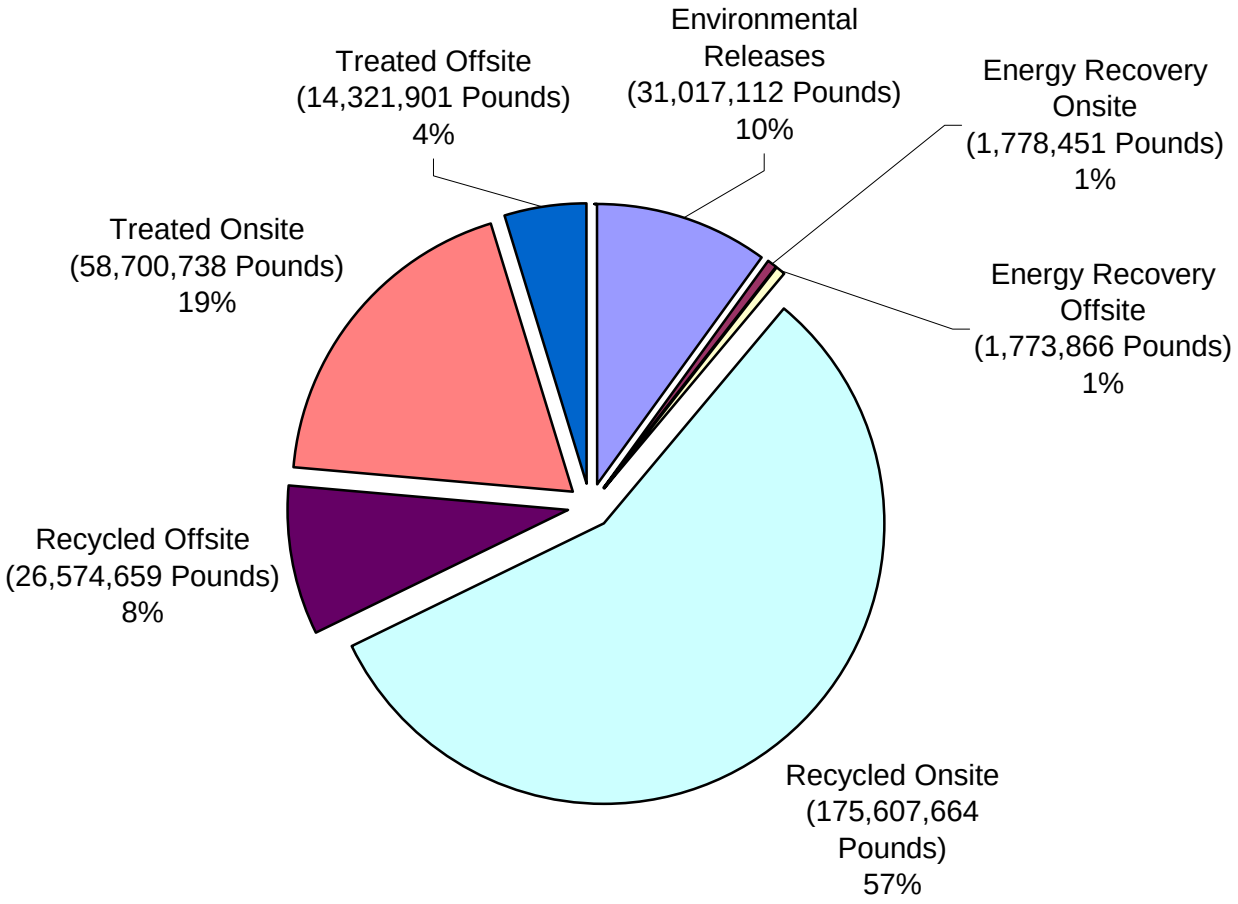
2002 Right-To-Know Chemical Information Report

State of Minnesota

A Summary of Toxic Release Inventory and Pollution Prevention Reports



Total Pounds: 309,774,392

Minnesota Public Safety HSEM Homeland Security Emergency Management

Minnesota Emergency Response Commission

Department of Public Safety
November 2003

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Preface

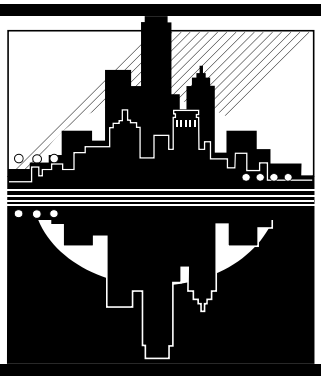
This report, covering calendar year 2002, is the annual summary of chemical management reports submitted by facilities in the State of Minnesota.

The Minnesota Emergency Response Commission prepared this report to enhance accessibility to the data and to facilitate 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. In addition, contact the U.S. Environmental Protection Agency's Title III Call Center at 1-800-424-9346 or visit their website at 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
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User's Guide to the *2002 Right-to-Know Chemical Information Report*

What is this report about?

This report summarizes chemical management activities for 425 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?

For a written or graphic summary, please see pages 7 to 13.

For information about the Commission and SARA Title III, see pages 5 to 18.

For a sample of the type of information available for your community, turn to page 33. A complete listing is available from the Emergency Response Commission (651-297-7372 or www.erc.state.mn.us).

For a ranking of facilities by environmental releases, see pages 19-20.

For a ranking of facilities by pounds of chemicals managed, see pages 21-22.

For a ranking of facilities by total air releases, see page 23.

For a statewide ranking of facilities reporting Dioxin and Dioxin-like Compounds, see page 24.

For a statewide ranking of facilities reporting Mercury and Mercury Compounds, see page 25.

For a statewide ranking of facilities reporting Lead and Lead Compounds, see pages 26-31.

For a statewide ranking of the number of facilities in each county reporting environmental releases, off-site transfers, and total chemicals managed, see page 32.

For a statewide ranking of chemical air releases in pounds, see pages 59-60.

For a statewide ranking of air releases by hazard potential, see pages 61-62.

For an overview and explanation of the “core” set of chemicals reported from 1988-2002 see pages 40-47.

For information on pollution prevention activities at facilities and a sample of information available for your community, turn to pages 48-55. A complete listing is available from the Emergency Response Commission (651-297-7372).

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) in accord with the facility reporting requirements of SARA Title III, Section 313, and the requirements of the Minnesota Toxic Pollution Prevention Act.

Why is this report important?

1. It gives a facility a reason to review and evaluate its operations: Each facility that completes the reporting process has the opportunity to compare this year's chemical management processes to those of previous years. 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 425 facilities. These facilities are from select industrial classifications, have more than ten employees and use more than a specific amount 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 at 651-297-7372 or visit our website at www.erc.state.mn.us. 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 statute, 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 imposes 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 356 "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 establish 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 departments, law enforcement, medical services, emergency management, business and industry, labor, community groups, elected officials, and four state agencies (For a listing of the members, please visit the ERC website at www.erc.state.mn.us.) The Office of the Emergency Response Commission is part of the Minnesota Department of Public Safety, Division of Homeland Security and 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.

The Commission's duties include the following:

- 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. A Regional Review Committee has nine members representing emergency response organizations, facilities regulated under the law, and the public (For a listing of the members, please visit the ERC website at www.erc.state.mn.us.)

II. Chair's Report: A Summary of the *2002 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. In addition, the Minnesota Legislature required additional facilities in 14 non-manufacturing sectors to begin reporting in 1994. Lastly, 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.

In 1990, the Minnesota Legislature enacted 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 2002:

In 2002, 425 facilities reported releases of 31 million pounds to the environment, while the total amount of chemicals managed was 309.8 million pounds. This compares to 432 facilities reporting 32.6 million pounds of environmental releases in 2001 with 321.4 million pounds of chemicals being managed. In 2000, 409 facilities reported 34.5 million pounds of environmental releases and 346.6 million pounds of chemicals managed (Figures 1 & 3). For the 2002 reporting year, 118 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 70% of total environmental releases. Based on the ranking in Part IV, Attachment 2, the top twenty facilities account for 88% of total chemicals managed. The chemicals most commonly *managed* were Lead Compounds, Methanol, Methyl Ethyl Ketone, Ammonia and Copper Compounds. The chemicals most commonly *released* to the environment were Barium Compounds, Copper Compounds, Zinc Compounds, Manganese Compounds and Methanol.

377 facilities filed 1104 Pollution Prevention Progress Reports for 2002. Each Progress Report represents a pollution prevention objective for a chemical. Of the reports filed, 46% established a numerical objective and 54% established non-numeric objectives. 67% of the Progress Reports indicated the objectives have been met and 33% 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; technical limitations of the production process, concerns that product quality may decline as a result of source reduction, and that pollution prevention was previously implemented, therefore, additional reduction does not appear to be technically feasible.

