.67	air
methyl ethyl ketone (MEK)	23	853038	9.70	15.63	air
benzene	24	20170	11.16	15.47	air
dioxane (1,4-)	25	12484	11.35	15.45	water
ammonia	26	1130026	9.39	15.45	air
ethylene oxide	27	5800	11.67	15.43	air
butadiene (1,3-)	28	676	12.35	15.18	air
methyl isobutyl ketone (MIBK)	29	220562	9.76	15.11	air
propylene oxide	30	750	12.19	15.07	air
hydrogen chloride	31	436746	9.40	15.04	air
xylenes	32	1446558	8.77	14.93	air
toluene	33	1680205	8.64	14.87	air
diethylhexylphthalate (2-)	34	174	12.42	14.66	water
chlorine	35	12039	10.22	14.30	air
pentachlorophenol	36	1	14.20	14.20	terr flora/SF
dimethylamine	37	896	11.20	14.15	air
ethylbenzene	38	144058	8.95	14.11	air
ethoxyethanol (2-, = "cellosolve")	39	18974	9.44	13.72	air
chlorine dioxide	40	1011	10.71	13.72	air
methanol	41	1558391	7.50	13.69	water
phenol	42	119324	8.45	13.53	water
n-butyl alcohol	43	717156	7.50	13.36	water
trimethylbenzene	44	155007	8.16	13.35	air/TLV
vinyl acetate	45	15158	8.79	12.97	air
aluminum oxide	46	467	10.16	12.83	air

**AIR TOXICS INDEXING SYSTEM**

tert-butyl alcohol	47	3099	9.30	12.79	air
cyclohexane	48	65525	7.94	12.76	air
ethyl acrylate	49	3717	9.18	12.75	water
dimethylformamide (n,n-)	50	9897	8.74	12.73	air
naphthalene	51	11609	8.48	12.55	water
sulfuric acid	52	279712	7.10	12.54	air
carbon disulfide	53	9	11.39	12.34	air
ethylene glycol	54	23660	7.26	11.63	water
pyridine	55	64	9.23	11.04	water/RfD
methyl acrylate	56	3279	7.21	10.72	water
maleic anhydride	57	598	7.63	10.41	water
dimethyl phthalate	58	310	7.67	10.16	water
phthalic anhydride	59	757	6.03	8.91	terr flora
catechol	60	9	7.81	8.76	air/TLV
methyl methacrylate	61	53769	3.79	8.52	water
biphenyl (diphenyl)	62	1460	3.97	7.13	aq biota
anthracene	63	57	4.05	5.80	water
chromium (total)*	64	4816	0.00	3.68	air
(* refers to the total amount of chromium and compounds)					

## VII. Common Uses of Toxic Chemicals and Their Potential Hazards

The following information is presented as a quick-reference summary of information for some of the toxic chemicals that are manufactured/processed or otherwise used by TRI facilities in Minnesota. It is not a detailed discussion on the uses of and/or potential hazards posed by the chemicals. This information is from "Hazardous Substance Fact Sheets" provided by the New Jersey Department of Health and distributed by the United States Environmental Protection Agency (Office of Toxic Substances and Office of Pollution Prevention and Toxics (OPPT) Chemical Fact Sheets), Computer Aided Management of Emergency Operations (CAMEO), and from "A Comprehensive Guide to the Hazardous Properties of Chemical Substances," by Dr. Pradyot Patnaik. The reader should consult chemical or toxicology reference materials if interested in knowing more about any or all of the substances presented in this report.

**Acetaldehyde**: Used as a liquid in making acetic acid, pyridine, pentaerythritol, peracetic acid and related chemicals. It occurs naturally in ripe fruit, coffee and cigarette smoke. **Hazard**: inhalation can irritate respiratory system, affect the cardiovascular system; liquid or vapor irritates skin and eyes.

**Acrylic Acid**: Used as a liquid in making acrylic esters, resins, protective surface coatings, adhesives; oil treatment chemicals, detergent intermediates and water treatment chemicals. It occurs naturally in marine algae and the stomach of sheep.

**Hazard**: inhalation of vapors for short periods of time irritates the respiratory system, direct contact with liquid irritates skin and eyes.

**Aluminum (fume or dust)**: Used as a powder in paints and protective coatings, as a catalyst and in rocket fuel. **Hazard**: fine powders form flammable and explosive mixtures in air and with powerful oxidants; moderately flammable/explosive by heat, flame or chemical reaction with powerful oxidizers.

**Aluminum Oxide**: Used in production of aluminum, abrasives, paint, ceramics, electrical insulators, catalysts and light bulbs. **Hazard**: dust toxic by inhalation.

**Ammonia**: Used in making fertilizers, explosives, plastics, dyes, and textiles. **Hazard**: moderately flammable; inhalation may irritate lungs; can irritate eyes, nose, mouth and throat; exposure to concentrated fumes can be fatal.

**Antimony and compounds**: Used in manufacture of alloys, enamels, rubber compounds, matches, fireworks; catalysts; a mordant in the dyeing and printing of fabrics or leather. **Hazard**: Toxic as a fume or dust; most compounds are poisons by ingestion, inhalation and intraperitoneal (injection) routes; can irritate eyes, nose, throat and skin.

**Antimony compounds**: Used in manufacture of alloys, white metals and hard lead; bullets, fireworks and for coating metals. **Hazard**: Low order poison by ingestion, inhalation and intraperitoneal (injection) routes; can irritate eyes, nose, throat and skin.

**Barium and compounds:** Used in vacuum and x-ray tubes and spark plugs. **Hazard:** powder is flammable at room temperature; can irritate eyes, nose and throat.

**Benzene:** Is a liquid used manufacturing other chemicals, solvent and in gasoline. **Hazard:** Flammable liquid, fire hazard; can affect when breathed in or by passing through the skin.

**Biphenyl:** Users are though to be textile mills, in past a heat transfer agent, to make polychlorinated biphenyls and a treatment for paper used to pack citrus fruit. **Hazard:** Exposure for short periods of time can cause nausea, vomiting, irritation of eyes and respiratory tract and bronchitis.

**Bromomethane:** Used as a pest control, degreasing wool. **Hazard:** Exposure can cause headache, weakness, nausea, vomiting, pulmonary edema, tremor, convulsions, hypothermia, and coma.

**1, 3-Butadiene:** Is a gas (above 23 degrees F) or liquid used in making rubber products and chemicals. **Hazard:** Flammable and reactive; exposure can irritate the eyes, nose, mouth and throat; liquid may irritate the skin and cause frostbite; vapor can cause lightheadedness or pass out.

**n-Butyl Alcohol:** liquid used as a solvent for fats, waxes, shellac, resins, gums and varnish. **Hazard:** Flammable liquid and fire hazard; can damage liver, kidneys, hearing and sense of balance; can cause eye irritation and headaches, irritation to nose, throat may occur.

**Cadmium Compounds:** Used in dyeing and printing textiles, TV phosphors, pigments, enamels; semiconductors and solar cells. **Hazard:** Exposure can cause nausea, vomiting, diarrhea, headache, abdominal pain, muscular ache, salivation and shock.

**Carbon Disulfide:** Liquid used to make rayon, agricultural fumigants, rubber chemicals, and cellulose; clean metal surfaces and extract olive oil. **Hazard:** Adversely effects the nervous system; dizziness, headaches, blurred vision, agitation, convulsions, coma and death; vapor irritates the nose and throat; liquid causes chemical burns, damage to eyes.

**Carbon Tetrachloride:** is a carcinogen; used as a solvent; in making fire extinguishers, refrigerants and aerosols. **Hazard:** exposure can cause dizziness and lightheadedness rapidly; also damage to liver and kidneys enough to cause death; can produce poisonous phosgene and hydrogen gases when heated.

**Carbonyl Sulfide:** Gas used in pesticides. **Hazard:** Exposure can cause headaches, giddiness, dizziness, confusion, nausea, diarrhea, weakness and muscle cramps; can cause lose of consciousness and stop breathing.

**Chlorinated Fluorocarbon (Freon 113):** Used to clean metal surfaces, until recently as a coolant in air conditioners, aerosols sprays, high temperature lubricants and resins.

**Hazard:** inhalation adversely affects nervous system, dizziness to inco-ordination and irregular heart beat. Not likely to occur at levels in environment.

**Chlorine:** Used as a disinfectant, in purifying water, and in manufacturing of synthetic rubber & plastics. **Hazard:** Intensely irritating to respiratory tract & can cause damage to tissues.

**Chlorothalonil:** Used as a pesticide/fungicide. **Hazard :** Can irritate skin & eyes, Breathing irritates nose, throat & lower air passages, may cause nose bleeds, skin rash, blood in urine or vaginal bleeding.

**Chlorine Dioxide:** Used for bleaching wood pulp, oils, textiles and flour; and in water treatment. **Hazard:** Irritation of nose and throat; chest pain, cough, bloody nose and sputum; pulmonary edema; eye irritation can occur.

**Chloromethane:** Used in low temperature polymerization, a refrigerant, methylating agent in organic synthesis, herbicide. **Hazard:** Mildly toxic by inhalation ; dangerous fire hazard when exposed to heat, flame or powerful oxidizers.

**Chloroform:** Used as a cleansing agent, manufacture of refrigerant and fire extinguishers. **Hazard:** dizziness, lightheadedness, dullness, hallucination, nausea, headache, fatigue and anesthesia.

**Chromium and Compounds:** Use: chrome plating other metals, tanning leather. **Hazard:** Confirmed as a human carcinogens.

**Cobalt:** Used in radiation therapy, level gages, steel alloys, jet engines, tools, cemented carbide abrasives. **Hazard:** can cause coughing, wheezing, chest pains and shortness of breath; irritate eyes, nose, throat and lungs; may cause fluid in the lungs (pulmonary edema).

**Copper and Compounds:** Used in electrical wiring, plumbing, compounds used in fungicides, pesticides, electroplating, paint pigments, and catalysts. **Hazard:** irritants; some compounds highly toxic; degree of toxicity dependent on compound, exposure and method of entry into the body.

**Cumene:** Used in chemical synthesis; a solvent. **Hazard:** flammable; moderately toxic by ingestion, mildly toxic by inhalation and contact; eye and skin irritant; narcotic in high concentrations.

**Cyanide Compounds:** Used for electroplating metals; for extracting gold and silver from ores: as a fumigant, and a chelating agent. **Hazard:** Ingestion of a small quantity could result in immediate collapse and instantaneous death. At a lower dosage it can cause nausea, vomiting, hallucination, headache, and weakness.

**Cyclohexane:** Used as a solvent for lacquers and resins, paint and varnish remover, in manufacture of adipic acid, benzene, nitrocyclohexane and cyclohexanone. **Hazard:** Acute toxicant of low order; irritant to the eyes and respiratory system.

**Dichloromethane** : Industrial solvent and paint stripper; in aerosol and pesticide products; used in photographic film productions and in food, furniture and plastics processing. **Hazard**: carcinogen; lung irritant; inhalation can cause headaches, fatigue and “drunk behavior”.

**Dichlorotetrafluoroethane**: Used as a solvent, refrigerant and air conditioner and in fire extinguishers. **Hazard**: Moderately toxic by inhalation; irritant; an asphyxiant.

**Di (2-ethylhexyl) phthalate**: Used to make plastics, products found in homes and automobiles, medical and packaging industries. **Hazard**: Is a carcinogen and teratogen; short term may cause irritation to eyes, nose, and throat; long term cause liver cancer; may damage the testes, affect the kidneys and liver ;may cause numbness and tingling in the arms and legs.

**Dimethylamine**: Used in detergent soaps, tanning & vulcanizing rubber. **Hazard**: Corrosive to eyes, skin, mucous membranes. Mutation data reported, poison by ingestion, mild toxic by inhalation.

**1,4-Dioxane**: Used as a solvent, and in textile processing, printing processes and detergent preparations. **Hazard**: is a carcinogen; can cause lightheadedness, dizzy and pass out, irritation of nose, throat and air passages, high or repeated overexposure can cause upset stomach and serious liver and kidney damage.

**Ethyl Benzene**: A solvent, intermediate in the production of styrene. **Hazard**: moderately toxic by inhalation and intraperitoneal routes; an eye and skin irritant.

**Ethyl Acrylate**: Used in manufacture of acrylic resins, acrylic fibers, textile and paper coatings, adhesives, and leather finish resins; and as a flavoring agent. **Hazard**: Flammable liquid; flash point is 60 degrees F: strong irritant to eyes, skin and mucous membranes; liquid can produce skin sensitization, toxic by all routes of exposure.

**Ethylene**: Used in welding and cutting metals; the manufacture of polyethylene, polystyrene, and other plastics; making ethylene oxide; and as an inhalation anesthetic.  
**Hazard**: can cause asphyxiation and unconsciousness; flammable gas.

**Ethylene Glycol**: In anti-freeze, paints, laminates, auto brake fluids, ink, tobacco and wood stains and used to de-ice aircraft wings. **Hazard**: Teratogen; highly toxic by ingestion or inhalation.