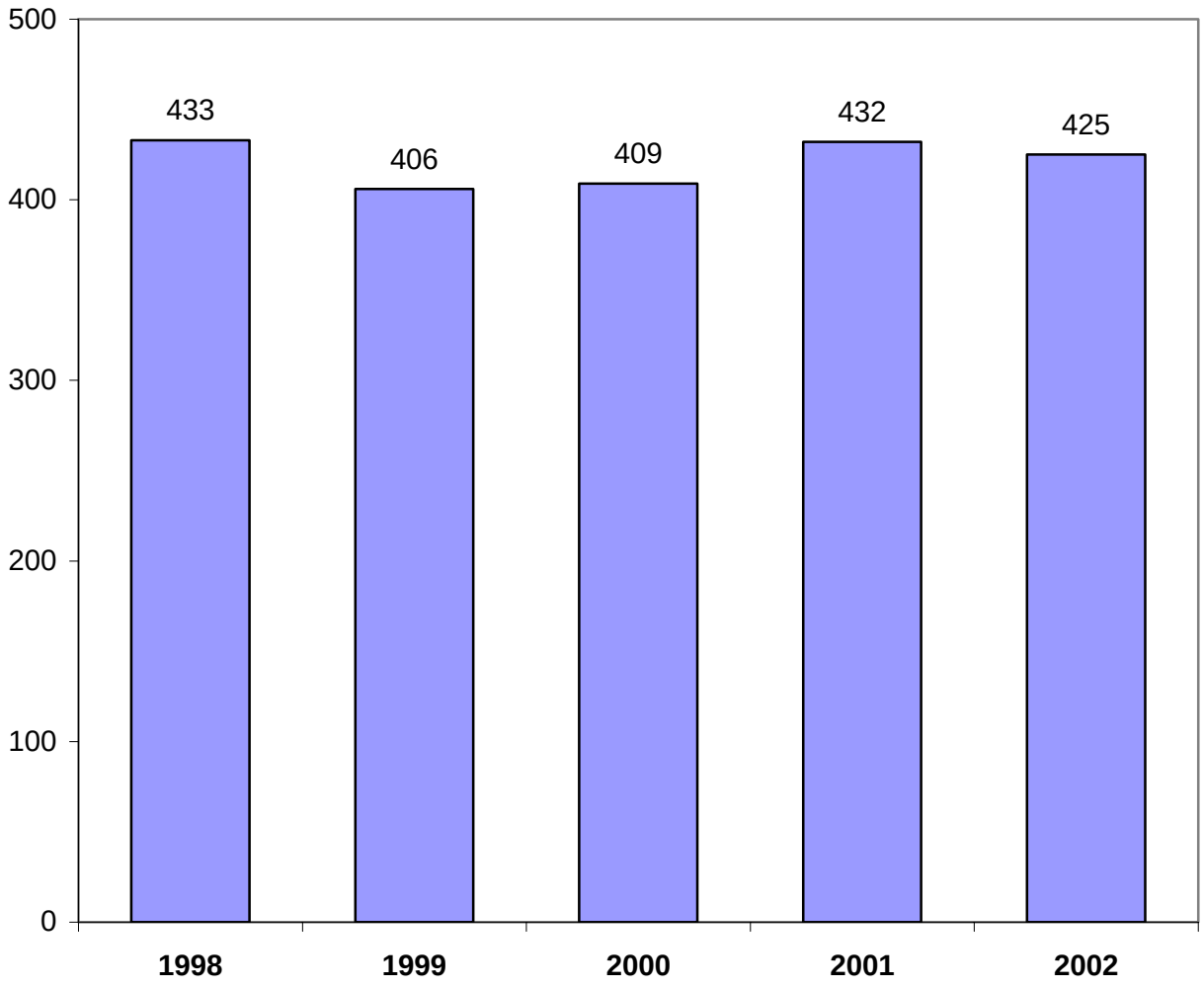
The top three chemicals in terms of total pounds of air releases were Methanol, n-Hexane and Ammonia. The top three chemicals in terms of hazard potential were Mercury, Lead and Copper.

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

E. Roscoe Evavold
Chair

III. Summary of Chemical Information Reported Under SARA Title III

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



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Minnesota Emergency Response Commission

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

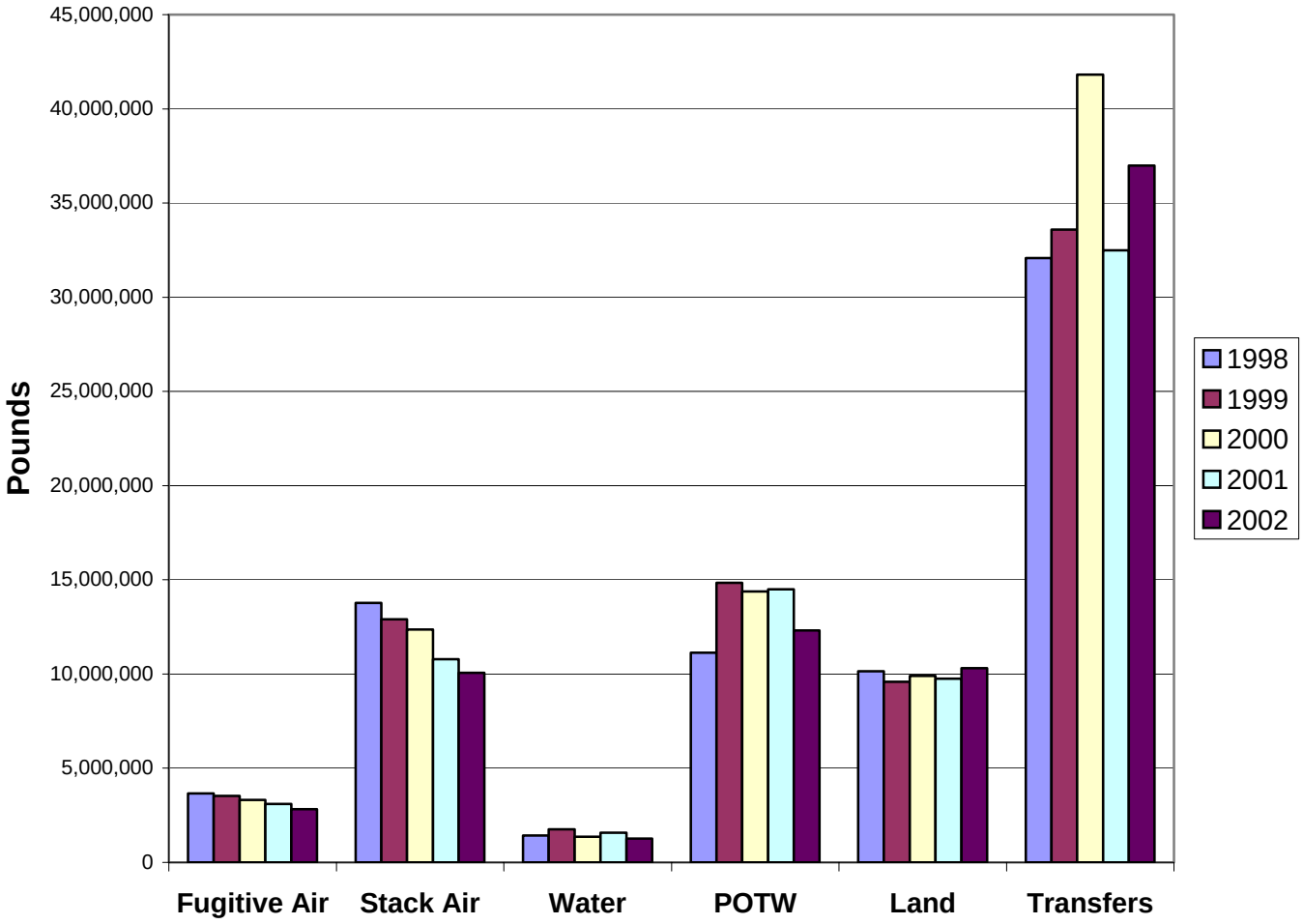

Figure 3: Environmental Releases and Chemical Management (Section 8, Form R)