**Ethylene Oxide**: Used as a sterilizing agent; a fumigant; a propellant; in the production of explosives; in the manufacture of ethylene glycol, polyethylene oxide, glycol ethers, crown ethers, ethanolamines; and other derivatives; and organic synthesis.  
**Hazard**: Severe irritant, toxic and carcinogenic compound; inhalation can cause severe irritation to eyes, respiration tract and skin; delayed symptoms may be nausea, vomiting, headache, dyspnea, pulmonary edema, weakness and drowsiness.

**Formaldehyde**: Used in manufacture of phenolic resins, cellulose esters, artificial silk, dyes, explosives and organic chemicals; also germicide, fungicide and disinfectant; in tanning, adhesives, waterproofing fabrics, and tonic and chrome printing in photography.

**Hazard:** can injure eyes, skin and respiratory system; is a mutagen, teratogen, and probably carcinogenic.

**Formic Acid:** Used in manufacture of esters and salts, dyeing finishing of textiles and papers, electroplating, treatment of leather, coagulating rubber latex and a reducing agent.

**Hazard:** is corrosive to skin, vapors may produce irritation to eyes, skin and mucous membranes and causing respiratory distress.

**Glycol Ethers:** Solvents. **Hazard:** Toxic by inhalation, ingestion or skin absorption; irritating to eyes, nose, throat and skin.

**Hexachloroethane:** Used in explosives, celluloid, rubber vulcanizing, and as a solvent.

**Hazard:** Can irritate the skin, burn the eyes; irritate the eyes, nose, mouth and throat; may cause dizziness, lightheadedness and pass out.

**Hexane:** chief constituent of petroleum ether, gasoline and rubber solvent; also solvent for adhesives, vegetable oils, in organic analysis; and denaturing alcohol.

**Hazard:** may produce hallucination, distorted vision, headache, dizziness, nausea and irritation of eyes and throat.

**Hydrochloric Acid:** Used in metal cleaning and pickling, food processing and general cleaners.

**Hazard:** Very corrosive, toxic by ingestion or inhalation; can irritate mouth, nose and throat.

**Hydrogen Fluoride:** Used as a catalyst in petroleum industry, fluorination processes in aluminum industry; make fluorides, separation of uranium isotopes; making plastics and production of dyes. **Hazard:** Is a corrosive chemical; can irritate nose, throat and lungs; causing pulmonary edema; can cause severe burns to skin and eyes; may damage kidneys and liver.

**Lead and Compounds:** In batteries, gasoline additives, ammunitions, piping and radiation shielding. **Hazard:** poison by ingestion; can cause brain damage, particularly in children; suspected carcinogen of the lungs and kidneys.

**Manganese and compounds:** In aluminum production, steel making, metal purification and dry cell batteries. compounds used for varnishes, fertilizers, food additives.

**Hazard:** dust is flammable and moderately explosive; toxic by inhalation.

**Methanol:** Solvent, cleaner and fuel. **Hazard:** highly flammable; ingestion can cause blindness; mildly toxic by inhalation.

**Methyl Acrylate:** Manufacture of plastic films, textiles, paper coatings and other acrylate ester resins; amphoteric surfactants. **Hazard:** strong irritant, prolonged contact with eyes and skin may cause sever damage; inhalation can cause lacrimation, irritation of respiratory tract, lethargy and convulsions.

**Methyl Ethyl Ketone:** Solvent in making plastics, textiles, paint and paint removers and adhesives. **Hazard:** flammable, explosive; toxic by inhalation; a strong irritant; moderately toxic by ingestion.

**Methyl Isobutyl Ketone:** Solvent for paints, varnishes, nitrocellulose lacquers, gum and resins. **Hazard:** flammable; poison by intraperitoneal route; moderately toxic by ingestion; mildly toxic by inhalation; very irritating to eyes, skin and mucous membranes; narcotic in high concentrations; dangerous fire hazard when exposed to heat, flame or oxidizers.

**Methyl Methacrylate:** Used to make resins, plastics and specifically plastic dentures. **Hazard:** Flammable, reactive chemical; fire and explosion hazard; may damage fetus, can cause dizziness, lightheadedness, pass out; irritate eyes, skin, nose and throat.

**Methyl Tert-Butyl Ether:** **Hazard:** toxic effects as cellular necrosis, respiratory system. Increased liver & kidney weights, severity of spontaneous renal lesions, prostration & swollen periocular tissue.

**Maleic Anhydride:** Used for coating automobile bodies; making other chemicals and detergents. **Hazard:** can cause severe burns to the skin and eyes; dust or vapor may irritate nose, throat and lungs.

**Molybdenum Trioxide:** Used in agriculture; manufacture of metallic molybdenum, ceramic glazes, enamels, pigments and in analytical chemistry. **Hazard:** Dust or vapor can irritate nose, throat and bronchial tubes; eye or skin contact can cause irritation.

**Naphthalene:** Used as a moth repellent; in scintillation counter; in the manufacture of naphthol, phthalic anhydride and halogenated naphthalenes; dyes, explosives and lubricants; in breaking emulsion. **Hazard:** may cause irritation of eyes, skin, respiratory tract and injury to the cornea; may affect eyes, liver, kidney, blood, skin and central nervous system.

**Nickel and Compounds:** Used in alloying and electroplating, catalysts, dyes textile printing. **Hazard:** is a carcinogen and poison; also its compounds.

**Nitrate Compounds:** Will accelerate the burning of combustible materials; if involved in a fire an explosion may result, may react violently with fuels. **Hazard:** May cause burns to skin and eyes; may produce irritating or poisonous gasses.

**Nitric Acid:** Used in making fertilizers, dyes, explosives, metallurgy and etching steel. **Hazard:** Corrosive, powerful oxidizer; flammable by chemical reaction with reducing agent; produces toxic fumes when heated to decomposition; corrosive to eyes, skin, mucous membranes and teeth; experimental teratogen; human poison; delayed pulmonary edema.

**Pentachlorophenol:** Used for a termite control, defoliant, preservative of wood and wood products. **Hazard:** are headache, dizziness, sweating, nausea, vomiting, dyspnea, chest pain, weakness, fever, collapse, convulsions and heart failure.

**Peracetic Acid:** Used in bleaching textiles, paper, waxes and starch; as a bactericide in food processing; catalyst for epoxy resins. **Hazard:** Can cause severe irritation and burns to eyes; can irritate skin, nose, throat and lungs and pulmonary edema.

**Phenol**: Widely used for disinfectants, pharmaceuticals and paints; refine lubricating oils.  
**Hazard**: mutagen; poison by ingestion; toxic if inhaled or through skin contact; a severe eye and skin irritant.

**Phosphoric Acid**: Used in fertilizers and detergents; rustproofing and pickling metals; as a catalyst and an analytical reagent. **Hazard**: irritants to skin and mucous membranes ; vapors can cause irritation to throat and coughing.

**Phthalic anhydride**: Used to make phthalic plasticizers, Unsaturated polyester resins and alkyd resins; manufacture of dyes, saccharin, flame retardants, phenol-phthalin, pesticides and anthranilic acid. **Hazard**: may cause sever burns to eye, nose, throat and skin

**Propylene**: Used in the production of fabricated polymers, fibers, solvents, resins and plastic products. **Hazard**: Highly flammable; an asphyxiant.

**Propylene Oxide**: Used as a fumigant for foodstuffs, stabilizer for fuels, heating oils and chlorinated hydrocarbons. **Hazard**: Vapors can cause irritation to eyes, skin and mucous membranes.

**Selenium**: Manufacture of colored glass, in photocells, semiconductors, rectifier in radio and TV sets and as a vulcanizing agent in rubber. **Hazard**: irritating to eyes, nose and respiratory tract.

**Sodium Nitrite**: Used in solid propellants, explosives, fertilizers & other uses.  
**Hazard**: Will accelerate burning materials, if in fire may explode. Toxic oxides produced in fires.

**Styrene**: Used in the manufacture of polystyrene, resins, protective coatings, plastics, synthetic rubber and an insulator. **Hazard**: toxic by ingestion and inhalation; can react vigorously with oxidizing agents; emits acrid smoke and irritating fumes when heated to decomposition.

**Sulfuric Acid**: In fertilizers, chemicals, dyes, rayon and film; widely used by metals industry.  
**Hazard**: moderately toxic by ingestion; a severe eye irritant, extremely irritating, corrosive and toxic to tissue.

**Tetrachloroethylene**: Used as a solvent, in dry-cleaning and metal degreasing.  
**Hazard**: can produce headache, dizziness, drowsiness, incoordination, irritation to eyes, nose and throat; flushing of neck and face.

**Tert-Butyl Alcohol**: Used in manufacture of flavors and perfumes; as a solvent for pharmaceuticals and paint remover. **Hazard**: Flammable solid or liquid; dangerous fire hazard; can cause headache, dizziness and drowsiness; irritation of eyes, nose and throat may occur.

**Toluene**: Solvent for perfumes, medicines, dyes, explosives, detergents, aviation gasoline and other chemicals. **Hazard**: highly flammable and explosive; toxic by ingestion, inhalation and skin contact.

**Toluene 2 - 4 - Diisocyanate**: Used in production of rigid & flexible urethane foams, elastomers & coatings. **Hazard**: Highly toxic by inhalation, skin & eye irritant, carcinogenic substance. Vapors can cause tracheobronchitis, pulmonary edema, hemorrhage & death.

**1,1,1-Trichloroethane**: Solvent for cleaning precision instruments; also in pesticides and textiles. **Hazard**: Suspected carcinogen, irritating to eyes and skin; moderately toxic by ingestion, inhalation and skin contact.

**Trichloroethane**: Cleaning electronic parts and diluting paints; also in degreasers and fumigants; aerospace industries use it to flush liquid oxygen. **Hazard**: Carcinogen; mildly toxic by ingestion and inhalation.

**1,2,4-Trimethylbenzene**: Used in the manufacture of dyes and pharmaceuticals. **Hazard**: moderately toxic by intraperitoneal route; mildly toxic by inhalation; can cause central nervous system depression, anemia and bronchitis; flammable when exposed to heat, flame or oxidizers.

**Vinyl Acetate**: Used in making polyvinyl resins. **Hazard**: Flammable and reactive; fire and explosive hazard; can cause irritation to eyes, nose and throat; can cause dizziness and lightheadedness; can irritate eyes and skin.

**Xylene**: used as solvents and in making drugs, dyes, insecticides and gasoline. **Hazard**: Flammable; mildly toxic by ingestion and inhalation.

**Zinc and compounds**: used as a coating on iron and steel, in making brass metal alloys, car parts, electroplating, batteries, electrical products, paints and fungicides. **Hazard**: zinc dust is flammable and a human skin irritant.



# EMERGENCY PLANNING AND COMMUNITY RIGHT- TO-KNOW SECTION 313

## List of Toxic Chemicals

This document provides a quick reference list of the chemicals for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also referred to as the Toxics Release Inventory (TRI) List). More specific information is available in the EPA document, "The Emergency Planning and Community Right-to-Know Act: Section 313 Release Reporting Requirements" (EPA 745/K-94-052), available from the EPCRA Document Distribution Center, 11029 Kenwood Road, Cincinnati, Ohio, 45242 (attention NCEPI).

[Note: Chemicals may be added to or deleted from the list. The Emergency Planning and Community Right-to-Know Information Hotline, (800) 535-0202 or (703) 412-9877, will provide up-to-date information on the status of these changes.]

---

### CONTENTS

<b>Section 1.</b>	<b>Introduction</b> .....	<b>2</b>
	Qualifiers .....	2
<b>Section 2.</b>	<b>Alphabetical List of TRI Chemicals</b> .....	<b>4</b>
<b>Section 3.</b>	<b>CAS Number List of TRI Chemicals</b> .....	<b>23</b>
<b>Section 4.</b>	<b>Chemical Categories</b> .....	<b>42</b>

---

## Section 1. Introduction

---

Under Section 313 of the Emergency Planning and Community Right-to-Know Act, certain businesses are required to submit reports each year on the amounts of toxic chemicals that their facilities release into the environment, either routinely or as a result of accidents. With the passing of the Pollution Prevention Act, such facilities also must report source reduction and recycling data for such chemicals beginning with the 1991 reporting year. The purpose of this reporting requirement is to inform government officials and the public about releases of toxic chemicals into the environment. Section 313 requires facilities to report releases to air, water, and land. The reports must be sent to the United States Environmental Protection Agency (EPA) and to designated state agencies. Reports are due by July 1 each year. Those who fail to report as required are subject to civil penalties of up to \$25,000 a day.

The final EPCRA Section 313 rule implementing the Toxic Release Inventory was published in the Federal Register on February 16, 1988 (40 CFR 372).

### Qualifiers

Certain toxic chemicals listed on EPCRA Section 313 have parenthetical "qualifiers." These qualifiers indicate that these toxic chemicals are subject to the Section 313 reporting requirements if manufactured, processed, or otherwise used in a specific form or when a certain activity is performed. The following chemicals are reportable only if they are manufactured, processed, or otherwise used in the specific form(s) listed below:

<u>Chemical</u>	<u>CAS Number</u>	<u>Qualifier</u>
<b>Aluminum</b> (fume or dust)	7429-90-5	<b><u>Only</u></b> if it is in a fume or dust form.
<b>Aluminum oxide</b> (fibrous forms)	1344-28-1	<b><u>Only</u></b> if it is a fibrous form.
<b>Ammonia</b> (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	7664-41-7	<b><u>Only</u></b> 10 percent of aqueous forms. 100 percent of anhydrous forms.
<b>Asbestos</b> (friable)	1332-21-4	<b><u>Only</u></b> if it is a friable form.
<b>Hydrochloric acid</b> (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	<b><u>Only</u></b> if it is an aerosol form as defined.

<b><u>Chemical</u></b>	<b><u>CAS Number</u></b>	<b><u>Qualifier</u></b>
<b>Phosphorus</b> (yellow or white)	7723-14-0	<b><u>Only</u></b> if it is a yellow or white form.
<b>Sulfuric acid</b> (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	<b><u>Only</u></b> if it is an aerosol form as defined.
<b>Vanadium</b> (fume or dust)	7440-62-2	<b><u>Only</u></b> if it is in a fume or dust form.
<b>Zinc</b> (fume or dust)	7440-66-6	<b><u>Only</u></b> if it is in a fume or dust form.

The qualifier for the following two chemicals is based on the chemical activity rather than the form of the chemical. These chemicals are subject to EPCRA section 313 reporting requirements only when the indicated activity is performed.

<b><u>Chemical</u></b>	<b><u>CAS Number</u></b>	<b><u>Qualifier</u></b>
<b>Isopropyl alcohol</b> (manufacturing - strong acid process, no supplier notification)	67-63-0	<b><u>Only</u></b> if it is being manufactured by the strong acid process.
<b>Saccharin</b> (manufacturing, no supplier notification)	81-07-2	<b><u>Only</u></b> if it is being manufactured.

There are no supplier notification requirements for isopropyl alcohol and saccharin since the processors and users of these chemicals are not required to report. Manufactures of these chemicals do not need to notify their customers that these are reportable EPCRA section 313 chemicals.

## Section 2. Alphabetical List of TRI Chemicals

---

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
71751-41-2	Abamectin [Avermectin B1]	1.0
30560-19-1	Acephate (Acetylphosphoramidothioic acid O,S-dimethyl ester)	1.0
75-07-0	Acetaldehyde	0.1
60-35-5	Acetamide	0.1
75-05-8	Acetonitrile	1.0
98-86-2	Acetophenone	1.0
53-96-3	2-Acetylaminofluorene	0.1
62476-59-9	Acifluorfen, sodium salt [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid, sodium salt]	1.0
107-02-8	Acrolein	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
107-13-1	Acrylonitrile	0.1
15972-60-8	Alachlor	1.0
116-06-3	Aldicarb	1.0
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-]	1.0
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrine]	1.0
107-18-6	Allyl alcohol	1.0
107-11-9	Allylamine	1.0
107-05-1	Allyl chloride	1.0
7429-90-5	Aluminum (fume or dust)	1.0
20859-73-8	Aluminum phosphide	1.0
1344-28-1	Aluminum oxide (fibrous forms)	1.0
834-12-8	Ametryn (N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5,-triazine-2,4-diamine)	1.0
117-79-3	2-Aminoanthraquinone	0.1
60-09-3	4-Aminoazobenzene	0.1
92-67-1	4-Aminobiphenyl	0.1
82-28-0	1-Amino-2-methylantraquinone	0.1
33089-61-1	Amitraz	1.0
61-82-5	Amitrole	0.1

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
7664-41-7	Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	1.0
101-05-3	Anilazine [4,6-Dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine]	1.0
62-53-3	Aniline	1.0
90-04-0	o-Anisidine	0.1
104-94-9	p-Anisidine	1.0
134-29-2	o-Anisidine hydrochloride	0.1
120-12-7	Anthracene	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
1332-21-4	Asbestos (friable)	0.1
1912-24-9	Atrazine (6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine)	0.1
7440-39-3	Barium	1.0
22781-23-3	Bendiocarb [2,2-Dimethyl-1,3-benzodioxol-4-ol methylcarbamate]	1.0
1861-40-1	Benfluralin (N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)-benzenamine)	1.0
17804-35-2	Benomyl	1.0
98-87-3	Benzal chloride	1.0
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
92-87-5	Benzidine	0.1
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
82657-04-3	Bifenthrin	1.0
92-52-4	Biphenyl	1.0
111-91-1	Bis(2-chloroethoxy) methane	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
542-88-1	Bis(chloromethyl) ether	0.1
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
56-35-9	Bis(tributyltin) oxide	1.0
10294-34-5	Boron trichloride	1.0
7637-07-2	Boron trifluoride	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
314-40-9	Bromacil (5-Bromo-6-methyl-3-(1-methylpropyl)-2,4-(1H,3H)-pyrimidinedione)	1.0
53404-19-6	Bromacil, lithium salt [2,4(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methylpropyl), lithium salt]	1.0
7726-95-6	Bromine	1.0
35691-65-7	1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
75-25-2	Bromoform (Tribromomethane)	1.0
74-83-9	Bromomethane (Methyl bromide)	1.0
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
1689-84-5	Bromoxynil (3,5-Dibromo-4-hydroxybenzoxynitrile)	1.0
1689-99-2	Bromoxynil octanoate (Octanoic acid, 2,6-dibromo-4-cyanophenylester)	1.0
357-57-3	Brucine	1.0
106-99-0	1,3-Butadiene	0.1
141-32-2	Butyl acrylate	1.0
71-36-3	n-Butyl alcohol	1.0
78-92-2	sec-Butyl alcohol	1.0
75-65-0	tert-Butyl alcohol	1.0
106-88-7	1,2-Butylene oxide	1.0
123-72-8	Butyraldehyde	1.0
7440-43-9	Cadmium	0.1
156-62-7	Calcium cyanamide	1.0
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-]	1.0
63-25-2	Carbaryl [1-Naphthalenol, methylcarbamate]	1.0
1563-66-2	Carbofuran	1.0
75-15-0	Carbon disulfide	1.0
56-23-5	Carbon tetrachloride	0.1
463-58-1	Carbonyl sulfide	1.0
5234-68-4	Carboxin (5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiazin-3-carboxamide)	1.0
120-80-9	Catechol	1.0
2439-01-2	Chinomethionat [6-Methyl-1,3-dithiolo[4,5-b]quinoxalin-2-one]	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	0.1
115-28-6	Chlorendic acid	0.1
90982-32-4	Chlorimuron ethyl [Ethyl-2-[[[(4-chloro-6-methoxyprimidin-2-yl)amino]carbonyl]-amino]sulfonyl]benzoate]	1.0
7782-50-5	Chlorine	1.0
10049-04-4	Chlorine dioxide	1.0
79-11-8	Chloroacetic acid	1.0
532-27-4	2-Chloroacetophenone	1.0
4080-31-3	1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	1.0
106-47-8	p-Chloroaniline	0.1
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester]	1.0
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	1.0
75-45-6	Chlorodifluoromethane (HCFC-22)	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
67-66-3	Chloroform	0.1
74-87-3	Chloromethane (Methyl chloride)	1.0
107-30-2	Chloromethyl methyl ether	0.1
563-47-3	3-Chloro-2-methyl-1-propene	0.1
104-12-1	p-Chlorophenyl isocyanate	1.0
76-06-2	Chloropicrin	1.0
126-99-8	Chloroprene	1.0
542-76-7	3-Chloropropionitrile	1.0
63938-10-3	Chlorotetrafluoroethane	1.0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	1.0
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	1.0
1897-45-6	Chloroethalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	1.0
95-69-2	p-Chloro-o-toluidine	0.1
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	1.0
75-72-9	Chlorotrifluoromethane (CFC-13)	1.0
460-35-5	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	1.0
5598-13-0	Chlorpyrifos methyl [O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate]	1.0
64902-72-3	Chlorsulfuron [2-Chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulfonamide]	1.0
7440-47-3	Chromium	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
4680-78-8	C.I. Acid Green 3	1.0
6459-94-5	C.I. Acid Red 114	0.1
569-64-2	C.I. Basic Green 4	1.0
989-38-8	C.I. Basic Red 1	1.0
1937-37-7	C.I. Direct Black 38	0.1
2602-46-2	C.I. Direct Blue 6	0.1
28407-37-6	C.I. Direct Blue 218	1.0
16071-86-6	C.I. Direct Brown 95	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
3761-53-3	C.I. Food Red 5	0.1
81-88-9	C.I. Food Red 15	1.0
3118-97-6	C.I. Solvent Orange 7	1.0
97-56-3	C.I. Solvent Yellow 3	1.0
842-07-9	C.I. Solvent Yellow 14	1.0
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
128-66-5	C.I. Vat Yellow 4	1.0
7440-48-4	Cobalt	0.1
7440-50-8	Copper	1.0
8001-58-9	Creosote	0.1
120-71-8	p-Cresidine	0.1
108-39-4	m-Cresol	1.0
95-48-7	o-Cresol	1.0
106-44-5	p-Cresol	1.0
1319-77-3	Cresol (mixed isomers)	1.0
4170-30-3	Crotonaldehyde	1.0
98-82-8	Cumene	1.0
80-15-9	Cumene hydroperoxide	1.0
135-20-6	Cupferron	0.1
	[Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	
21725-46-2	Cyanazine	1.0
1134-23-2	Cycloate	1.0
110-82-7	Cyclohexane	1.0
108-93-0	Cyclohexanol	1.0
68359-37-5	Cyfluthrin	1.0
	[3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl) methyl ester]	
68085-85-8	Cyhalothrin	1.0
	[3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl) methyl ester]	
94-75-7	2,4-D	0.1
	[Acetic acid, (2,4-dichlorophenoxy)-]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
533-74-4	Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione)	1.0
53404-60-7	Dazomet, sodium salt [Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione, ion(1-), sodium]	1.0
94-82-6	2,4-DB	1.0
1929-73-3	2,4-D butoxyethyl ester	0.1
94-80-4	2,4-D butyl ester	0.1
2971-38-2	2,4-D chlorocrotyl ester	0.1
1163-19-5	Decabromodiphenyl oxide	1.0
13684-56-5	Desmedipham	1.0
1928-43-4	2,4-D 2-ethylhexyl ester	0.1
53404-37-8	2,4-D 2-ethyl-4-methylpentyl ester	0.1
2303-16-4	Diallate [Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro- 2-propenyl) ester]	1.0
615-05-4	2,4-Diaminoanisole	0.1
39156-41-7	2,4-Diaminoanisole sulfate	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
95-80-7	2,4-Diaminotoluene	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
333-41-5	Diazinon	1.0
334-88-3	Diazomethane	1.0
132-64-9	Dibenzofuran	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
10222-01-2	2,2-Dibromo-3-nitrilopropionamide <sup>1</sup>	1.0
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
84-74-2	Dibutyl phthalate	1.0
1918-00-9	Dicamba (3,6-Dichloro-2-methoxybenzoic acid)	1.0
99-30-9	Dichloran [2,6-Dichloro-4-nitroaniline]	1.0
95-50-1	1,2-Dichlorobenzene	1.0
541-73-1	1,3-Dichlorobenzene	1.0
106-46-7	1,4-Dichlorobenzene	0.1
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	0.1

---

<sup>1</sup> On October 27, 1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed.

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
75-27-4	Dichlorobromomethane	1.0
764-41-0	1,4-Dichloro-2-butene	1.0
110-57-6	trans-1,4-Dichloro-2-butene	1.0
1649-08-7	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1.0
75-71-8	Dichlorodifluoromethane (CFC-12)	1.0
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.1
540-59-0	1,2-Dichloroethylene	1.0
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1.0
75-43-4	Dichlorofluoromethane (HCFC-21)	1.0
75-09-2	Dichloromethane (Methylene chloride)	0.1
127564-92-5	Dichloropentafluoropropane	1.0
13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	1.0
111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	1.0
422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	1.0
431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	1.0
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	1.0
136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	1.0
128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	1.0
422-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	1.0
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	1.0
97-23-4	Dichlorophene [2,2'-Methylenebis(4-chlorophenol)]	1.0
120-83-2	2,4-Dichlorophenol	1.0
78-87-5	1,2-Dichloropropane	1.0
10061-02-6	trans-1,3-Dichloropropene	0.1
78-88-6	2,3-Dichloropropene	1.0
542-75-6	1,3-Dichloropropylene	0.1
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
34077-87-7	Dichlorotrifluoroethane	1.0
90454-18-5	Dichloro-1,1,2-trifluoroethane	1.0
812-04-4	1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	1.0
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	1.0
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	1.0
62-73-7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	0.1
51338-27-3	Diclofop methyl [2-[4-(2,4-Dichlorophenoxy)phenoxy]propanoic acid, methyl ester]	1.0
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-4- (chlorophenyl)-.alpha.-(trichloromethyl)-]	1.0
77-73-6	Dicyclopentadiene	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
1464-53-5	Diepoxybutane	0.1
111-42-2	Diethanolamine	1.0
38727-55-8	Diethyl ethyl	1.0
117-81-7	Di(2-ethylhexyl) phthalate (DEHP)	0.1
64-67-5	Diethyl sulfate	0.1
35367-38-5	Diflubenzuron	1.0
101-90-6	Diglycidyl resorcinol ether	0.1
94-58-6	Dihydrosafrole	0.1
55290-64-7	Dimethipin	1.0
	[2,3-Dihydro-5,6-dimethyl-1,4-dithiin-1,1,4,4-tetraoxide]	
60-51-5	Dimethoate	1.0
119-90-4	3,3'-Dimethoxybenzidine	0.1
20325-40-0	3,3'-Dimethoxybenzidine dihydrochloride (o-Dianisidine dihydrochloride)	0.1
111984-09-9	3,3'-Dimethoxybenzidine hydrochloride (o-Dianisidine hydrochloride)	0.1
124-40-3	Dimethylamine	1.0
2300-66-5	Dimethylamine dicamba	1.0
60-11-7	4-Dimethylaminoazobenzene	0.1
121-69-7	N,N-Dimethylaniline	1.0
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1
612-82-8	3,3'-Dimethylbenzidine dihydrochloride (o-Tolidine dihydrochloride)	0.1
41766-75-0	3,3'-Dimethylbenzidine dihydrofluoride (o-Tolidine dihydrofluoride)	0.1
79-44-7	Dimethylcarbaryl chloride	0.1
2524-03-0	Dimethyl chlorothiophosphate	1.0
68-12-2	N,N-Dimethylformamide	0.1
57-14-7	1,1-Dimethyl hydrazine	0.1
105-67-9	2,4-Dimethylphenol	1.0
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	0.1
99-65-0	m-Dinitrobenzene	1.0
528-29-0	o-Dinitrobenzene	1.0
100-25-4	p-Dinitrobenzene	1.0
88-85-7	Dinitrobutyl phenol (Dinoseb)	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
51-28-5	2,4-Dinitrophenol	1.0
121-14-2	2,4-Dinitrotoluene	0.1
606-20-2	2,6-Dinitrotoluene	0.1
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
39300-45-3	Dinocap	1.0
123-91-1	1,4-Dioxane	0.1