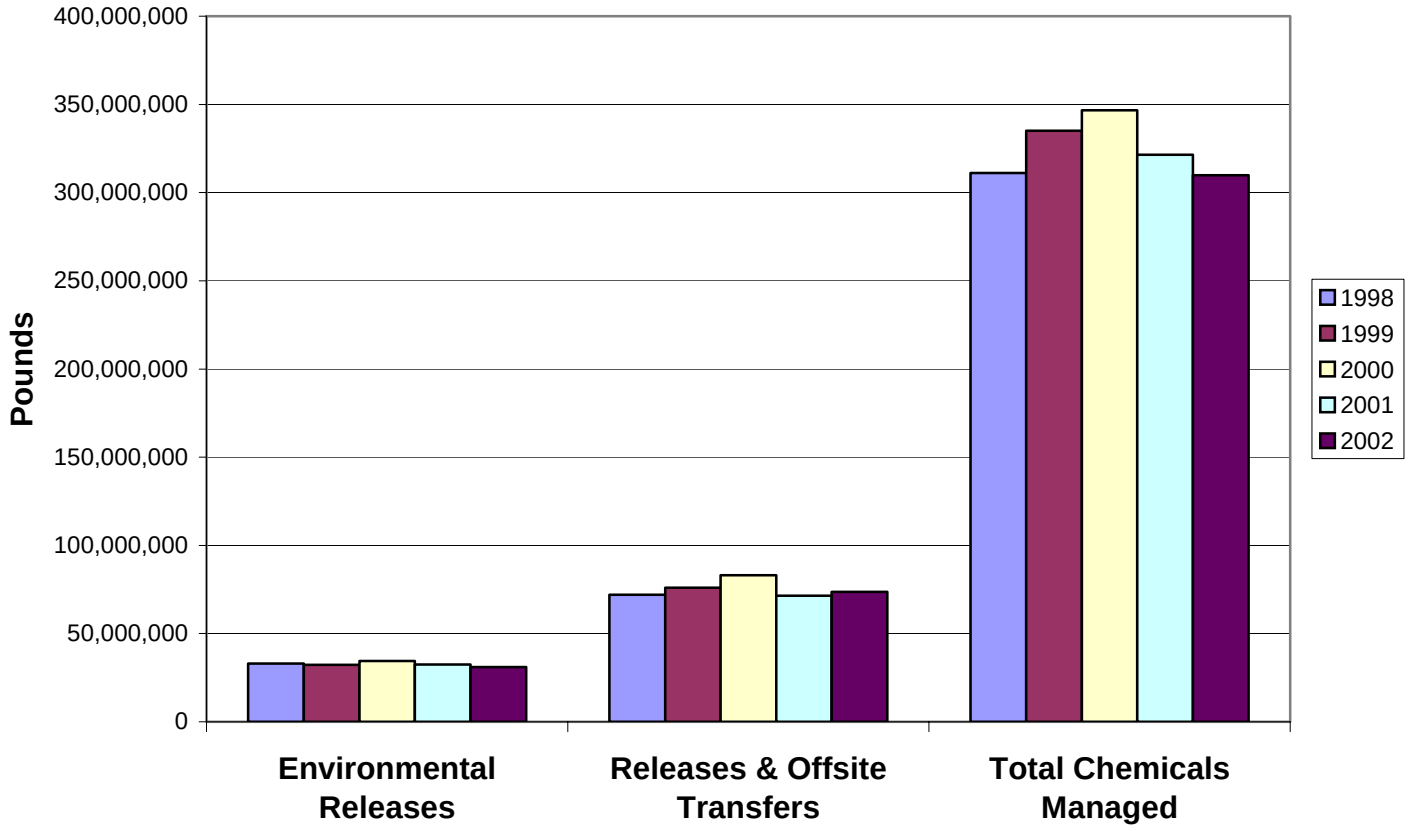

Figure 4: Facilities Filing Toxic Release Inventory (TRI) Reports by County

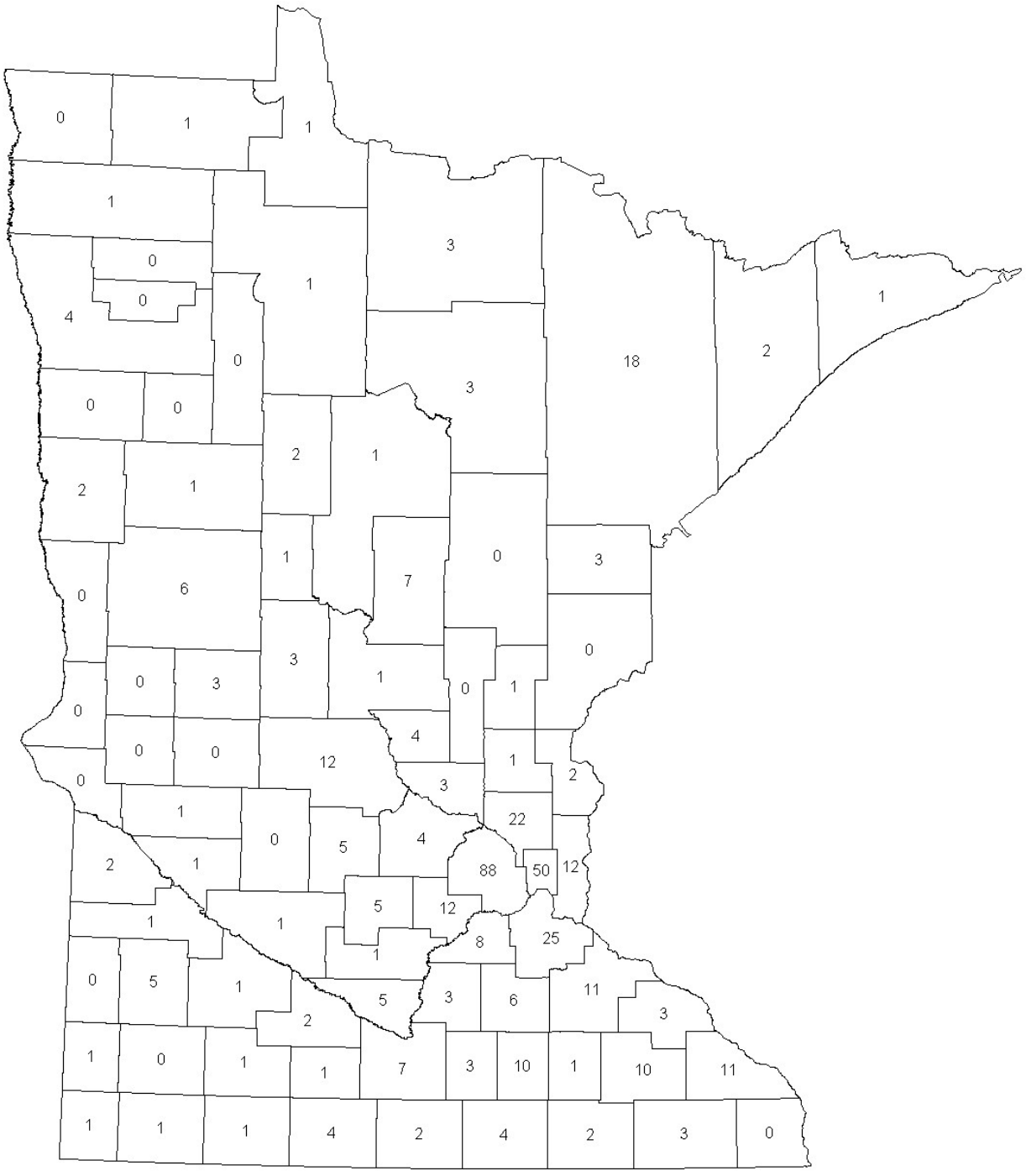

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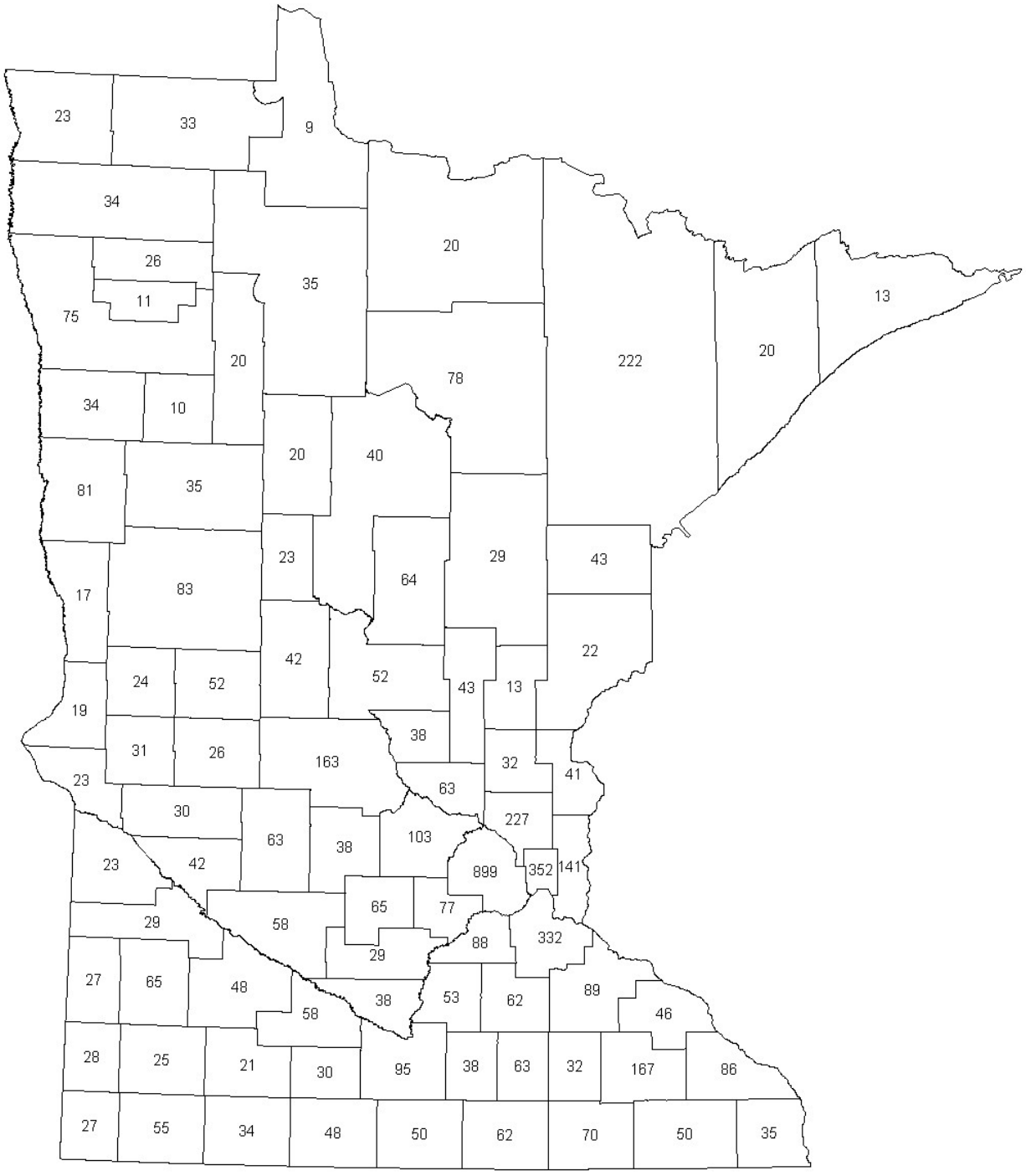
Figure 5: Facilities Filing Chemical Storage Reports (Tier II) by County



2002 Right-To-Know Chemical Information Report

Minnesota Emergency Response Commission

IV. Overview of 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 2002. 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:

SIC Code	Industry
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 71 to 86 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. Persistent, bioaccumulative and toxic (PBT) chemicals have lower thresholds.

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:

SIC Code	Industry
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. In addition, the Commission received and approved a petition from the University of Minnesota submitted on behalf of all colleges and universities. The petition requested a

limited exemption from TRI reporting at those university facilities using Ammonia as an agricultural nutrient.

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 crosscheck 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 data provide 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 309 million pounds of chemicals managed in 2002 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. A sample of the information available from these progress reports is included in this report on page 55. A complete listing is available from the Emergency Response Commission (651-297-7372).

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 1987-2002 are available from a number of sources. The Minnesota Emergency Response Commission will make data from individual facilities in Minnesota available at its office located at: 444 Cedar Street, Suite 223, St. Paul, MN 55101, through its website at www.erc.state.mn.us or by calling 651-297-7372. For TRI information covering all fifty states, please contact the U.S. Environmental Protection Agency through its "Emergency Planning and Community Right-to-Know Call Center" at 1-800-424-9346 or visit their website at www.epa.gov/tri.

Attachment 1: Top 20 Facilities Ranked By Total Chemicals Released (Section 8.1) for Calendar Year 2002

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	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
Sherburne	XCEL ENERGY - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN	**6,892,492**	0	0	0	0	660,900	0	7,553,392
Ramsey	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	**2,910,011**	0	0	306,523	20	0	0	3,216,554
Itasca	MINNESOTA POWER - BOSWELL ENERGY CENTER 1210 NW 3RD ST COHASSET, MN	**2,089,641**	0	0	0	0	131,000	0	2,220,641
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN	**1,107,684**	0	1,704	240,336	56,794	12,630,974	1,430	14,038,923
Washington	XCEL ENERGY - A.S. KING GENERATING 1103 KING PLANT RD BAYPORT, MN	**1,097,998**	0	0	0	0	124,000	0	1,221,998
Sherburne	XCEL ENERGY - BECKER RDF ASH LANDFILL 13700 SHERBURNE AVE. SOUTH BECKER, MN	**796,534**	0	0	0	0	0	58	796,592
Carlton	SAPPI CLOQUET LLC 2201 AVE B CLOQUET, MN	**662,695**	547,326	0	0	0	5,450,691	5,832,736	12,493,448
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE ST. CLOUD, MN	**662,000**	0	0	0	25,000	0	0	687,000
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN	**654,961**	0	10,187	0	639,040	437,300	21,015	1,762,503
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN	**571,905**	24,786	32,130	0	1,547,935	17,852,404	15,157	20,044,317

Attachment 1: Top 20 Facilities Ranked By Total Chemicals Released (Section 8.1) for Calendar Year 2002

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
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(Amount in Pounds)

County	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
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTERNATIONAL FALLS, MN	**571,750**	360,000	0	0	0	8,419,700	0	9,351,450
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR MANKATO, MN	**560,000**	0	0	0	18,200	0	600	578,800
McLeod	3M - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN	**520,436**	0	3,855	10,480,800	14	3,375,900	1,860,024	16,241,029
Ramsey	US FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN	**482,410**	0	0	7,186	7,200	0	0	496,796
Hennepin	XCEL ENERGY - RIVERSIDE PLANT 3100 MARSHALL ST NE MINNEAPOLIS, MN	**458,325**	0	0	0	0	97,000	0	555,325
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST OWATONNA, MN	**452,000**	0	0	0	0	0	0	452,000
Morrison	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DR LITTLE FALLS, MN	**398,168**	0	0	0	0	0	0	398,168
Ramsey	REXAM BEVERAGE CAN COMPANY 139 EVA ST ST. PAUL, MN	**296,997**	0	991	0	0	11,277	0	309,265
Blue Earth	ADM CO. 2019 3RD AVE MANKATO, MN	**284,095**	0	0	0	20,809	0	553	305,457
Renville	SOUTHERN MN BEET SUGAR COOP 83550 CO RD 21 RENVILLE, MN	**247,329**	0	0	0	0	20,968	0	268,297

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed (Sections 8.1-8.7) for Calendar Year 2002

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	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	GOPHER RESOURCE CORP. 3385 S HWY 149 EAGAN, MN	243,600	0	0	161,920,000	0	0	0	**162,163,600**
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN	571,905	24,786	32,130	0	1,547,935	17,852,404	15,157	**20,044,317**
McLeod	3M - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN	520,436	0	3,855	10,480,800	14	3,375,900	1,860,024	**16,241,029**
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN	1,107,684	0	1,704	240,336	56,794	12,630,974	1,430	**14,038,923**
Carlton	SAPPI CLOQUET LLC 2201 AVE B CLOQUET, MN	662,695	547,326	0	0	0	5,450,691	5,832,736	**12,493,448**
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTERNATIONAL FALLS, MN	571,750	360,000	0	0	0	8,419,700	0	**9,351,450**
Sherburne	XCEL ENERGY - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN	6,892,492	0	0	0	0	660,900	0	**7,553,392**
Anoka	FEDERAL CARTRIDGE COMPANY 900 EHLEN DR ANOKA, MN	82,298	0	0	350,000	5,716,302	0	381,166	**6,529,766**
Ramsey	NORTH STAR STEEL-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	183,512	0	0	63,259	5,079,656	0	0	**5,326,427**
Ramsey	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	2,910,011	0	0	306,523	20	0	0	**3,216,554**

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed (Sections 8.1-8.7) for Calendar Year 2002

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	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	WATER GREMLIN CO. 1610 WHITAKER AVE WHITE BEAR LAKE, MN	88,992	0	0	31,020	2,970,422	0	0	**3,090,434**
Hennepin	FILMTEC CORP. 7200 OHMS LANE EDINA, MN	11,241	0	0	0	0	0	2,900,456	**2,911,697**
Itasca	MINNESOTA POWER - BOSWELL ENERGY CENTER 1210 NW 3RD ST COHASSET, MN	2,089,641	0	0	0	0	131,000	0	**2,220,641**
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN	654,961	0	10,187	0	639,040	437,300	21,015	**1,762,503**
Rice	NORTHFIELD ACQUISION CO. – EAST FACILITY 805 HWY 3 N NORTHFIELD, MN	54,916	0	138,110	0	132,492	865,702	35,638	**1,226,858**
Ramsey	3M COMPANY 900 BUSH AVE ST. PAUL, MN	188,560	34,600	189	0	5,748	902,700	94,550	**1,226,347**
Washington	XCEL ENERGY - A.S. KING GENERATING PLANT 1103 KING PLANT RD BAYPORT, MN	1,097,998	0	0	0	0	124,000	0	**1,221,998**
Le Sueur	DAVISCO LE SUEUR CHEESE DIVISION 719 N MAIN ST LE SUEUR, MN	0	0	0	535,193	0	648,227	31,487	**1,214,907**
Washington	MARATHON ASHLAND PETROLEUM, LLC 100 W 3RD AVE ST. PAUL PARK, MN	195,755	0	5,282	615,380	15	396,820	85	**1,213,336**
Winona	TRW AUTOMOTIVE 5752 INDUSTRIAL PARK RD WINONA, MN	83	0	0	0	1,160,776	0	0	**1,160,859**

Attachment 3: Top 20 Facilities Ranked by Total Air Releases for Calendar Year 2002
Sections 5.1 and 5.2 of EPA Form "R"

State of Minnesota
Department of Public Safety
Emergency Response Commission

(Amount in Pounds)

County	Facility	Fugitive Air	Stack Air	Total Air Releases
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD, ST. PAUL, MN	28,115	607,911	**636,026**
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE, ST. CLOUD, MN	63,000	570,015	**633,015**
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR, MANKATO, MN	504,000	56,000	**560,000**
Koochiching	BOISE CASCADE CORP. 400 2ND ST, INTL FALLS, MN	36,105	491,363	**527,468**
McLeod	3M - HUTCHINSON 915 ADAMS ST SE, HUTCHINSON, MN	74,702	438,419	**513,121**
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST, OWATONNA, MN	113,000	338,000	**451,000**
Carlton	SAPPI CLOQUET LLC 2201 AVE B, CLOQUET, MN	10,173	418,463	**428,636**
Morrison	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DRV, LITTLE FALLS, MN	398,168	0	**398,168**
Ramsey	REXAM BEVERAGE CAN COMPANY 139 EVA ST, ST. PAUL, MN	41,730	255,208	**296,938**
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55, INVER GROVE HEIGHTS, MN	151,504	142,044	**293,548**
Blue Earth	ADM CO. 2019 3RD AVE, MANKATO, MN	19,768	262,720	**282,488**
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD, COTTAGE GROVE, MN	35,376	209,339	**244,715**
Pipestone	US MARINE/BAYLINER 918 SIOUX DR, PIPESTONE, MN	0	239,767	**239,767**
Goodhue	ADM CO. 118 MAIN ST, RED WING, MN	11,982	227,665	**239,647**
Lac Qui Parle	AG PROCESSING, INC. 800 DIAGONAL ST, DAWSON, MN	17,000	222,000	**239,000**
Renville	SOUTHERN MN BEET SUGAR COOP 83550 CO RD 21, RENVILLE, MN	2,824	217,905	**220,729**
Beltrami	NORTHWOOD PANELBOARD CO. 4409 NORTHWOOD ROAD NW, SOLWAY, MN	0	212,424	**212,424**
Todd	CENTRAL BI-PRODUCTS HWY 71 N BOX 359, LONG PRAIRIE, MN	196,000	1,005	**197,005**
Hubbard	POTLATCH CORP. - OSB 29647 U.S. HWY 2, BEMIDJI, MN	163	188,072	**188,235**
Ramsey	3M COMPANY 900 BUSH AVE, ST. PAUL, MN	8,370	170,500	**178,870**

Attachment 4: Statewide Listing of Amount of Releases, Transfers and Total Dioxin and Dioxin-like Compounds Managed for Calendar Year 2002

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Grams)

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 Managed
Beltrami County, City of SOLWAY	NORTHWOOD PANELBOARD CO. --- 4409 NORTHWOOD ROAD NW							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.14	0	0	0	0	0	0	0.14
Benton County, City of SARTELL	INTERNATIONAL PAPER CO. --- 100 E SARTELL ST							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.098	0	0	0	0.034	0	0	0.132
Carlton County, City of CLOQUET	SAPPI CLOQUET LLC --- 2201 AVE B							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	3.063	0	0	0	0	0	0.241	3.304
Carver County, City of CHASKA	QUALI TECH, INC. (DIVISION 1) --- 318 LAKE HAZELTINE DR							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.22	0	0	0	0	0	0	0.22
Chisago County, City of NORTH BRANCH	ZINPRO CORPORATION --- 6375 415TH ST							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0077	0	0	0.0037	0	0	0	0.0114
Clay County, City of MOORHEAD	AMERICAN CRYSTAL SUGAR CO. - MOORHEAD --- 2500 N 11TH ST							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.107	0	0	0	0	0	0	0.107
Crow Wing County, City of DEERWOOD	TRUS JOIST - A WEYERHAEUSER BUSINESS --- CO RD 102							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.372	0	0	0	0.111	0	0	0.483
Dakota County, City of BURNSVILLE	XCEL ENERGY – BLACK DOG PLANT --- 1400 E BLACK DOG RD							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.11	0	0	0	0	0	0	0.11
Dakota County, City of EAGAN	GOPHER RESOURCE CORP. --- 3385 S HWY 149							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.36	0	0	0	0	0	0	0.36
Dakota County, City of INVER GROVE HEIGHTS	FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0215	0	0	0	0	0	0	0.0215
Dakota County, City of ROSEMOUNT	SPECTRO ALLOYS CORP. --- 13220 DOYLE PATH							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	24.797	0	0	0	0	0	0	24.797
Hennepin County, City of MINNEAPOLIS	XCEL ENERGY - RIVERSIDE PLANT --- 3100 MARSHALL ST NE							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.2	0	0	0	0	0	0	0.2
Hubbard County, City of BEMIDJI	POTLATCH CORP. - OSB --- 29647 U.S. HWY. 2							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.332	0	0	0	0	0	0	0.332
Itasca County, City of COHASSET	MINNESOTA POWER - BOSWELL ENERGY CENTER --- 1210 NW 3RD ST							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.57	0	0	0	0	0	0	0.57
Itasca County, City of GRAND RAPIDS	BLANDIN PAPER --- 115 1ST ST SW							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	18.8	18.8
Itasca County, City of GRAND RAPIDS	POTLATCH CORP. --- 502 CO RD 63							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0107	0	0	0	0	0.099	0	0.1097
Koochiching County, City of BIG FALLS	PAGE & HILL FOREST PRODUCTS, INC. --- 7556 CTY RD 31							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0017	0	0	0	0	0	0	0.0017
Koochiching County, City of INTL FALLS	BOISE CASCADE CORP. --- 400 2ND ST							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.34	0	0	0	0	121	0	121.34
Polk County, City of CROOKSTON	AMERICAN CRYSTAL SUGAR CO. - CROOKSTON --- HWY 75 S BOX 600							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.104	0	0	0	0	0	0	0.104
Polk County, City of EAST GRAND FORKS	AMERICAN CRYSTAL SUGAR CO. - EAST GRAND FORKS --- BUSINESS HWY 2 E							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.221	0	0	0	0	0	0	0.221
Ramsey County, City of NEW BRIGHTON	BELL LUMBER & POLE CO. --- 778 1ST ST NW							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	390.592	0	0	10.0578	23.5983	424.248
Ramsey County, City of ST. PAUL	XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.13	0	0	0	0	0	0	0.13
Renville County, City of RENVILLE	SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.27	0	0	0	0	0	0	0.27
Sherburne County, City of BECKER	XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	797.94	0	0	0	0	0	0	797.94
Sherburne County, City of BECKER	XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	1.77	0	0	0	0	0	0	1.77
St Louis County, City of COOK	POTLATCH CORP. --- 9358 HWY 53 S							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.2085	0	0	0	0	0	0	0.2085
Washington County, City of BAYPORT	XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.22	0	0	0	0	0	0	0.22
Washington County, City of COTTAGE GROVE	3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD							
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.153	0	0	0	0	0	0	0.153
Grand Totals:	831.77	0.00	459.19	0.00	0.15	131.16	42.64	1,464.91