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
957-51-7	Diphenamid	1.0
122-39-4	Diphenylamine	1.0
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
2164-07-0	Dipotassium endothall [7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid, dipotassium salt]	1.0
136-45-8	Dipropyl isocinchomeronate	1.0
138-93-2	Disodium cyanodithioimidocarbonate	1.0
94-11-1	2,4-D isopropyl ester	0.1
541-53-7	2,4-Dithiobiuret	1.0
330-54-1	Diuron	1.0
2439-10-3	Dodine [Dodecylguanidine monoacetate]	1.0
120-36-5	2,4-DP	0.1
1320-18-9	2,4-D propylene glycol butyl ether ester	0.1
2702-72-9	2,4-D sodium salt	0.1
106-89-8	Epichlorohydrin	0.1
13194-48-4	Ethoprop [Phosphorodithioic acid O-ethyl S,S-dipropyl ester]	1.0
110-80-5	2-Ethoxyethanol	1.0
140-88-5	Ethyl acrylate	0.1
100-41-4	Ethylbenzene	1.0
541-41-3	Ethyl chloroformate	1.0
759-94-4	Ethyl dipropylthiocarbamate (EPTC)	1.0
74-85-1	Ethylene	1.0
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
75-21-8	Ethylene oxide	0.1
96-45-7	Ethylene thiourea	0.1
75-34-3	Ethylidene dichloride	1.0
52-85-7	Famphur	1.0
60168-88-9	Fenarimol [.alpha.-(2-Chlorophenyl)-.alpha.-(4-chlorophenyl)-5- pyrimidinemethanol]	1.0
13356-08-6	Fenbutatin oxide (Hexakis(2-methyl-2-phenylpropyl)distannoxane)	1.0
66441-23-4	Fenoxaprop ethyl [2-(4-((6-Chloro-2-benzoxazolyl)oxy)phenoxy)propanoic acid, ethyl ester]	1.0
72490-01-8	Fenoxycarb [[2-(4-Phenoxyphenoxy)ethyl]carbamic acid ethyl ester]	1.0
39515-41-8	Fenpropathrin [2,2,3,3-Tetramethylcyclopropane carboxylic acid cyano(3-phenoxyphenyl)methyl ester]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
55-38-9	Fenthion [O,O-Dimethyl O-[3-methyl-4-(methylthio)phenyl] ester, phosphorothioic acid]	1.0
51630-58-1	Fenvalerate [4-Chloro-alpha-(1-methylethyl)benzeneacetic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
14484-64-1	Ferbam [Tris(dimethylcarbamidithioato-S,S')iron]	1.0
69806-50-4	Fluazifop butyl [2-[4-[[5-(Trifluoromethyl)-2-pyridinyl]oxy]phenoxy] propanoic acid, butyl ester]	1.0
2164-17-2	Fluometuron [Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-]	1.0
7782-41-4	Fluorine	1.0
51-21-8	Fluorouracil (5-Fluorouracil)	1.0
69409-94-5	Fluvalinate [N-[2-Chloro-4-(trifluoromethyl)phenyl]-DL-valine (+)-cyano(3-phenoxyphenyl)methyl ester]	1.0
133-07-3	Folpet	1.0
72178-02-0	Fomesafen [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-N- methylsulfonyl-2-nitrobenzamide]	1.0
50-00-0	Formaldehyde	0.1
64-18-6	Formic acid	1.0
76-13-1	Freon 113 [Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-]	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7- methano-1H-indene]	0.1
118-74-1	Hexachlorobenzene	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
319-84-6	alpha-Hexachlorocyclohexane	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
67-72-1	Hexachloroethane	1.0
1335-87-1	Hexachloronaphthalene	1.0
70-30-4	Hexachlorophene	1.0
680-31-9	Hexamethylphosphoramide	0.1
110-54-3	n-Hexane	1.0
51235-04-2	Hexazinone	1.0
67485-29-4	Hydramethylnon [Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone[3-[4- (trifluoromethyl)phenyl]-1-[2-[4-(trifluoromethyl) phenyl]ethenyl]-2-propenylidene]hydrazone]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
302-01-2	Hydrazine	0.1
10034-93-2	Hydrazine sulfate	0.1
7647-01-0	Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
74-90-8	Hydrogen cyanide	1.0
7664-39-3	Hydrogen fluoride	1.0
7783-06-4	Hydrogen sulfide <sup>2</sup>	1.0
123-31-9	Hydroquinone	1.0
35554-44-0	Imazalil [1-[2-(2,4-Dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H- imidazole]	1.0
55406-53-6	3-Iodo-2-propynyl butylcarbamate	1.0
13463-40-6	Iron pentacarbonyl	1.0
78-84-2	Isobutyraldehyde	1.0
465-73-6	Isodrin	1.0
25311-71-1	Isufenphos [2-[[Ethoxyl[(1-methylethyl)amino]phosphinothioyl]oxy] benzoic acid 1-methylethyl ester]	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	1.0
80-05-7	4,4'-Isopropylidenediphenol	1.0
120-58-1	Isosafrole	1.0
77501-63-4	Lactofen [Benzoic acid, 5-[2-Chloro-4-(trifluoromethyl)phenoxy]-2-nitro-, 2-ethoxy-1-methyl-2-oxoethyl ester]	1.0
7439-92-1	Lead	0.1
58-89-9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha.,3.beta., 4.alpha.,5.alpha.,6.beta.)-]	0.1
330-55-2	Linuron	1.0
554-13-2	Lithium carbonate	1.0
121-75-5	Malathion	1.0
108-31-6	Maleic anhydride	1.0
109-77-3	Malononitrile	1.0
12427-38-2	Maneb [Carbamodithioic acid, 1,2-ethanediylbis-, manganese complex]	1.0
7439-96-5	Manganese	1.0

---

<sup>2</sup> On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for hydrogen sulfide until the stay is removed.

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
93-65-2	Mecoprop	0.1
149-30-4	2-Mercaptobenzothiazole (MBT)	1.0
7439-97-6	Mercury	1.0
150-50-5	Merphos	1.0
126-98-7	Methacrylonitrile	1.0
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
67-56-1	Methanol	1.0
20354-26-1	Methazole	1.0
	[2-(3,4-Dichlorophenyl)-4-methyl-1,2,4-oxadiazol- idine-3,5-dione]	
2032-65-7	Methiocarb	1.0
94-74-6	Methoxone	0.1
	((4-Chloro-2-methylphenoxy)acetic acid) (MCPA)	
3653-48-3	Methoxone sodium salt	0.1
	((4-Chloro-2-methylphenoxy)acetate sodium salt)	
72-43-5	Methoxychlor	1.0
	[Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-]]	
109-86-4	2-Methoxyethanol	1.0
96-33-3	Methyl acrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
79-22-1	Methyl chlorocarbonate	1.0
101-14-4	4,4'-Methylenebis(2-chloroaniline) (MBOCA)	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	0.1
74-95-3	Methylene bromide	1.0
101-77-9	4,4'-Methylenedianiline	0.1
78-93-3	Methyl ethyl ketone	1.0
60-34-4	Methyl hydrazine	1.0
74-88-4	Methyl iodide	1.0
108-10-1	Methyl isobutyl ketone	1.0
624-83-9	Methyl isocyanate	1.0
556-61-6	Methyl isothiocyanate [Isothiocyanatomethane]	1.0
75-86-5	2-Methylactonitrile	1.0
74-93-1	Methyl mercaptan <sup>3</sup>	1.0
80-62-6	Methyl methacrylate	1.0
924-42-5	N-Methylolacrylamide	1.0
298-00-0	Methyl parathion	1.0
109-06-8	2-Methylpyridine	1.0
872-50-4	N-Methyl-2-pyrrolidone	1.0
9006-42-2	Metiram	1.0

---

<sup>3</sup> On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for methyl mercaptan until the stay is removed.

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
21087-64-9	Metribuzin	1.0
7786-34-7	Mevinphos	1.0
90-94-8	Michler's ketone	0.1
2212-67-1	Molinate (1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester)	1.0
1313-27-5	Molybdenum trioxide	1.0
76-15-3	Monochloropentafluoroethane (CFC-115)	1.0
150-68-5	Monuron	1.0
505-60-2	Mustard gas [Ethane, 1,1'-thiobis[2-chloro-]]	0.1
88671-89-0	Myclobutanil [.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile]	1.0
142-59-6	Nabam	1.0
300-76-5	Naled	1.0
91-20-3	Naphthalene	1.0
134-32-7	alpha-Naphthylamine	0.1
91-59-8	beta-Naphthylamine	0.1
7440-02-0	Nickel	0.1
1929-82-4	Nitrapyrin (2-Chloro-6-(trichloromethyl)pyridine)	1.0
7697-37-2	Nitric acid	1.0
139-13-9	Nitrilotriacetic acid	0.1
100-01-6	p-Nitroaniline	1.0
99-59-2	5-Nitro-o-anisidine	1.0
98-95-3	Nitrobenzene	0.1
92-93-3	4-Nitrobiphenyl	0.1
1836-75-5	Nitrofen [Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-]	0.1
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl)-N-methylethanamine]	0.1
55-63-0	Nitroglycerin	1.0
88-75-5	2-Nitrophenol	1.0
100-02-7	4-Nitrophenol	1.0
79-46-9	2-Nitropropane	0.1
924-16-3	N-Nitrosodi-n-butylamine	0.1
55-18-5	N-Nitrosodiethylamine	0.1
62-75-9	N-Nitrosodimethylamine	0.1
86-30-6	N-Nitrosodiphenylamine	1.0
156-10-5	p-Nitrosodiphenylamine	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
684-93-5	N-Nitroso-N-methylurea	0.1

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
4549-40-0	N-Nitrosomethylvinylamine	0.1
59-89-2	N-Nitrosomorpholine	0.1
16543-55-8	N-Nitrosornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
99-55-8	5-Nitro-o-toluidine	1.0
27314-13-2	Norflurazon	1.0
	[4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone]	
2234-13-1	Octachloronaphthalene	1.0
19044-88-3	Oryzalin	1.0
	[4-(Dipropylamino)-3,5-dinitrobenzene sulfonamide]	
20816-12-0	Osmium tetroxide	1.0
301-12-2	Oxydemeton methyl	1.0
	[S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid]	
19666-30-9	Oxydiazon	1.0
	[3-[2,4-Dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one]	
42874-03-3	Oxyfluorfen	1.0
10028-15-6	Ozone	1.0
123-63-7	Paraldehyde	1.0
1910-42-5	Paraquat dichloride	1.0
56-38-2	Parathion	1.0
	[Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl)ester]	
1114-71-2	Pebulate	1.0
	[Butylethylcarbamoithioic acid S-propyl ester]	
40487-42-1	Pendimethalin	1.0
	[N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	
76-01-7	Pentachloroethane	1.0
87-86-5	Pentachlorophenol (PCP)	0.1
57-33-0	Pentobarbital sodium	1.0
79-21-0	Peracetic acid	1.0
594-42-3	Perchloromethyl mercaptan	1.0
52645-53-1	Permethrin	1.0
	[3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, (3-phenoxyphenyl)methyl ester]	
85-01-8	Phenanthrene	1.0
108-95-2	Phenol	1.0
26002-80-2	Phenothrin	1.0
	[2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester]	
95-54-5	1,2-Phenylenediamine	1.0
108-45-2	1,3-Phenylenediamine	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
106-50-3	p-Phenylenediamine	1.0
615-28-1	1,2-Phenylenediamine dihydrochloride	1.0
624-18-0	1,4-Phenylenediamine dihydrochloride	1.0
90-43-7	2-Phenylphenol	1.0
57-41-0	Phenytoin	0.1
75-44-5	Phosgene	1.0
7803-51-2	Phosphine	1.0
7664-38-2	Phosphoric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
85-44-9	Phthalic anhydride	1.0
1918-02-1	Picloram	1.0
88-89-1	Picric acid	1.0
51-03-6	Piperonyl butoxide	1.0
29232-93-7	Pirimiphos methyl	1.0
	[O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethylphosphorothioate]	
1336-36-3	Polychlorinated biphenyls (PCBs)	0.1
7758-01-2	Potassium bromate	0.1
128-03-0	Potassium dimethyldithiocarbamate	1.0
137-41-7	Potassium N-methyldithiocarbamate	1.0
41198-08-7	Profenofos	1.0
	[O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl phosphorothioate]	
7287-19-6	Prometryn	1.0
	[N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	
23950-58-5	Pronamide	1.0
1918-16-7	Propachlor	1.0
	[2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	
1120-71-4	Propane sultone	0.1
709-98-8	Propanil	1.0
	[N-(3,4-Dichlorophenyl)propanamide]	
2312-35-8	Propargite	1.0
107-19-7	Propargyl alcohol	1.0
31218-83-4	Propetamphos	1.0
	[3-[(Ethylamino)methoxyphosphinothioyl]oxy]-2-butenic acid, 1-methylethyl ester]	
60207-90-1	Propiconazole	1.0
	[1-[2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl-1H-1,2,4-triazole]	
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
114-26-1	Propoxur	1.0
	[Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
110-86-1	Pyridine	1.0
91-22-5	Quinoline	1.0
106-51-4	Quinone	1.0
82-68-8	Quintozene	1.0
	[Pentachloronitrobenzene]	
76578-14-8	Quizalofop-ethyl	1.0
	[2-[4-[(6-Chloro-2-quinoxalinyloxy]phenoxy]propanoic acid ethyl ester]	
10453-86-8	Resmethrin	1.0
	[[5-(Phenylmethyl)-3-furanyl]methyl-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate]	
81-07-2	Saccharin (manufacturing, no supplier notification)	0.1
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
74051-80-2	Sethoxydim	1.0
	[2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	
7440-22-4	Silver	1.0
122-34-9	Simazine	1.0
26628-22-8	Sodium azide	1.0
1982-69-0	Sodium dicamba	1.0
	[3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	
128-04-1	Sodium dimethyldithiocarbamate	1.0
62-74-8	Sodium fluoroacetate	1.0
7632-00-0	Sodium nitrite	1.0
131-52-2	Sodium pentachlorophenate	1.0
132-27-4	Sodium o-phenylphenoxide	0.1
100-42-5	Styrene	0.1
96-09-3	Styrene oxide	0.1
7664-93-9	Sulfuric acid	1.0
	(acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
35400-43-2	Sulprofos	1.0
	[O-Ethyl O-[4-(methylthio)phenyl]phosphorodithioic acid S-propyl ester]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
34014-18-1	Tebuthiuron [N-[5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl]- N,N'-dimethylurea]	1.0
3383-96-8	Temephos	1.0
5902-51-2	Terbacil [5-Chloro-3-(1,1-dimethylethyl)-6-methyl-2,4 (1H,3H)-pyrimidinedione]	1.0
630-20-6	1,1,1,2-Tetrachloroethane	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1.0
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.1
354-11-0	1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	1.0
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl) ethenyl dimethyl ester]	1.0
64-75-5	Tetracycline hydrochloride	1.0
7696-12-0	Tetramethrin [2,2-Dimethyl-3-(2-methyl-1-propenyl) cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester]	1.0
7440-28-0	Thallium	1.0
148-79-8	Thiabendazole [2-(4-Thiazolyl)-1H-benzimidazole]	1.0
62-55-5	Thioacetamide	0.1
28249-77-6	Thiobencarb [Carbamic acid, diethylthio-, S-(p-chlorobenzyl)ester]	1.0
139-65-1	4,4'-Thiodianiline	0.1
59669-26-0	Thiodicarb	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis(iminocarbonothioyl)]biscarbamic acid diethylester]	1.0
23564-05-8	Thiophanate-methyl	1.0
79-19-6	Thiosemicarbazide	1.0
62-56-6	Thiourea	0.1
137-26-8	Thiram	1.0
1314-20-1	Thorium dioxide	1.0
7550-45-0	Titanium tetrachloride	1.0
108-88-3	Toluene	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
26471-62-5	Toluene diisocyanate (mixed isomers)	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
8001-35-2	Toxaphene	0.1
43121-43-3	Triadimefon	1.0
	[1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone]	
2303-17-5	Triallate	1.0
68-76-8	Triaziquone	1.0
	[2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	
101200-48-0	Tribenuron methyl	1.0
	[2-[[[(4-Methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoic acid, methyl ester]	
1983-10-4	Tributyltin fluoride	1.0
2155-70-6	Tributyltin methacrylate	1.0
78-48-8	S,S,S-Tributyltrithiophosphate (DEF)	1.0
52-68-6	Trichlorfon	1.0
	[Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester]	
76-02-8	Trichloroacetyl chloride	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	0.1
75-69-4	Trichlorofluoromethane (CFC-11)	1.0
95-95-4	2,4,5-Trichlorophenol	1.0
88-06-2	2,4,6-Trichlorophenol	0.1
96-18-4	1,2,3-Trichloropropane	0.1
57213-69-1	Triclopyr triethylammonium salt	1.0
121-44-8	Triethylamine	1.0
1582-09-8	Trifluralin	1.0
	[Benzeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	
26644-46-2	Triforine	1.0
	[N,N'-[1,4-Piperazinediyl]bis(2,2,2-trichloroethylidene)] bisformamide]	
95-63-6	1,2,4-Trimethylbenzene	1.0
2655-15-4	2,3,5-Trimethylphenyl methylcarbamate	1.0
639-58-7	Triphenyltin chloride	1.0
76-87-9	Triphenyltin hydroxide	1.0
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
72-57-1	Trypan blue	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
7440-62-2	Vanadium (fume or dust)	1.0
50471-44-8	Vinclozolin	1.0
	[3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
108-05-4	Vinyl acetate	0.1
593-60-2	Vinyl bromide	0.1
75-01-4	Vinyl chloride	0.1
75-35-4	Vinylidene chloride	1.0
108-38-3	m-Xylene	1.0
95-47-6	o-Xylene	1.0
106-42-3	p-Xylene	1.0
1330-20-7	Xylene (mixed isomers)	1.0
87-62-7	2,6-Xylidine	0.1
7440-66-6	Zinc (fume or dust)	1.0
12122-67-7	Zineb [Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex]	1.0

### Section 3. CAS Numbered List of TRI Chemicals

---

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
50-00-0	Formaldehyde	0.1
51-03-6	Piperonyl butoxide	1.0
51-21-8	Fluorouracil (5-Fluorouracil)	1.0
51-28-5	2,4-Dinitrophenol	1.0
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl)-N-methylethanamine]	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
52-68-6	Trichlorfon [Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester]	1.0
52-85-7	Famphur	1.0
53-96-3	2-Acetylaminofluorene	0.1
55-18-5	N-Nitrosodiethylamine	0.1
55-21-0	Benzamide	1.0
55-38-9	Fenthion [O,O-Dimethyl O-[3-methyl-4-(methylthio)phenyl] ester, phosphorothioic acid]	1.0
55-63-0	Nitroglycerin	1.0
56-23-5	Carbon tetrachloride	0.1
56-35-9	Bis(tributyltin) oxide	1.0
56-38-2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester]	1.0
57-14-7	1,1-Dimethyl hydrazine	0.1
57-33-0	Pentobarbital sodium	1.0
57-41-0	Phenytoin	0.1
57-57-8	beta-Propiolactone	0.1
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	0.1
58-89-9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1.alpha.,2.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-]	0.1
59-89-2	N-Nitrosomorpholine	0.1
60-09-3	4-Aminoazobenzene	0.1
60-11-7	4-Dimethylaminoazobenzene	0.1
60-34-4	Methyl hydrazine	1.0
60-35-5	Acetamide	0.1
60-51-5	Dimethoate	1.0
61-82-5	Amitrole	0.1

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
62-53-3	Aniline	1.0
62-55-5	Thioacetamide	0.1
62-56-6	Thiourea	0.1
62-73-7	Dichlorvos	0.1
	[Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	
62-74-8	Sodium fluoroacetate	1.0
62-75-9	N-Nitrosodimethylamine	0.1
63-25-2	Carbaryl	1.0
	[1-Naphthalenol, methylcarbamate]	
64-18-6	Formic acid	1.0
64-67-5	Diethyl sulfate	0.1
64-75-5	Tetracycline hydrochloride	1.0
67-56-1	Methanol	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	1.0
67-66-3	Chloroform	0.1
67-72-1	Hexachloroethane	1.0
68-12-2	N,N-Dimethylformamide	0.1
68-76-8	Triaziquone [2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris (1-aziridinyl)-]	1.0
70-30-4	Hexachlorophene	1.0
71-36-3	n-Butyl alcohol	1.0
71-43-2	Benzene	0.1
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.0
72-43-5	Methoxychlor [Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-methoxy-]]	1.0
72-57-1	Trypan blue	0.1
74-83-9	Bromomethane (Methyl bromide)	1.0
74-85-1	Ethylene	1.0
74-87-3	Chloromethane (Methyl chloride)	1.0
74-88-4	Methyl iodide	1.0
74-90-8	Hydrogen cyanide	1.0
74-93-1	Methyl mercaptan <sup>3</sup>	1.0
74-95-3	Methylene bromide	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
75-01-4	Vinyl chloride	0.1

---

<sup>3</sup>On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for methyl mercaptan until the stay is removed.