Attachment 5: Statewide Listing of Amount of Releases, Transfers and Total Mercury and Mercury Compounds Managed for Calendar Year 2002

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 Managed
Becker County, City of DETROIT LAKES	S. J. ELECTRO SYSTEMS, INC. --- 22650 COUNTY HIGHWAY 6							
MERCURY	43.2	0	0	0	0	0	0	43.2
Benton County, City of SARTELL	INTERNATIONAL PAPER CO. --- 100 E SARTELL ST							
MERCURY COMPOUNDS	17.7	0	0	0	1.88	0	0	19.58
Blue Earth County, City of MANKATO	ADM CO. --- 2019 3RD AVE							
MERCURY COMPOUNDS	6.08	0	0	0	0	0	0	6.08
Cook County, City of SCHROEDER	TACONITE HARBOR ENERGY CENTER --- 8124 WEST HWY 61							
MERCURY COMPOUNDS	49	0	0	0	0	0	0	49
Dakota County, City of BURNSVILLE	XCEL ENERGY - BLACK DOG PLANT --- 1400 E BLACK DOG RD							
MERCURY COMPOUNDS	53	0	0	0	0	0	0	53
Dakota County, City of INVER GROVE HEIGHTS	FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55							
MERCURY COMPOUNDS	7.92	0	0	16.33	0.021	0	0	24.271
Hennepin County, City of MINNEAPOLIS	XCEL ENERGY - RIVERSIDE PLANT --- 3100 MARSHALL ST NE							
MERCURY COMPOUNDS	108.5	0	0	0	0	0	0	108.5
Itasca County, City of COHASSET	MINNESOTA POWER - BOSWELL ENERGY CENTER --- 1210 NW 3RD ST							
MERCURY COMPOUNDS	371.17	0	0	0	0	0	0	371.17
Itasca County, City of GRAND RAPIDS	BLANDIN PAPER --- 115 1ST ST SW							
MERCURY	3.7	0	0	0	0	0	0	3.7
Mower County, City of AUSTIN	AUSTIN UTILITIES - NE POWER STATION --- 3511 11TH ST NE							
MERCURY COMPOUNDS	7.4	0	0	0	0	0	0	7.4
Otter Tail County, City of FERGUS FALLS	OTTER TAIL POWER CO. (HOOT LAKE) --- 1012 WATER PLANT ROAD							
MERCURY COMPOUNDS	41	0	0	0	0	0	0	41
Ramsey County, City of ROSEVILLE	MERCURY WASTE SOLUTIONS, INC. --- 2007 W. CO. RD. C-2							
MERCURY COMPOUNDS	6.41	0	0	0	152.8	0	0	159.21
Ramsey County, City of ST. PAUL	NORTH STAR RECYCLING-MINNESOTA --- 1678 RED ROCK RD							
MERCURY COMPOUNDS	204	0	0	0	20	0	0	224
Ramsey County, City of ST. PAUL	NORTH STAR STEEL-MINNESOTA --- 1678 RED ROCK RD							
MERCURY COMPOUNDS	157	0	0	0	57	0	0	214
Ramsey County, City of ST. PAUL	WALDORF CORP. (A ROCK-TENN COMPANY) --- 2250 WABASH AVE							
MERCURY	3.36	0	0	0	0	0	0	3.36
Ramsey County, City of ST. PAUL	XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD							
MERCURY COMPOUNDS	69	0	0	0	0	0	0	69
Renville County, City of RENVILLE	SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21							
MERCURY	23.8	0	0	0	0	0	0	23.8
Sherburne County, City of BECKER	XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH							
MERCURY COMPOUNDS	673.8	0	0	0	0	0	0	673.8
Sherburne County, City of BECKER	XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD							
MERCURY COMPOUNDS	961.8	0	0	0	0	0	0	961.8
St Louis County, City of AURORA	MINNESOTA POWER - LASKIN ENERGY CENTER --- 5699 COLBY LAKE RD							
MERCURY COMPOUNDS	23	0	0	0	0	0	0	23
St Louis County, City of COOK	POTLATCH CORP. --- 9358 HWY 53 S							
MERCURY COMPOUNDS	3.4	0	0	0	0	0	0	3.4
MERCURY	0.35	0	0	0	0	0	0	0.35
St Louis County, City of DULUTH	STORA ENSO DULUTH MILL --- 100 N CENTRAL AVE							
MERCURY COMPOUNDS	2.7	0	0	0	0	0	0	2.7
St Louis County, City of HIBBING	HIBBING PUC --- 1832 SIXTH AVENUE EAST							
MERCURY	14.2	0	0	0	0	0	0	14.2
Washington County, City of BAYPORT	XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD							
MERCURY COMPOUNDS	136.6	0	0	0	0	0	0	136.6
Washington County, City of COTTAGE GROVE	3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD							
MERCURY COMPOUNDS	111.1	0	0	0	99	0	0	210.1
Washington County, City of ST. PAUL PARK	MARATHON ASHLAND PETROLEUM, LLC --- 100 W 3RD AVE							
MERCURY COMPOUNDS	13.63	0	0	0.57	0	0	0	14.2
Winona County, City of WINONA	MILLER WASTE MILLS, INC. - RTP --- 580 E FRONT ST							
MERCURY COMPOUNDS	0.09	0	0	0	0	0	0	0.09
Winona County, City of WINONA	WATLOW WINONA, INC. --- 1241 BUNDY BLVD							
MERCURY	0	0	0	0	1.225	0	0	1.225
Grand Totals:	3,112.91	0.00	0.00	16.90	331.93	0.00	0.00	3,461.74

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2002

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(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 Managed
Anoka County, City of ANOKA	BALLANTINE, INC. --- 840 MCKINLEY ST							
LEAD	0	0	0	0	104	0	0	104
Anoka County, City of ANOKA	FEDERAL CARTRIDGE COMPANY --- 900 EHLEN DRV							
LEAD COMPOUNDS	58,036	0	0	350,000	712,228	0	0	1,120,264
Anoka County, City of ANOKA	PROFESSIONAL PLATING --- 2625 9TH AVE N							
LEAD COMPOUNDS	1.9	0	0	0	21.3	0	0	23.2
Anoka County, City of BLAINE	PARKER MOBIL CYLINDER DIV.-BLAINE --- 1460 93RD LANE NE							
LEAD	1	0	0	0	1,883	0	0	1,884
Anoka County, City of BLAINE	SAFETY-KLEEN SYSTEMS, INC. --- 9261 ISANTI ST NE							
LEAD	0	0	0	0	602	0	0	602
Anoka County, City of COON RAPIDS	HONEYWELL, INC. - CAP --- 8840 EVERGREEN BLVD							
LEAD COMPOUNDS	0	0	0	0	5,976	0	0	5,976
Anoka County, City of FRIDLEY	CUMMINS POWER GENERATION/ONAN CORP. --- 1400 73RD AVE NE							
LEAD	0.5	0	0	0	1,994	0	0	1,994.5
Anoka County, City of FRIDLEY	KURT MANUFACTURING DIE CAST --- 7585 HWY 65							
LEAD	15	0	0	1,795	164	0	0	1,974
Anoka County, City of FRIDLEY	MICRO CONTROL CO. --- 7956 MAIN ST. NE							
LEAD COMPOUNDS	0	0	0	0	0	0	0	0
Anoka County, City of FRIDLEY	STYLMARK, INC. --- 6536 MAIN ST. NE							
LEAD	0	0	0	2,465.4	0	0	0	2,465.4
Anoka County, City of ST. FRANCIS	ALLIANT INTEGRATED DEFENSE CO. LLC --- 23100 SUGAR BUSH RD NW							
LEAD	1.2	0	0	0	6	0	0	7.2
Becker County, City of DETROIT LAKES	S. J. ELECTRO SYSTEMS, INC. --- 22650 COUNTY HIGHWAY 6							
LEAD	0	0	0	0	0	0	0	0
Beltrami County, City of SOLWAY	NORTHWOOD PANELBOARD CO. --- 4409 NORTHWOOD ROAD NW							
LEAD	405.55	0	0	0	0	0	0	405.55
Benton County, City of FOLEY	GORECKI MFG., INC. --- 51 2ND AVE W							
LEAD	0	0	0	0	357	0	0	357
Benton County, City of SARTELL	INTERNATIONAL PAPER CO. --- 100 E SARTELL ST							
LEAD COMPOUNDS	107.3	0	0	0	192.3	0	0	299.6
Benton County, City of SAUK RAPIDS	X-CEL OPTICAL CO. --- 806 S BENTON DRV							
LEAD COMPOUNDS	0	0	0	0	10,154	0	0	10,154
Blue Earth County, City of MANKATO	ADM CO. --- 2019 3RD AVE							
LEAD COMPOUNDS	20.04	0	0	0	0	0	0	20.04
Blue Earth County, City of MANKATO	ATLAS ALCHEM PLASTICS, INC. --- 480 INDUSTRIAL ROAD							
LEAD COMPOUNDS	3	0	0	280	0	0	0	283
Blue Earth County, City of MANKATO	THE DOTSON COMPANY, INC. --- 200 W ROCK ST							
LEAD	0	0	0	0	53	0	0	53
Blue Earth County, City of MANKATO	WINLAND ELECTRONICS, INC. --- 1950 EXCEL DRIVE							
LEAD	3.13	0	0	0	468	0	0	471.13
Brown County, City of NEW ULM	3M – NEW ULM --- 1700 NORTH MINNESOTA STREET							
LEAD COMPOUNDS	1,200	0	0	750	7,400	0	0	9,350
Carlton County, City of CLOQUET	SAPPI CLOQUET LLC --- 2201 AVE B							
LEAD COMPOUNDS	3,242	0	0	0	0	0	0	3,242
Carlton County, City of CLOQUET	USG INTERIORS, INC. --- 35 ARCH ST							
LEAD	0	0	0	0	0	0	0	0
Carver County, City of CHANHASSEN	PARKER HANNIFAN CORP. --- 2860 WATER TOWER PLACE							
LEAD	0	0	0	0	907	0	0	907
Carver County, City of CHANHASSEN	ROBERTS AUTOMATIC PRODUCTS --- 880 LAKE DRV							
LEAD	0	0	0	0	9,821	0	0	9,821
Carver County, City of CHANHASSEN	ROSEMOUNT, INC. --- 8200 MARKET BLVD							
LEAD COMPOUNDS	41.66	0	0	0	1,039.6	0	0	1,081.26
Carver County, City of CHASKA	PRO-TECH, INC. --- 4300 PEAVEY RD							
LEAD	1	0	0	0	873	0	0	874