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
75-05-8	Acetonitrile	1.0
75-07-0	Acetaldehyde	0.1
75-09-2	Dichloromethane (Methylene chloride)	0.1
75-15-0	Carbon disulfide	1.0
75-21-8	Ethylene oxide	0.1
75-25-2	Bromoform (Tribromomethane)	1.0
75-27-4	Dichlorobromomethane	1.0
75-34-3	Ethylidene dichloride	1.0
75-35-4	Vinylidene chloride	1.0
75-43-4	Dichlorofluoromethane (HCFC-21)	1.0
75-44-5	Phosgene	1.0
75-45-6	Chlorodifluoromethane (HCFC-22)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
75-65-0	tert-Butyl alcohol	1.0
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	1.0
75-69-4	Trichlorofluoromethane (CFC-11)	1.0
75-71-8	Dichlorodifluoromethane (CFC-12)	1.0
75-72-9	Chlorotrifluoromethane (CFC-13)	1.0
75-86-5	2-Methylactonitrile	1.0
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	1.0
76-01-7	Pentachloroethane	1.0
76-02-8	Trichloroacetyl chloride	1.0
76-06-2	Chloropicrin	1.0
76-13-1	Freon 113	1.0
	[Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-]	
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
76-15-3	Monochloropentafluoroethane (CFC-115)	1.0
76-44-8	Heptachlor	0.1
	[1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]	
76-87-9	Triphenyltin hydroxide	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
77-73-6	Dicyclopentadiene	1.0
77-78-1	Dimethyl sulfate	0.1
78-48-8	S,S,S-Tributyltrithiophosphate (DEF)	1.0
78-84-2	Isobutyraldehyde	1.0
78-87-5	1,2-Dichloropropane	1.0
78-88-6	2,3-Dichloropropene	1.0
78-92-2	sec-Butyl alcohol	1.0
78-93-3	Methyl ethyl ketone	1.0
79-00-5	1,1,2-Trichloroethane	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
79-01-6	Trichloroethylene	0.1
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
79-11-8	Chloroacetic acid	1.0
79-19-6	Thiosemicarbazide	1.0
79-21-0	Peracetic acid	1.0
79-22-1	Methyl chlorocarbonate	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1.0
79-44-7	Dimethylcarbamyl chloride	0.1
79-46-9	2-Nitropropane	0.1
80-05-7	4,4'-Isopropylidenediphenol	1.0
80-15-9	Cumene hydroperoxide	1.0
80-62-6	Methyl methacrylate	1.0
81-07-2	Saccharin (manufacturing, no supplier notification)	0.1
81-88-9	C.I. Food Red 15	1.0
82-28-0	1-Amino-2-methylantraquinone	0.1
82-68-8	Quintozene [Pentachloronitrobenzene]	1.0
84-74-2	Dibutyl phthalate	1.0
85-01-8	Phenanthrene	1.0
85-44-9	Phthalic anhydride	1.0
86-30-6	N-Nitrosodiphenylamine	1.0
87-62-7	2,6-Xylidine	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
87-86-5	Pentachlorophenol (PCP)	0.1
88-06-2	2,4,6-Trichlorophenol	0.1
88-75-5	2-Nitrophenol	1.0
88-85-7	Dinitrobutyl phenol (Dinoseb)	1.0
88-89-1	Picric acid	1.0
90-04-0	o-Anisidine	0.1
90-43-7	2-Phenylphenol	1.0
90-94-8	Michler's ketone	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
91-20-3	Naphthalene	1.0
91-22-5	Quinoline	1.0
91-59-8	beta-Naphthylamine	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
92-52-4	Biphenyl	1.0
92-67-1	4-Aminobiphenyl	0.1
92-87-5	Benzidine	0.1
92-93-3	4-Nitrobiphenyl	0.1
93-65-2	Mecoprop	0.1
94-11-1	2,4-D isopropyl ester	0.1
94-36-0	Benzoyl peroxide	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
94-58-6	Dihydrosafrole	0.1
94-59-7	Safrole	0.1
94-74-6	Methoxone	0.1
	((4-Chloro-2-methylphenoxy)acetic acid) (MCPA)	
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]	0.1
94-80-4	2,4-D butyl ester	0.1
94-82-6	2,4-DB	1.0
95-47-6	o-Xylene	1.0
95-48-7	o-Cresol	1.0
95-50-1	1,2-Dichlorobenzene	1.0
95-53-4	o-Toluidine	0.1
95-54-5	1,2-Phenylenediamine	1.0
95-63-6	1,2,4-Trimethylbenzene	1.0
95-69-2	p-Chloro-o-toluidine	0.1
95-80-7	2,4-Diaminotoluene	0.1
95-95-4	2,4,5-Trichlorophenol	1.0
96-09-3	Styrene oxide	0.1
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
96-18-4	1,2,3-Trichloropropane	0.1
96-33-3	Methyl acrylate	1.0
96-45-7	Ethylene thiourea	0.1
97-23-4	Dichlorophene	1.0
	[2,2'-Methylenebis(4-chlorophenol)]	
97-56-3	C.I. Solvent Yellow 3	1.0
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-82-8	Cumene	1.0
98-86-2	Acetophenone	1.0
98-87-3	Benzal chloride	1.0
98-88-4	Benzoyl chloride	1.0
98-95-3	Nitrobenzene	0.1
99-30-9	Dichloran [2,6-Dichloro-4-nitroaniline]	1.0
99-55-8	5-Nitro-o-toluidine	1.0
99-59-2	5-Nitro-o-anisidine	1.0
99-65-0	m-Dinitrobenzene	1.0
100-01-6	p-Nitroaniline	1.0
100-02-7	4-Nitrophenol	1.0
100-25-4	p-Dinitrobenzene	1.0
100-41-4	Ethylbenzene	1.0
100-42-5	Styrene	0.1
100-44-7	Benzyl chloride	1.0
100-75-4	N-Nitrosopiperidine	0.1
101-05-3	Anilazine	1.0
	[4,6-Dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
101-14-4	4,4'-Methylenebis(2-chloroaniline) (MBOCA)	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	0.1
101-77-9	4,4'-Methylenedianiline	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
101-90-6	Diglycidyl resorcinol ether	0.1
104-12-1	p-Chlorophenyl isocyanate	1.0
104-94-9	p-Anisidine	1.0
105-67-9	2,4-Dimethylphenol	1.0
106-42-3	p-Xylene	1.0
106-44-5	p-Cresol	1.0
106-46-7	1,4-Dichlorobenzene	0.1
106-47-8	p-Chloroaniline	0.1
106-50-3	p-Phenylenediamine	1.0
106-51-4	Quinone	1.0
106-88-7	1,2-Butylene oxide	1.0
106-89-8	Epichlorohydrin	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
106-99-0	1,3-Butadiene	0.1
107-02-8	Acrolein	1.0
107-05-1	Allyl chloride	1.0
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.1
107-11-9	Allylamine	1.0
107-13-1	Acrylonitrile	0.1
107-18-6	Allyl alcohol	1.0
107-19-7	Propargyl alcohol	1.0
107-21-1	Ethylene glycol	1.0
107-30-2	Chloromethyl methyl ether	0.1
108-05-4	Vinyl acetate	0.1
108-10-1	Methyl isobutyl ketone	1.0
108-31-6	Maleic anhydride	1.0
108-38-3	m-Xylene	1.0
108-39-4	m-Cresol	1.0
108-45-2	1,3-Phenylenediamine	1.0
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
108-88-3	Toluene	1.0
108-90-7	Chlorobenzene	1.0
108-93-0	Cyclohexanol	1.0
108-95-2	Phenol	1.0
109-06-8	2-Methylpyridine	1.0
109-77-3	Malononitrile	1.0
109-86-4	2-Methoxyethanol	1.0
110-54-3	n-Hexane	1.0
110-57-6	trans-1,4-Dichloro-2-butene	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
110-80-5	2-Ethoxyethanol	1.0
110-82-7	Cyclohexane	1.0
110-86-1	Pyridine	1.0
111-42-2	Diethanolamine	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
111-91-1	Bis(2-chloroethoxy) methane	1.0
114-26-1	Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
115-28-6	Chlorendic acid	0.1
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-4-(chlorophenyl)- .alpha.-(trichloromethyl)-]	1.0
116-06-3	Aldicarb	1.0
117-79-3	2-Aminoanthraquinone	0.1
117-81-7	Di(2-ethylhexyl) phthalate (DEHP)	0.1
118-74-1	Hexachlorobenzene	0.1
119-90-4	3,3'-Dimethoxybenzidine	0.1
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1
120-12-7	Anthracene	1.0
120-36-5	2,4-DP	0.1
120-58-1	Isosafrole	1.0
120-71-8	p-Cresidine	0.1
120-80-9	Catechol	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
120-83-2	2,4-Dichlorophenol	1.0
121-14-2	2,4-Dinitrotoluene	0.1
121-44-8	Triethylamine	1.0
121-69-7	N,N-Dimethylaniline	1.0
121-75-5	Malathion	1.0
122-34-9	Simazine	1.0
122-39-4	Diphenylamine	1.0
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
123-31-9	Hydroquinone	1.0
123-38-6	Propionaldehyde	1.0
123-63-7	Paraldehyde	1.0
123-72-8	Butyraldehyde	1.0
123-91-1	1,4-Dioxane	0.1
124-40-3	Dimethylamine	1.0
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
126-98-7	Methacrylonitrile	1.0
126-99-8	Chloroprene	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.1
128-03-0	Potassium dimethyldithiocarbamate	1.0
128-04-1	Sodium dimethyldithiocarbamate	1.0
128-66-5	C.I. Vat Yellow 4	1.0
131-11-3	Dimethyl phthalate	1.0
131-52-2	Sodium pentachlorophenate	1.0
132-27-4	Sodium o-phenylphenoxide	0.1
132-64-9	Dibenzofuran	1.0
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2- [(trichloromethyl)thio]-]	1.0
133-07-3	Folpet	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0
134-29-2	o-Anisidine hydrochloride	0.1
134-32-7	alpha-Naphthylamine	0.1
135-20-6	Cupferron [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	0.1
136-45-8	Dipropyl isocinchomeronate	1.0
137-26-8	Thiram	1.0
137-41-7	Potassium N-methyldithiocarbamate	1.0
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
138-93-2	Disodium cyanodithioimidocarbonate	1.0
139-13-9	Nitrilotriacetic acid	0.1
139-65-1	4,4'-Thiodianiline	0.1
140-88-5	Ethyl acrylate	0.1
141-32-2	Butyl acrylate	1.0
142-59-6	Nabam	1.0
148-79-8	Thiabendazole [2-(4-Thiazolyl)-1H-benzimidazole]	1.0
149-30-4	2-Mercaptobenzothiazole (MBT)	1.0
150-50-5	Merphos	1.0
150-68-5	Monuron	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
156-10-5	p-Nitrosodiphenylamine	1.0
156-62-7	Calcium cyanamide	1.0
298-00-0	Methyl parathion	1.0
300-76-5	Naled	1.0
301-12-2	Oxydemeton methyl [S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid]	1.0
302-01-2	Hydrazine	0.1
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-]	1.0
314-40-9	Bromacil (5-Bromo-6-methyl-3-(1-methylpropyl)-2,4-(1H,3H)-pyrimidinedione)	1.0
319-84-6	alpha-Hexachlorocyclohexane	1.0
330-54-1	Diuron	1.0
330-55-2	Linuron	1.0
333-41-5	Diazinon	1.0
334-88-3	Diazomethane	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
354-11-0	1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	1.0
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	1.0
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	1.0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	1.0
357-57-3	Brucine	1.0
422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	1.0
422-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	1.0
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	1.0
431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	1.0
460-35-5	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	1.0
463-58-1	Carbonyl sulfide	1.0
465-73-6	Isodrin	1.0
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
505-60-2	Mustard gas [Ethane, 1,1'-thiobis[2-chloro-]]	0.1
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester]	1.0
528-29-0	o-Dinitrobenzene	1.0
532-27-4	2-Chloroacetophenone	1.0
533-74-4	Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione)	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
540-59-0	1,2-Dichloroethylene	1.0
541-41-3	Ethyl chloroformate	1.0
541-53-7	2,4-Dithiobiuret	1.0
541-73-1	1,3-Dichlorobenzene	1.0
542-75-6	1,3-Dichloropropylene	0.1
542-76-7	3-Chloropropionitrile	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
542-88-1	Bis(chloromethyl) ether	0.1
554-13-2	Lithium carbonate	1.0
556-61-6	Methyl isothiocyanate [Isothiocyanatomethane]	1.0
563-47-3	3-Chloro-2-methyl-1-propene	0.1
569-64-2	C.I. Basic Green 4	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
593-60-2	Vinyl bromide	0.1
594-42-3	Perchloromethyl mercaptan	1.0
606-20-2	2,6-Dinitrotoluene	0.1
612-82-8	3,3'-Dimethylbenzidine dihydrochloride (o-Tolidine dihydrochloride)	0.1
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	0.1
615-05-4	2,4-Diaminoanisole	0.1
615-28-1	1,2-Phenylenediamine dihydrochloride	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
624-18-0	1,4-Phenylenediamine dihydrochloride	1.0
624-83-9	Methyl isocyanate	1.0
630-20-6	1,1,1,2-Tetrachloroethane	1.0
636-21-5	o-Toluidine hydrochloride	0.1
639-58-7	Triphenyltin chloride	1.0
680-31-9	Hexamethylphosphoramide	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
709-98-8	Propanil [N-(3,4-Dichlorophenyl)propanamide]	1.0
759-73-9	N-Nitroso-N-ethylurea	0.1
759-94-4	Ethyl dipropylthiocarbamate (EPTC)	1.0
764-41-0	1,4-Dichloro-2-butene	1.0
812-04-4	1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	1.0
834-12-8	Ametryn (N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5-triazine- 2,4-diamine)	1.0
842-07-9	C.I. Solvent Yellow 14	1.0
872-50-4	N-Methyl-2-pyrrolidone	1.0
924-16-3	N-Nitrosodi-n-butylamine	0.1
924-42-5	N-Methylolacrylamide	1.0
957-51-7	Diphenamid	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl) ethenyl dimethyl ester]	1.0
989-38-8	C.I. Basic Red 1	1.0
1114-71-2	Pebulate [Butylethylcarbamothioic acid S-propyl ester]	1.0
1120-71-4	Propane sultone	0.1
1134-23-2	Cycloate	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
1163-19-5	Decabromodiphenyl oxide	1.0
1313-27-5	Molybdenum trioxide	1.0
1314-20-1	Thorium dioxide	1.0
1319-77-3	Cresol (mixed isomers)	1.0
1320-18-9	2,4-D propylene glycol butyl ether ester	0.1
1330-20-7	Xylene (mixed isomers)	1.0
1332-21-4	Asbestos (friable)	0.1
1335-87-1	Hexachloronaphthalene	1.0
1336-36-3	Polychlorinated biphenyls (PCBs)	0.1
1344-28-1	Aluminum oxide (fibrous forms)	1.0
1464-53-5	Diepoxybutane	0.1
1563-66-2	Carbofuran	1.0
1582-09-8	Trifluralin	1.0
	[Benzeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	
1634-04-4	Methyl tert-butyl ether	1.0
1649-08-7	1,1-Dichloro-1,1-difluoroethane (HCFC-132b)	1.0
1689-84-5	Bromoxynil	1.0
	(3,5-Dibromo-4-hydroxybenzoxynil)	
1689-99-2	Bromoxynil octanoate	1.0
	(Octanoic acid, 2,6-dibromo-4-cyanophenyl ester)	
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1.0
1836-75-5	Nitrofen	0.1
	[Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-]	
1861-40-1	Benfluralin	1.0
	(N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)benzenamine)	
1897-45-6	Chlorothalonil	1.0
	[1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	
1910-42-5	Paraquat dichloride	1.0
1912-24-9	Atrazine	0.1
	(6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine)	
1918-00-9	Dicamba	1.0
	(3,6-Dichloro-2-methoxybenzoic acid)	
1918-02-1	Picloram	1.0
1918-16-7	Propachlor	1.0
	[2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	
1928-43-4	2,4-D 2-ethylhexyl ester	0.1
1929-73-3	2,4-D butoxyethyl ester	0.1
1929-82-4	Nitrapyrin	1.0
	(2-Chloro-6-(trichloromethyl)pyridine)	
1937-37-7	C.I. Direct Black 38	0.1
1982-69-0	Sodium dicamba	1.0
	[3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
1983-10-4	Tributyltin fluoride	1.0
2032-65-7	Methiocarb	1.0
2155-70-6	Tributyltin methacrylate	1.0
2164-07-0	Dipotassium endothall	1.0
	[7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid, dipotassium salt]	
2164-17-2	Fluometuron	1.0
	[Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-]	
2212-67-1	Molinate	1.0
	(1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester)	
2234-13-1	Octachloronaphthalene	1.0
2300-66-5	Dimethylamine dicamba	1.0
2303-16-4	Diallate	1.0
	[Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl)ester]	
2303-17-5	Triallate	1.0
2312-35-8	Propargite	1.0
2439-01-2	Chinomethionat	1.0
	[6-Methyl-1,3-dithiolo[4,5-b]quinoxalin-2-one]	
2439-10-3	Dodine	1.0
	[Dodecylguanidine monoacetate]	
2524-03-0	Dimethyl chlorothiophosphate	1.0
2602-46-2	C.I. Direct Blue 6	0.1
2655-15-4	2,3,5-Trimethylphenyl methylcarbamate	1.0
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
2702-72-9	2,4-D sodium salt	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	1.0
2971-38-2	2,4-D chlorocrotyl ester	0.1
3118-97-6	C.I. Solvent Orange 7	1.0
3383-96-8	Temephos	1.0
3653-48-3	Methoxone sodium salt	0.1
	((4-Chloro-2-methylphenoxy)acetate sodium salt)	
3761-53-3	C.I. Food Red 5	0.1
4080-31-3	1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	1.0
4170-30-3	Crotonaldehyde	1.0
4549-40-0	N-Nitrosomethylvinylamine	0.1
4680-78-8	C.I. Acid Green 3	1.0
5234-68-4	Carboxin	1.0
	(5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiin-3-carboxamide)	
5598-13-0	Chlorpyrifos methyl	1.0
	[O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate]	

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
5902-51-2	Terbacil [5-Chloro-3-(1,1-dimethylethyl)-6-methyl-2,4(1H,3H)-pyrimidinedione]	1.0
6459-94-5	C.I. Acid Red 114	0.1
7287-19-6	Prometryn [N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	1.0
7429-90-5	Aluminum (fume or dust)	1.0
7439-92-1	Lead	0.1
7439-96-5	Manganese	1.0
7439-97-6	Mercury	1.0
7440-02-0	Nickel	0.1
7440-22-4	Silver	1.0
7440-28-0	Thallium	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
7440-39-3	Barium	1.0
7440-41-7	Beryllium	0.1
7440-43-9	Cadmium	0.1
7440-47-3	Chromium	1.0
7440-48-4	Cobalt	0.1
7440-50-8	Copper	1.0
7440-62-2	Vanadium (fume or dust)	1.0
7440-66-6	Zinc (fume or dust)	1.0
7550-45-0	Titanium tetrachloride	1.0
7632-00-0	Sodium nitrite	1.0
7637-07-2	Boron trifluoride	1.0
7647-01-0	Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
7664-38-2	Phosphoric acid	1.0
7664-39-3	Hydrogen fluoride	1.0
7664-41-7	Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	1.0
7664-93-9	Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
7696-12-0	Tetramethrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
7697-37-2	Nitric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
7726-95-6	Bromine	1.0
7758-01-2	Potassium bromate	0.1
7782-41-4	Fluorine	1.0
7782-49-2	Selenium	1.0
7782-50-5	Chlorine	1.0
7783-06-4	Hydrogen sulfide <sup>3</sup>	1.0
7786-34-7	Mevinphos	1.0
7803-51-2	Phosphine	1.0
8001-35-2	Toxaphene	0.1
8001-58-9	Creosote	0.1
9006-42-2	Metiram	1.0
10028-15-6	Ozone	1.0
10034-93-2	Hydrazine sulfate	0.1
10049-04-4	Chlorine dioxide	1.0
10061-02-6	trans-1,3-Dichloropropene	0.1
10222-01-2	2,2-Dibromo-3-nitrilopropionamide <sup>2</sup>	1.0
10294-34-5	Boron trichloride	1.0
10453-86-8	Resmethrin	1.0
	[[5-(Phenylmethyl)-3-furanyl]methyl-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate]	
12122-67-7	Zineb	1.0
	[Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex]	
12427-38-2	Maneb	1.0
	[Carbamodithioic acid, 1,2-ethanediylbis-, manganese complex]	
13194-48-4	Ethoprop	1.0
	[Phosphorodithioic acid O-ethyl S,S-dipropyl ester]	
13356-08-6	Fenbutatin oxide	1.0
	(Hexakis(2-methyl-2-phenylpropyl)distannoxane)	
13463-40-6	Iron pentacarbonyl	1.0
13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	1.0
13684-56-5	Desmedipham	1.0
14484-64-1	Ferbam	1.0
	[Tris(dimethylcarbamodithioato-S,S')iron]	
15972-60-8	Alachlor	1.0

<sup>3</sup>On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for hydrogen sulfide until the stay is removed.

<sup>2</sup>On October 27, 1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxic Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed.

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
16071-86-6	C.I. Direct Brown 95	0.1
16543-55-8	N-Nitrosornicotine	0.1
17804-35-2	Benomyl	1.0
19044-88-3	Oryzalin	1.0
19666-30-9	[4-(Dipropylamino)-3,5-dinitrobenzenesulfonamide] Oxydiazon	1.0
20325-40-0	[3-[2,4-Dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethyl-ethyl)-1,3,4-oxadiazol-2(3H)-one] 3,3'-Dimethoxybenzidine dihydrochloride (o-Dianisidine dihydrochloride)	0.1
20354-26-1	Methazole [2-(3,4-Dichlorophenyl)-4-methyl-1,2,4-oxadiazolidine-3,5-dione]	1.0
20816-12-0	Osmium tetroxide	1.0
20859-73-8	Aluminum phosphide	1.0
21087-64-9	Metribuzin	1.0
21725-46-2	Cyanazine	1.0
22781-23-3	Bendiocarb [2,2-Dimethyl-1,3-benzodioxol-4-ol methylcarbamate]	1.0
23564-05-8	Thiophanate-methyl	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis(iminocarbonothioyl)]biscarbamic acid diethyl ester]	1.0
23950-58-5	Pronamide	1.0
25311-71-1	Isofenphos [2-[[Ethoxyl[(1-methylethyl)amino]phosphinothioyl]oxy]benzoic acid 1-methylethyl ester]	1.0
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
26002-80-2	Phenothrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester]	1.0
26471-62-5	Toluene diisocyanate (mixed isomers)	0.1
26628-22-8	Sodium azide	1.0
26644-46-2	Triforine [N,N'-[1,4-Piperazinediyl]bis(2,2,2-trichloroethylidene)]bisformamide]	1.0
27314-13-2	Norflurazon [4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone]	1.0
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrine]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
28249-77-6	Thiobencarb [Carbamic acid, diethylthio-, S-(p-chlorobenzyl)ester]	1.0
28407-37-6	C.I. Direct Blue 218	1.0
29232-93-7	Pirimiphos methyl [O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethyl phosphorothioate]	1.0
30560-19-1	Acephate (Acetylphosphoramidothioic acid O,S-dimethyl ester)	1.0
31218-83-4	Propetamphos [3-[(Ethylamino)methoxyphosphinothioyl]oxy]-2-butenic acid, 1-methylethyl ester]	1.0
33089-61-1	Amitraz	1.0
34014-18-1	Tebuthiuron [N-[5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl]-N,N'-dimethylurea]	1.0
34077-87-7	Dichlorotrifluoroethane	1.0
35367-38-5	Diflubenzuron	1.0
35400-43-2	Sulprofos [O-Ethyl O-[4-(methylthio)phenyl]phosphorodithioic acid S-propyl ester]	1.0
35554-44-0	Imazalil [1-[2-(2,4-Dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole]	1.0
35691-65-7	1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	1.0
38727-55-8	Diethyl ethyl	1.0
39156-41-7	2,4-Diaminoanisole sulfate	0.1
39300-45-3	Dinocap	1.0
39515-41-8	Fenpropathrin [2,2,3,3-Tetramethylcyclopropane carboxylic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
40487-42-1	Pendimethalin [N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	1.0
41198-08-7	Profenofos [O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl-phosphorothioate]	1.0
41766-75-0	3,3'-Dimethylbenzidine dihydrofluoride (o-Tolidine dihydrofluoride)	0.1
42874-03-3	Oxyfluorfen	1.0
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
50471-44-8	Vinclozolin [3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazol- idinedione]	1.0
51235-04-2	Hexazinone	1.0
51338-27-3	Diclofop methyl [2-[4-(2,4-Dichlorophenoxy)phenoxy]propanoic acid, methyl ester]	1.0
51630-58-1	Fenvalerate [4-Chloro-alpha-(1-methylethyl)benzeneacetic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
52645-53-1	Permethrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropane carboxylic acid, (3-phenoxyphenyl)methyl ester]	1.0
53404-19-6	Bromacil, lithium salt [2,4(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3- (1-methylpropyl), lithium salt]	1.0
53404-37-8	2,4-D 2-ethyl-4-methylpentyl ester	0.1
53404-60-7	Dazomet, sodium salt [Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione, ion(1-), sodium]	1.0
55290-64-7	Dimethipin [2,3,-Dihydro-5,6-dimethyl-1,4-dithiin-1,1,4,4-tetraoxide]	1.0
55406-53-6	3-Iodo-2-propynyl butylcarbamate	1.0
57213-69-1	Triclopyr triethylammonium salt	1.0
59669-26-0	Thiodicarb	1.0
60168-88-9	Fenarimol [.alpha.-(2-Chlorophenyl)-.alpha.-4-chlorophenyl)- 5-pyrimidinemethanol]	1.0
60207-90-1	Propiconazole [1-[2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]- methyl-1H-1,2,4-triazole]	1.0
62476-59-9	Acifluorfen, sodium salt [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid, sodium salt]	1.0
63938-10-3	Chlorotetrafluoroethane	1.0
64902-72-3	Chlorsulfuron [2-Chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]benzenesulfonamide]	1.0
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
66441-23-4	Fenoxaprop ethyl [2-(4-((6-Chloro-2-benzoxazolyl)oxy)phenoxy)propanoic acid, ethyl ester]	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
67485-29-4	Hydramethylnon [Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone[3-[4-(trifluoromethyl)phenyl]-1-[2-[4-(trifluoromethyl)phenyl]ethenyl]-2-propenylidene]hydrazone]	1.0
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-Dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl) methyl ester]	1.0
68359-37-5	Cyfluthrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl)methyl ester]	1.0
69409-94-5	Fluvalinate [N-[2-Chloro-4-(trifluoromethyl)phenyl]-DL-valine (+)-cyano(3-phenoxyphenyl)methyl ester]	1.0
69806-50-4	Fluazifop butyl [2-[4-[[5-(Trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoic acid, butyl ester]	1.0
71751-41-2	Abamectin [Avermectin B1]	1.0
72178-02-0	Fomesafen [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-N methylsulfonyl]-2-nitrobenzamide]	1.0
72490-01-8	Fenoxycarb [2-(4-Phenoxyphenoxy)ethylcarbamic acid ethyl ester]	1.0
74051-80-2	Sethoxydim [2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	1.0
76578-14-8	Quizalofop-ethyl [2-[4-[(6-Chloro-2-quinoxalinyloxy]phenoxy]propanoic acid ethyl ester]	1.0
77501-63-4	Lactofen [Benzoic acid, 5-[2-Chloro-4-(trifluoromethyl)phenoxy]-2-nitro-, 2-ethoxy-1-methyl-2-oxoethyl ester]	1.0
82657-04-3	Bifenthrin	1.0
88671-89-0	Myclobutanil [.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile]	1.0
90454-18-5	Dichloro-1,1,2-trifluoroethane	1.0
90982-32-4	Chlorimuron ethyl [Ethyl-2-[[[(4-chloro-6-methoxyprimidin-2-yl)amino]carbonyl]-amino]sulfonyl]benzoate]	1.0
101200-48-0	Tribenuron methyl [2-[[[(4-Methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]-carbonyl]amino]sulfonyl]benzoic acid, methyl ester]	1.0
111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	1.0

<i>CAS Number</i>	<i>Chemical Name</i>	<i>De Minimis Concentration</i>
111984-09-9	3,3'-Dimethoxybenzidine hydrochloride (o-Dianisidine hydrochloride)	0.1
127564-92-5	Dichloropentafluoropropane	1.0
128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	1.0
136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	1.0

## Section 4. Chemical Categories

---

Section 313 requires reporting on the toxic chemical categories listed below, in addition to the specific toxic chemicals listed above.

The metal compounds listed below, unless otherwise specified, are defined as including any unique chemical substance that contains the named metal (e.g., antimony, nickel, etc.) as part of that chemical's structure.

Toxic chemical categories are subject to the 1 percent *de minimis* concentration unless the substance involved meets the definition of an OSHA carcinogen in which case the 0.1 percent *de minimis* concentration applies. The *de minimis* concentration for each category is provided in parentheses.