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2002

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(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 Managed
Chippewa County, City of MONTEVIDEO	MICRO DYNAMICS CORP. --- 1646 N. 9TH ST.							
LEAD	0	0	0	0	1,373	0	0	1,373
Clay County, City of MOORHEAD	AMERICAN CRYSTAL SUGAR CO. --- 2500 N 11TH ST							
LEAD COMPOUNDS	299.28	0	0	0	0	0	0	299.28
Cook County, City of SCHROEDER	TACONITE HARBOR ENERGY CENTER --- 8124 WEST HWY 61							
LEAD COMPOUNDS	1,009	0	0	0	0	0	0	1,009
Crow Wing County, City of BRAINERD	ACROMETAL --- 210 NE 10TH AVE							
LEAD	0	0	0	0	225	0	0	225
Crow Wing County, City of BRAINERD	MINNESOTA PAPER COMPANY --- 1801 MILL AVE NE							
LEAD COMPOUNDS	332.5	0	0	0	0	0	0	332.5
Crow Wing County, City of DEERWOOD	PARKER-HANNIFIN CORP. --- 325 FRONT ST							
LEAD	1	0	0	0	8,852	0	0	8,853
Crow Wing County, City of DEERWOOD	TRUS JOIST - A WEYERHAEUSER BUSINESS --- CO RD 102							
LEAD COMPOUNDS	91.6	0	0	0	130	0	0	221.6
Dakota County, City of BURNSVILLE	ROSEMOUNT AEROSPACE INC. --- 14300 JUDICIAL RD							
LEAD	16.97	0	0	0	687.83	0	0	704.8
Dakota County, City of BURNSVILLE	XCEL ENERGY - BLACK DOG PLANT --- 1400 E BLACK DOG RD							
LEAD COMPOUNDS	2,452.5	0	0	0	0	0	0	2,452.5
Dakota County, City of EAGAN	GOPHER RESOURCE CORP. --- 3385 S HWY 149							
LEAD COMPOUNDS	210,000	0	0	158,000,000	0	0	0	158,210,000
Dakota County, City of EAGAN	MATERIALS PROCESSING CORP. --- 2805 W SERVICE RD							
LEAD	0	0	0	0	3,543	0	0	3,543
Dakota County, City of EAGAN	SAFETY-KLEEN SYSTEMS, INC. --- 3227 TERMINAL DRV							
LEAD	0	0	0	0	501	0	0	501
Dakota County, City of INVER GROVE HEIGHTS	FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55							
LEAD COMPOUNDS	205.71	0	0	682	11.27	0	0	898.98
Dakota County, City of ROSEMOUNT	SPECTRO ALLOYS CORP. --- 13220 DOYLE PATH							
LEAD	3,243	0	0	0	0	0	0	3,243
Fillmore County, City of RUSHFORD	TRW AUTOMOTIVE --- HWY 43 N. - PO BOX 708							
LEAD COMPOUNDS	4.54	0	0	0	432.9	0	0	437.44
Freeborn County, City of ALBERT LEA	ALBERT LEA ELECTROPLATING, INC. --- 808 12TH ST BOX 89							
LEAD COMPOUNDS	102.72	0	0	0	0	0	0	102.72
Goodhue County, City of CANNON FALLS	AMESBURY GROUP, INC. --- 105 WASHINGTON ST							
LEAD COMPOUNDS	0	0	0	0	0	0	0	0
Hennepin County, City of BLOOMINGTON	ADDED VALUE TECHNOLOGY LLC --- 9401 JAMES AVE S SUITE 100							
LEAD	4	0	0	0	1,986	0	0	1,990
Hennepin County, City of BLOOMINGTON	GENERAL DYNAMICS ADVANCED INFORMATION SYSTEMS --- 3101 E 80TH ST							
LEAD	30.9	0	0	0	986	0	0	1,016.9
Hennepin County, City of BLOOMINGTON	PRINTED CIRCUITS, INC. --- 1200 W 96TH ST							
LEAD COMPOUNDS	143	0	0	0	0	0	0	143
Hennepin County, City of BROOKLYN PARK	TECHNICAL PLATING, INC. --- 8760 XYLON AVE N							
LEAD	10.9	0	0	0	0	0	0	10.9
Hennepin County, City of CRYSTAL	TRC CIRCUITS, INC. --- 3300 WINPARK DRV							
LEAD	2.9	0	0	0	127.3	0	0	130.2
Hennepin County, City of EDEN PRAIRIE	EMERSON CONTROL TECHNIQUES --- 12005 TECHNOLOGY DRIVE							
LEAD	0.7	0	0	0	296	0	0	296.7
Hennepin County, City of EDEN PRAIRIE	MICRO DYNAMICS CORP. --- 6201 BURY DRIVE							
LEAD	0	0	0	0	153	0	0	153
Hennepin County, City of EDEN PRAIRIE	PHILLIPS & TEMRO INDUSTRIES, INC. --- 9700 W 74TH ST							
LEAD	0	0	0	0	1.63	0	0	1.63
Hennepin County, City of GOLDEN VALLEY	HONEYWELL INC. --- 1985 DOUGLAS DRV N							
LEAD	9.01	0	0	0	6,495	0	0	6,504.01
Hennepin County, City of MAPLE GROVE	SILENT KNIGHT --- 7550 MERIDIAN CIRCLE							
LEAD COMPOUNDS	16	0	0	0	296	0	0	312

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2002

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(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 Managed
Hennepin County, City of MAPLE GROVE	UNIVERSAL CIRCUITS, INC. --- 8860 ZACHARY LANE							
LEAD	5	0	0	0	2,555	0	0	2,560
Hennepin County, City of MINNEAPOLIS	BOKER'S, INC. --- 3104 SNELLING AVE S							
LEAD	0	0	0	0	425	0	0	425
Hennepin County, City of MINNEAPOLIS	G.A.F. BUILDING MATERIALS CORP. --- 50 LOWRY AVE N							
LEAD COMPOUNDS	45.1932	0	0	0	0	0	0	45.1932
Hennepin County, City of MINNEAPOLIS	GAYTEE STAINED GLASS INC. --- 2744 LYNDALE AVE S							
LEAD	0	0	0	0	130	0	0	130
Hennepin County, City of MINNEAPOLIS	GRACO, INC. --- 60 11TH AVE NE BOX 1441							
LEAD	8	0	0	0	1,000	0	0	1,008
Hennepin County, City of MINNEAPOLIS	HARD CHROME, INC. --- 2631 2ND ST NE							
LEAD COMPOUNDS	1	0	0	0	112	0	0	113
Hennepin County, City of MINNEAPOLIS	HONEYWELL, INC. - DSES --- 2600 RIDGWAY PKWY							
LEAD COMPOUNDS	0	0	0	0	1,012	0	0	1,012
Hennepin County, City of MINNEAPOLIS	PARKER-HANNIFIN CORP. GRESEN HYDR. DIV. --- 600 HOOVER ST							
LEAD	0	0	0	0	1,402	0	0	1,402
Hennepin County, City of MINNEAPOLIS	SUPERIOR PLATING, INC. --- 315 1ST AVE NE							
LEAD COMPOUNDS	315	0	0	0	0	0	0	315
Hennepin County, City of MINNEAPOLIS	THE BUREAU ELECTRONICS GROUP --- 3311 BROADWAY NE							
LEAD COMPOUNDS	36.46	0	0	0	93.4	0	0	129.86
Hennepin County, City of MINNEAPOLIS	XCEL ENERGY - RIVERSIDE PLANT --- 3100 MARSHALL ST NE							
LEAD COMPOUNDS	3,215.1	0	0	0	0	0	0	3,215.1
Hennepin County, City of MINNEAPOLIS	ZALK STEEL & SUPPLY CO. --- 446 ST. ANTHONY PKWY							
LEAD	13	0	0	0	0	0	0	13
Hennepin County, City of MINNETONKA	HOLADAY CIRCUITS, INC. --- 11126 BREN RD W							
LEAD	1,605	0	0	0	6,364	0	0	7,969
Hennepin County, City of MINNETONKA	IFLEX, INC. --- 15101 MINNETONKA INDUSTRIAL RD							
LEAD	130	0	0	0	1,009	0	0	1,139
Hennepin County, City of NEW HOPE	ALPHA CERAMICS, INC. --- 5121 WINNETKA AVE							
LEAD COMPOUNDS	21.5	0	0	0	11,284	0	0	11,305.5
Hennepin County, City of NEW HOPE	CLARIANT --- 9101 INTERNATIONAL PKWY							
LEAD COMPOUNDS	139	0	0	0	0	0	0	139
Hennepin County, City of PLYMOUTH	BANNER ENGINEERING CORP. --- 15755 32ND AVE. N.							
LEAD COMPOUNDS	75	0	0	0	0	0	0	75
Hennepin County, City of PLYMOUTH	CIRCUIT SCIENCE, INC. --- 15831 HWY 55							
LEAD	0	0	0	0	1,096	0	0	1,096
Hennepin County, City of ROGERS	GRACO-KOCH CENTER --- 20500 DAVID KOCH AVE							
LEAD	1	0	0	0	2,000	0	0	2,001
Hennepin County, City of ST. LOUIS PARK	DOUGLAS CORP. - PLATING DIVISION --- 3520 XENWOOD AVE S							
LEAD COMPOUNDS	14	0	0	0	0	0	0	14
Hennepin County, City of ST. LOUIS PARK	LIND ELECTRONICS, INC. --- 6414 CAMBRIDGE ST							
LEAD	0	0	0	0	3.1	0	0	3.1
Hennepin County, City of ST. LOUIS PARK	NORTHLAND ALUMINUM PRODUCTS, INC. --- 5005 COUNTY ROAD 25							
LEAD COMPOUNDS	3,708	0	0	0	0	0	0	3,708
Hennepin County, City of ST. PAUL	NORTHWEST AIRLINES, INC. --- 5101 NORTHWEST DR							
LEAD	1,044.8	0	0	0	620.3	0	0	1,665.1
Hubbard County, City of BEMIDJI	POTLATCH CORP. - OSB --- 29647 U.S. HWY 2							
LEAD	6	0	0	0	0	0	0	6
Itasca County, City of COHASSET	MINNESOTA POWER – BOSWELL ENERGY CENTER --- 1210 NW 3RD ST							
LEAD COMPOUNDS	7,267	0	0	0	0	0	0	7,267
Itasca County, City of GRAND RAPIDS	BLANDIN PAPER --- 115 1ST ST SW							
LEAD	715	0	0	0	0	0	0	715
Itasca County, City of GRAND RAPIDS	POTLATCH CORP. --- 502 CO RD 63							
LEAD	708	0	0	0	0	0	0	708

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2002

State of Minnesota
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(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 Managed
Lyon County, City of COTTONWOOD	NORCRAFT COMPANIES, LLC --- 67 E 2ND ST N							
LEAD	0.4	0	0	0	122.5	0	0	122.9
Lyon County, City of MARSHALL	ARCHER DANIELS MIDLAND --- 400 W ERIE ROAD							
LEAD COMPOUNDS	374	0	0	0	0	0	0	374
Lyon County, City of MINNEOTA	SCHOTT CORP. - MINNEOTA --- 218 N. JEFFERSON							
LEAD	0	0	0	0	243	0	0	243
Martin County, City of FAIRMONT	WEIGH-TRONIX INC. --- 1000 ARMSTRONG DRIVE							
LEAD	0.4	0	0	0	350	0	0	350.4
McLeod County, City of HUTCHINSON	3M - HUTCHINSON --- 915 ADAMS ST SE							
LEAD COMPOUNDS	3.1	0	0	0	0	0	0	3.1
McLeod County, City of HUTCHINSON	HUTCHINSON MFG. INC. --- 720 HWY. 7 WEST							
LEAD	2.22	0	0	0	378.37	0	0	380.59
McLeod County, City of HUTCHINSON	HUTCHINSON TECHNOLOGY, INC. --- 40 W HIGHLAND PARK							
LEAD	41	0	0	0	1	0	0	42
Mower County, City of AUSTIN	AUSTIN UTILITIES – NE POWER STATION --- 3511 11TH ST NE							
LEAD COMPOUNDS	200	0	0	0	0	0	0	200
Nicollet County, City of NORTH MANKATO	CARLSON CRAFT SOCIAL (TAYLOR CORP.) --- 1750 TOWER BLVD							
LEAD	25.39	0	0	0	1,288.6	0	0	1,313.99
Nicollet County, City of NORTH MANKATO	KATO ENGINEERING - PLANT 3 --- 2075 HOWARD DRV							
LEAD COMPOUNDS	0.55	0	0	0	695	0	0	695.55
Nicollet County, City of ST. PETER	TAYTRONICS --- 430 RITT ST.							
LEAD	1.1695	0	0	0	1,315	0	0	1,316.1695
Olmsted County, City of ROCHESTER	CELESTICA CORPORATION --- 3050 SUPERIOR DR NW							
LEAD	23	0	0	0	10,077	0	0	10,100
Olmsted County, City of ROCHESTER	PEMSTAR, INC. --- 3535 TECHNOLOGY DR NW							
LEAD	750	0	0	0	1,906	0	0	2,656
Olmsted County, City of ROCHESTER	ROCHESTER PUBLIC UTILITIES - SILVER LAKE --- 425 W SILVER LAKE DRV NE							
LEAD COMPOUNDS	365	0	0	0	0	0	0	365
Otter Tail County, City of FERGUS FALLS	BANNER ENGINEERING CORP. --- 1010 WEYRENS RD.							
LEAD COMPOUNDS	153.7	0	0	0	0	0	0	153.7
Otter Tail County, City of FERGUS FALLS	OTTER TAIL POWER CO. (HOOT LAKE) --- 1012 WATER PLANT ROAD							
LEAD COMPOUNDS	510	0	0	0	0	0	0	510
Otter Tail County, City of FERGUS FALLS	QUALITY CIRCUITS INC. --- 1102 PROGRESS DRIVE							
LEAD	1	0	0	0	1,749	0	0	1,750
Polk County, City of CROOKSTON	AMERICAN CRYSTAL SUGAR CO. - CROOKSTON --- HWY 75 S BOX 600							
LEAD COMPOUNDS	289.3	0	0	0	0	0	0	289.3
Polk County, City of EAST GRAND FORKS	AMERICAN CRYSTAL SUGAR CO. - EAST GRAND FORKS --- BUSINESS HWY 2 E							
LEAD COMPOUNDS	614.75	0	0	0	0	0	0	614.75
Ramsey County, City of ARDEN HILLS	ALLIANT AMMUNITIONS SYSTEMS CO. LLC --- TC ARMY AMMUNITION PLANT							
LEAD	67.2	0	0	0	100.9	0	0	168.1
Ramsey County, City of ARDEN HILLS	CARDIAC PACEMAKERS INC., DBA GUIDANT --- 4100 HAMLINE AVE N							
LEAD COMPOUNDS	0.5	0	0	0	215	0	0	215.5
Ramsey County, City of ARDEN HILLS	MANUFACTURERS' SERVICES --- 4300 W. ROUND LAKE RD.							
LEAD COMPOUNDS	243	0	0	0	21,620	0	0	21,863
Ramsey County, City of MAPLEWOOD	MODINE NORTH CENTRAL, INC. --- 2055 WHITE BEAR AVE							
LEAD	1	0	0	0	1,105	0	0	1,106
Ramsey County, City of NEW BRIGHTON	MICOM CORP. --- 475 OLD HWY 8 NW							
LEAD	9	0	0	0	126	0	0	135
Ramsey County, City of ROSEVILLE	HONEYWELL ELECTRONIC MATERIALS, INC. --- 1633 TERRACE DRV							
LEAD COMPOUNDS	62.37	0	0	0	2,895	0	0	2,957.37
Ramsey County, City of ROSEVILLE	LUBRICATION TECHNOLOGIES, INC. --- 2420 W CO RD C							
LEAD COMPOUNDS	0	0	0	0	0	0	0	0
Ramsey County, City of ROSEVILLE	UNICIRCUIT ROSEVILLE, INC. --- 2520 TERMINAL RD							
LEAD COMPOUNDS	15	0	0	0	2,775	0	0	2,790

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2002

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(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 Managed
Ramsey County, City of ROSEVILLE	US FILTER RECOVERY SERVICES INC. --- 2430 ROSE PLACE							
LEAD COMPOUNDS	9,687.7	0	0	0	0	0	0	9,687.7
Ramsey County, City of ST. PAUL	3M COMPANY --- 900 BUSH AVE							
LEAD COMPOUNDS	160	0	0	0	28	0	0	188
Ramsey County, City of ST. PAUL	CENTURY CIRCUITS & ELECTRONICS, INC. --- 155 EATON ST							
LEAD	5.7	0	0	0	4,922	0	0	4,927.7
Ramsey County, City of ST. PAUL	FORD - TWIN CITIES ASSEMBLY PLANT --- 966 S MISSISSIPPI RIVER BLVD							
LEAD COMPOUNDS	9	0	0	0	0	0	0	9
Ramsey County, City of ST. PAUL	GE INTERLOGIX --- 2266 2ND ST. N.							
LEAD	2.48	0	0	0	796	0	0	798.48
Ramsey County, City of ST. PAUL	MIXON, INC. --- 2286 CAPP RD							
LEAD COMPOUNDS	114.787	0	0	0	571,425	0	0	571,539.787
Ramsey County, City of ST. PAUL	NORTH STAR RECYCLING-MINNESOTA --- 1678 RED ROCK RD							
LEAD COMPOUNDS	132,089	0	0	117,722.7	0	0	0	249,811.7
Ramsey County, City of ST. PAUL	NORTH STAR STEEL-MINNESOTA --- 1678 RED ROCK RD							
LEAD COMPOUNDS	2,160	0	0	682	252,462	0	0	255,304
Ramsey County, City of ST. PAUL	VERSA IRON & MACHINE --- 867 FOREST ST							
LEAD	570.81	0	0	0	0	0	0	570.81
Ramsey County, City of ST. PAUL	WALDORF CORP. (A ROCK-TENN COMPANY) --- 2250 WABASH AVE							
LEAD	248	0	0	0	0	0	0	248
Ramsey County, City of ST. PAUL	XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD							
LEAD COMPOUNDS	955.5	0	0	0	0	0	0	955.5
Ramsey County, City of WHITE BEAR LAKE	QUALITY WOOD TREATING CO. --- 4141 HOFFMAN RD							
LEAD COMPOUNDS	0	0	0	0	0	0	0	0
Ramsey County, City of WHITE BEAR LAKE	TRANE --- 4833 WHITE BEAR PKWY.							
LEAD COMPOUNDS	0.1	0	0	0	833	0	0	833.1
Ramsey County, City of WHITE BEAR LAKE	WATER GREMLIN CO. --- 1610 WHITAKER AVE							
LEAD COMPOUNDS	0.5	0	0	0	2,961,908	0	0	2,961,908.5
Renville County, City of RENVILLE	SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21							
LEAD	1,130.7	0	0	0	0	0	0	1,130.7
Rice County, City of NORTHFIELD	NORTHFIELD ACQUISION CO. - EAST FACILITY --- 805 HWY 3 N							
LEAD COMPOUNDS	1,631.5	0	0	0	659	0	0	2,290.5
Scott County, City of NEW PRAGUE	CHART, INC. - NEW PRAGUE FACILITY --- 407 7TH ST NW							
LEAD	17.4	0	0	0	0	0	0	17.4
Sherburne County, City of BECKER	XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH							
LEAD COMPOUNDS	143,921.8	0	0	0	0	0	0	143,921.8
Sherburne County, City of BECKER	XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD							
LEAD COMPOUNDS	53,624.2	0	0	0	0	0	0	53,624.2
St Louis County, City of AURORA	MINNESOTA POWER - LASKIN ENERGY CENTER --- 5699 COLBY LAKE RD							
LEAD COMPOUNDS	520	0	0	0	0	0	0	520
St Louis County, City of COOK	POTLATCH CORP. --- 9358 HWY 53 S							
LEAD	0	0	0	0	0	0	0	0
St Louis County, City of DULUTH	GEORGIA-PACIFIC CORP. --- 1220 RAILROAD STREET							
LEAD	16.1	0	0	0	0	0	0	16.1
St Louis County, City of DULUTH	ME GLOBAL INC. --- 200 E CARTERETT ST							
LEAD COMPOUNDS	240	0	0	2,600	0	0	0	2,840
St Louis County, City of DULUTH	NORTH STAR STEEL MINNESOTA – DULUTH DIV. --- 800 GARFIELD AVE							
LEAD COMPOUNDS	517	0	0	0	0	0	0	517
St Louis County, City of DULUTH	STORA ENSO DULUTH MILL --- 100 N CENTRAL AVE							
LEAD COMPOUNDS	2,129.6	0	0	0	0	0	0	2,129.6
St Louis County, City of HIBBING	HIBBING PUC --- 1832 SIXTH AVENUE EAST							
LEAD	471.6	0	0	0	8.1	0	0	479.7
St Louis County, City of HIBBING	L & M RADIATOR, INC. --- 1414 E 37TH ST							
LEAD	13	0	0	0	0	0	0	13