### *Chemical Categories*

#### Antimony Compounds (1.0)

*Includes any unique chemical substance that contains antimony as part of that chemical's infrastructure.*

#### Arsenic Compounds (inorganic compounds: 0.1; organic compounds: 1.0)

*Includes any unique chemical substance that contains arsenic as part of that chemical's infrastructure.*

#### Barium Compounds (1.0)

*Includes any unique chemical substance that contains barium as part of that chemical's infrastructure.*

*This category does not include: Barium sulfate CAS Number 7727-43-7*

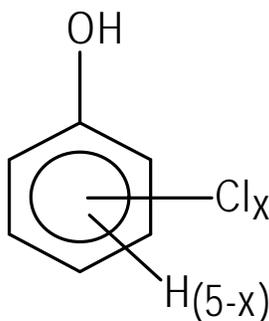
#### Beryllium Compounds (0.1)

*Includes any unique chemical substance that contains beryllium as part of that chemical's infrastructure.*

#### Cadmium Compounds (0.1)

*Includes any unique chemical substance that contains cadmium as part of that chemical's infrastructure.*

#### Chlorophenols (0.1)



*Where x = 1 to 5*

Chromium Compounds (chromium VI compounds: 0.1; chromium III compounds: 1.0)

*Includes any unique chemical substance that contains chromium as part of that chemical's infrastructure.*

Cobalt Compounds (0.1)

*Includes any unique chemical substance that contains cobalt as part of that chemical's infrastructure.*

Copper Compounds (1.0)

*Includes any unique chemical substance that contains copper as part of that chemical's infrastructure.*

*This category does not include copper phthalocyanine compounds that are substituted with only hydrogen, and/or chlorine, and/or bromine.*

Cyanide Compounds (1.0)

*X<sup>+</sup>CN<sup>-</sup> where X = H<sup>+</sup> or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>*

Diisocyanates (1.0)

This category includes only those chemicals listed below.

38661-72-2	1,3-Bis(methylisocyanate)cyclohexane
10347-54-3	1,4-Bis(methylisocyanate)cyclohexane
2556-36-7	1,4-Cyclohexane diisocyanate
134190-37-7	Diethyldiisocyanatobenzene
4128-73-8	4,4'-Diisocyanatodiphenyl ether
75790-87-3	2,4'-Diisocyanatodiphenyl sulfide
91-93-0	3,3'-Dimethoxybenzidine-4,4'-diisocyanate
91-97-4	3,3'-Dimethyl-4,4'-diphenylene diisocyanate
139-25-3	3,3'-Dimethyldiphenylmethane-4,4'-diisocyanate
822-06-0	Hexamethylene-1,6-diisocyanate
4098-71-9	Isophorone diisocyanate
75790-84-0	4-Methyldiphenylmethane-3,4-diisocyanate
5124-30-1	1,1-Methylenebis(4-isocyanatocyclohexane)
101-68-8	Methylenebis(phenylisocyanate) (MDI)
3173-72-6	1,5-Naphthalene diisocyanate
123-61-5	1,3-Phenylene diisocyanate
104-49-4	1,4-Phenylene diisocyanate
9016-87-9	Polymeric diphenylmethane diisocyanate
16938-22-0	2,2,4-Trimethylhexamethylene diisocyanate
15646-96-5	2,4,4-Trimethylhexamethylene diisocyanate

Ethylenebisdithiocarbamic acid, salts and esters (EBDCs) (1.0)

*Includes any unique chemical substance that is or that contains EBDC or an EBDC salt or ester as part of that chemical's infrastructure.*

Certain Glycol Ethers (1.0)



Where  $n = 1, 2, \text{ or } 3$

$R = \text{alkyl C7 or less; or}$

$R = \text{phenyl or alkyl substituted phenyl;}$

$R' = H, \text{ or alkyl C7 or less; or}$

$OR'$  consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

Lead Compounds (inorganic compounds: 0.1; organic compounds 1.0)

*Includes any unique chemical substance that contains lead as part of that chemical's infrastructure.*

Manganese Compounds (1.0)

*Includes any unique chemical substance that contains manganese as part of that chemical's infrastructure.*

Mercury Compounds (1.0)

*Includes any unique chemical substance that contains mercury as part of that chemical's infrastructure.*

Nickel Compounds (0.1)

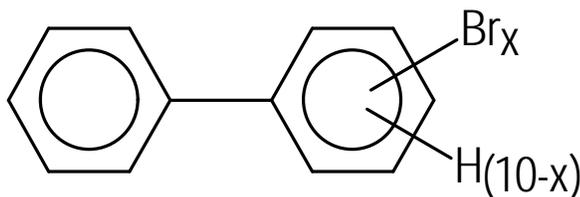
*Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.*

Nicotine and salts (1.0)

*Includes any unique chemical substance that contains nicotine or a nicotine salt as part of that chemical's infrastructure.*

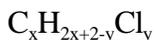
Nitrate compounds (water dissociable; reportable only when in aqueous solution) (1.0)

Polybrominated Biphenyls (PBBs) (0.1)



Where  $x = 1 \text{ to } 10$

Polychlorinated alkanes (C10 to C13) (1.0, except for those members of the category that have an average chain length of 12 carbons and contain an average chlorine content of 60 percent by weight which are subject to the 0.1 percent *de minimis*)



where  $x = 10 \text{ to } 13;$

$y = 3 \text{ to } 12;$  and

the average chlorine content ranges from 40 - 70% with the limiting molecular formulas



Polycyclic aromatic compounds (PACs) (0.1, except for benzo(a)phenanthrene and dibenzo(a,e)fluoranthene which are subject to the 1.0 percent *de minimis*)

This category includes only those chemicals listed below.

56-55-3	Benz(a)anthracene
205-99-2	Benzo(b)fluoranthene
205-82-3	Benzo(j)fluoranthene
207-08-9	Benzo(k)fluoranthene
189-55-9	Benzo(rst)pentaphene
218-01-9	Benzo(a)phenanthrene
50-32-8	Benzo(a)pyrene
226-36-8	Dibenz(a,h)acridine
224-42-0	Dibenz(a,j)acridine
53-70-3	Dibenzo(a,h)anthracene
194-59-2	7H-Dibenzo(c,g)carbazole
5385-75-1	Dibenzo(a,e)fluoranthene
192-65-4	Dibenzo(a,e)pyrene
189-64-0	Dibenzo(a,h)pyrene
191-30-0	Dibenzo(a,l)pyrene
57-97-6	7,12-Dimethylbenz(a)anthracene
193-39-5	Indeno[1,2,3-cd]pyrene
3697-24-3	5-Methylchrysene
5522-43-0	1-Nitropyrene

Selenium Compounds (1.0)

*Includes any unique chemical substance that contains selenium part of that chemical's infrastructure.*

Silver Compounds (1.0)

*Includes any unique chemical substance that contains silver part of that chemical's infrastructure.*

Strychnine and salts (1.0)

*Includes any unique chemical substance that contains strychnine or a strychnine salt as part of that chemical's infrastructure.*

Thallium Compounds (1.0)

*Includes any unique chemical substance that contains thallium as part of that chemical's infrastructure.*

Warfarin and salts (1.0)

*Includes any unique chemical substance that contains warfarin or a warfarin salt as part of that chemical's infrastructure.*

Zinc Compounds (1.0)

*Includes any unique chemical substance that contains zinc as part of that chemical's infrastructure.*

## Appendix B: Glossary

The following terms will be useful when reviewing information found in this report and when requesting other specific reports from the Emergency Response Commission:

**Accidental Release:** The quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes.

**Chemical Abstracts Service Registry Number (CAS #):** A numeric designation assigned by the American Chemical Society's Chemical Abstracts Service which uniquely identifies a chemical.

**Chemical Name:** Chemicals and chemical categories as they appear on the Section 313 Toxic Chemical List.

**De Minimis Concentration:** A level below which a listed chemical does not need to be considered when it is present in mixtures. In general, the de minimis concentration is 1.0%, or 0.1% if the chemical meets the OSHA carcinogen standard.

**Energy Recovery Off-Site:** The quantity of the toxic chemical that is sent off-site for energy recovery.

**Energy Recovery On-Site:** The quantity of the toxic chemical that is used for energy recovery on-site.

**ERC ID:** Emergency Response Commission Identification Number assigned to each facility in the state reporting under the "Emergency Planning and Community Right-to-Know Act" (SARA Title III). The first two digits represent the county in which the facility is located, the next three digits represent the city within that county, and the final four digits are assigned in sequential order. All toxic release reporting by a facility is tracked through its ERC ID Number.

**Facility:** All buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person.

**Follow Year:** The year following the reporting year.

**Fugitive Air:** Fugitive or non-point air emissions are the total releases to the air that are not released through stacks, vents, dusts, pipes, or any other confined air stream. Includes fugitive equipment leaks from: (1) valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.; (2) evaporative losses from surface impoundments and spills; (3) releases from building ventilation systems; and (4) any other fugitive or non-point air emissions.

**Manufacture:** To produce, prepare, import or compound one of the chemicals on the list. For example, if a facility makes a dye for clothing by taking raw materials and reacting them, the facility is manufacturing the dye. A facility would also be covered if it was a textile manufacturer who imported a dye on the list for purposes of applying it to a fabric produced at the plant.

**Methods To Identify Activity:** Internal and external methods or information sources used to identify the possibility for a source reduction activity implemented at the facility.

**Methods Used:** Identifies the type of waste treatment, disposal, recycling, or energy recovery method used by the off-site location for the chemical being reported.

**Off-Site Locations:** Locations outside the boundaries of a facility to which wastes are transported for treatment, recycling, energy recovery, or disposal.

**Off-Site Transfers:** Transfers of the chemical in waste to off-site locations. Includes the total quantity of the chemical sent to any of the off-site waste treatment, disposal, recycling, or energy recovery facilities.

**On-Site Land:** Releases to the land on-site within the boundaries of the facility. Includes landfill, land treatment, surface impoundment, etc.

**Otherwise Use:** Any use of a toxic chemical at a facility that is not covered by the terms "manufacture" or "process" and includes use of a toxic chemical contained in a mixture or trade name product.

**Process:** Process, in general, includes making mixtures, repackaging, or using a chemical as a feedstock, raw material, or starting materials for making another chemical. Processing also includes incorporating a chemical into an article (e.g., using dyes to color fabric [the fabric is the article that the dye is being incorporated into]).

**Production Ratio/Activity Index:** The production ratio or activity index which is determined by dividing the current year's production (or activity) by the prior year's production (or activity). This ratio should reflect production or activities most closely associated with the manufacture, process, or use of the reported toxic chemical.

**Public Sewage:** Publicly Owned Treatment Works (POTW) responsible for wastewater treatment.

**Recycled Off-Site:** The quantity of the toxic chemical that is sent off-site for recycling.

**Recycled On-Site:** The quantity of the toxic chemical that is recycled (i.e., the quantity of the chemical exiting or resulting from the recycling operation) on-site.

**Releases:** Releases to the environment including air, surface water, on-site land, and off-site landfill.

**2nd Year:** The year two years following the reporting year.

**SIC Code:** Standard Industrial Classification Code used to segregate industry by economic activity.

**Source Reduction Activities:** Types of source reduction activities implemented in the reporting year.

**Stack Air:** Stack or point air emissions are the total of all releases to air that occur through stacks, vents, ducts, pipes, or other confined air streams. This includes storage tank emissions. Air releases from air pollution control equipment would generally fall in this category.

**Surface Water:** Discharges to receiving streams or water bodies includes the total annual amount of the chemical released from all discharge points at the facility to each receiving stream or water body. It also includes process outfalls such as pipes and open trenches, releases from on-site wastewater treatment systems, and the contribution from stormwater runoff, if applicable. This does not include discharges to a Publicly Owned Treatment Works (POTW) or other off-site wastewater treatment facilities. Discharges of listed acids may be reported as zero if the discharges have been neutralized to pH 6 or above.

**Thresholds:** Volumes of chemicals that trigger reporting requirements. If a facility manufactures or processes any of the listed toxic chemicals, the threshold quantity is:

- \* 75,000 pounds during calendar year 1987;
- \* 50,000 pounds in 1988; and
- \* 25,000 pounds in 1989 and subsequent years.

If a facility uses any listed chemical in any other way (without incorporating it into any product or producing it at the facility), the threshold quantity is:

- \* 10,000 pounds in calendar year 1987 and in subsequent years.

**Total Releases and Transfers:** Releases to the environment including air, surface water, and on-site land; in addition to transfers off-site to a Publicly Owned Treatment Works (POTW) and/or any off-site treatment, disposal, recycling, or energy recovery facility.

**Treated Off-site:** The quantity of the toxic chemical that was sent off-site for the purpose of waste treatment.

**Treated On-site:** The quantity of the toxic chemical entering treatment on-site.

**TRI Chemical List:** A list of chemicals or chemical categories on which facilities must file release reports under Section 313 of Title III. A chemical may be added to the list if it is known to cause or can reasonably be anticipated to cause significant adverse acute health effects outside a facility as a result of continuous or frequently recurring releases. In addition, chemicals may be added if they cause or may reasonably be anticipated to cause cancer or birth defects or serious or irreversible reproductive dysfunctions, neurological disorders, heritable genetic mutations or other chronic health effects. A chemical that causes or may cause a significant adverse effect on the environment may be included. The U.S. Environmental Protection Agency may delete chemicals from the list if there is not sufficient evidence to establish any of the criteria described above. The TRI Chemical List is included in Appendix A.

**Year:** The year in which the data was collected and reported by the facility. Section 313 data is required to be reported by July 1 of every year, covering releases and transfers for the previous reporting (calendar) year.