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(Amount in Pounds)

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St Louis County, City of HIBBING	NOBLE INDUSTRIES, LTD. --- 3430 E 13TH AVE								
LEAD		2.6	0	0	0	2,005.8	0	0	2,008.4
St Louis County, City of HIBBING	NORTHERN CASTINGS CORP. --- 555 W 25TH ST								
LEAD COMPOUNDS		687	0	0	0	11	0	0	698
St Louis County, City of HIBBING	REPTRON MANUFACTURING SERVICES --- 3125 14TH AVE E								
LEAD		28	0	0	0	3,407.6	0	0	3,435.6
Stearns County, City of ST. CLOUD	GREDE - ST. CLOUD --- 5200 FOUNDRY CIRCLE								
LEAD		270	0	0	0	288	0	0	558
Steele County, City of OWATONNA	BLOUNT, INC. --- 3249 CO RD 45 SOUTH								
LEAD COMPOUNDS		0.14	0	0	0	432	0	0	432.14
Steele County, City of OWATONNA	TRUTH HARDWARE --- 700 W BRIDGE ST								
LEAD		1	0	0	0	22	0	0	23
Swift County, City of BENSON	CNH BENSON --- 260 HIGHWAY 12 S.E.								
LEAD		0.52	0	0	0	705	0	0	705.53
Wabasha County, City of LAKE CITY	FEDERAL-MOGUL POWERTRAIN SYSTEMS --- 520 N 8TH ST								
LEAD COMPOUNDS		290.38	0	0	0	0	0	0	290.38
Waseca County, City of WASECA	JOHNSON COMPONENTS INC. --- 299 JOHNSON AVE SW								
LEAD		0	0	0	0	377	0	0	377
Washington County, City of BAYPORT	XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD								
LEAD COMPOUNDS		8,859.5	0	0	0	0	0	0	8,859.5
Washington County, City of COTTAGE GROVE	3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD								
LEAD COMPOUNDS		20,417	0	0	0	2,087	0	0	22,504
Washington County, City of HUGO	AD GRAPHICS --- 2300 MAIN ST.								
LEAD COMPOUNDS		2.088	0	0	0	909.73	0	0	911.818
Washington County, City of ST. PAUL PARK	MARATHON ASHLAND PETROLEUM, LLC --- 100 W 3RD AVE								
LEAD COMPOUNDS		3,009.5	0	0	1,849	0	0	0	4,858.5
Watonwan County, City of ST. JAMES	WESTIN AUTOMOTIVE PRODUCTS, INC. --- 240 S 15TH ST								
LEAD COMPOUNDS		7.8	0	0	0	1,677	0	0	1,684.8
Winona County, City of LEWISTON	RIVERSIDE ELECTRONICS LTD. --- 1 RIVERSIDE DRV								
LEAD		0	0	0	0	3,077	0	0	3,077
Winona County, City of WINONA	BADGER FOUNDRY CO. --- 1058 E MARK ST								
LEAD		55.8	0	0	53.9	0.2	0	0	109.9
Winona County, City of WINONA	BENCHMARK ELECTRONICS WINONA DIV. --- 4065 THEURER BLVD								
LEAD		8.3	0	0	0	14,126	0	0	14,134.3
Winona County, City of WINONA	HAUSER ART GLASS CO., INC. --- 1685 WILKIE DRIVE								
LEAD		0	0	0	0	2,625	0	0	2,625
Winona County, City of WINONA	MILLER WASTE MILLS, INC. - RTP --- 580 E FRONT ST								
LEAD COMPOUNDS		2.7	0	0	0	0	0	0	2.7
Winona County, City of WINONA	TRW AUTOMOTIVE --- 5752 INDUSTRIAL PARK RD								
LEAD COMPOUNDS		63	0	0	0	19,534	0	0	19,597
Winona County, City of WINONA	WATLOW WINONA, INC. --- 1241 BUNDY BLVD								
LEAD COMPOUNDS		12.181	0	0	0	3,412.158	0	0	3,424.339
Wright County, City of BUFFALO	HONEYWELL ELECTRONIC MATERIALS, INC. --- 200 CENTENNIAL DRV								
LEAD		1	0	0	0	67.13	0	0	68.13
Yellow Medicine County, City of CANBY	SCHOTT CORP. --- 104 11TH ST.								
LEAD		1	0	0	0	454	0	0	455
Grand Totals:		687,838	0	0	158,478,880	4,704,667	0	0	163,871,385

Attachment 7: Number of Facilities (by County)
Reporting Releases and Transfers for Calendar Year 2002

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	Number of Facilities	Environmental Releases (8.1)	Off-site Releases and Transfers (8.1,3,5,7)	Total Chemicals Managed (8.1,2,3,4,5,6,7)
Anoka	22	234,500	6,865,765	7,561,994
Becker	1	43	43	43
Beltrami	1	212,791	212,791	212,791
Benton	4	68,353	89,658	363,294
Blue Earth	7	848,742	1,037,528	1,073,977
Brown	2	27,930	852,952	876,412
Carlton	3	675,695	6,508,431	12,506,448
Carver	12	296,252	518,218	897,118
Cass	1	7,785	7,785	7,785
Chippewa	1	0	1,373	1,373
Chisago	2	18,346	18,346	19,189
Clay	2	94,213	94,213	136,066
Cook	1	211,059	211,059	211,059
Cottonwood	1	35,837	35,837	54,277
Crow Wing	7	50,492	120,666	120,746
Dakota	25	1,962,206	2,449,320	177,483,595
Dodge	1	55,039	365,839	400,839
Douglas	3	71,990	199,583	322,400
Faribault	2	10,595	10,595	10,595
Fillmore	3	150,595	183,139	194,203
Freeborn	4	106,552	173,668	177,196
Goodhue	11	424,577	744,520	2,031,327
Hennepin	88	1,287,790	7,479,211	9,129,993
Hubbard	2	225,583	225,583	225,583
Isanti	1	0	1,200	1,200
Itasca	3	2,253,706	2,287,706	2,496,863
Jackson	1	3,600	63,000	63,000
Kanabec	1	17,865	18,305	18,305
Koochiching	3	587,251	587,251	9,366,951
Lac Qui Parle	2	424,538	424,823	707,537
Lake	2	19,336	49,748	65,652
Lake of the Woods	1	75,871	80,164	80,164
Le Sueur	3	30,686	107,522	1,290,942
Lyon	5	175,661	179,410	179,411
Marshall	1	39,098	39,098	39,098
Martin	4	188,591	196,353	196,353
McLeod	5	522,271	2,712,799	16,858,751
Meeker	5	52,165	437,507	782,030
Morrison	1	398,168	398,168	398,168
Mower	2	182,216	217,576	217,576
Nicollet	5	29,532	44,521	44,521
Nobles	1	11,995	35,595	35,595
Olmsted	10	258,567	1,290,606	1,518,264
Otter Tail	6	270,301	464,024	924,244
Pipestone	1	239,767	239,767	239,767
Polk	4	331,565	377,617	475,448
Ramsey	50	5,200,411	15,633,201	17,689,667
Redwood	1	162,250	211,510	240,500
Renville	1	247,329	247,329	268,297
Rice	6	173,506	1,149,279	2,226,981
Rock	1	22,689	22,689	25,670
Roseau	1	44,000	61,070	61,070
Scott	8	55,511	471,342	930,342
Sherburne	3	7,768,331	7,862,845	8,523,745
Sibley	1	0	0	85,658
St Louis	18	503,935	678,679	777,861
Stearns	12	734,397	1,696,133	2,298,237
Steele	10	470,658	979,847	1,006,082
Swift	1	111	84,116	84,116
Todd	3	206,519	275,382	318,397
Wabasha	3	49,587	54,520	54,520
Wadena	1	6,609	6,609	6,609
Waseca	3	19,037	130,488	158,605
Washington	12	2,063,591	3,784,680	22,962,374
Watonwan	1	17	24,741	24,741
Winona	11	84,417	1,560,455	1,900,296
Wright	4	14,493	93,286	112,026
Yellow Medicine	1	1	455	455
Totals	**425**	**31,017,112**	**73,687,538**	**309,774,392**

Attachment 8: Sample Statewide Listing of Amount of Releases, Transfers, and Total Chemicals Managed for Calendar Year 2002
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
Anoka County, City of ANOKA -- BALLANTINE, INC. – 840 MCKINLEY ST.									
ZINC COMPOUNDS		0	0	0	0	1,889	0	0	1,889
CHROMIUM		0	0	0	0	1,407	0	0	1,407
LEAD		0	0	0	0	104	0	0	104
	Totals	**0**	**0**	**0**	**0**	**3,400**	**0**	**0**	**3,400**
Anoka County, City of ANOKA -- FEDERAL CARTRIDGE COMPANY -- 900 EHLEN DRV									
LEAD COMPOUNDS		58,036	0	0	350,000	712,228	0	0	1,120,264
ETHYLENE GLYCOL		38	0	0	0	0	0	334,880	334,918
NITRATE COMPOUNDS (WATER DISSOCIABLE)		0	0	0	0	0	0	46,286	46,286
BARIUM COMPOUNDS		10,073	0	0	0	0	0	0	10,073
COPPER COMPOUNDS		14,151	0	0	0	5,004,074	0	0	5,018,225
	Totals	**82,298**	**0**	**0**	**350,000**	**5,716,302**	**0**	**381,166**	**6,529,766**
Anoka County, City of ANOKA -- HOFFMAN ENCLOSURES INC. - MAIN PLANT -- 2100 HOFFMAN WAY									
N-BUTYL ALCOHOL		10,022	0	1,114	0	0	0	0	11,136
XYLENE (MIXED ISOMERS)		9,453	0	1,050	0	0	0	0	10,503
TOLUENE		17,060	0	4,743	0	0	0	0	21,803
GLYCOL ETHERS		10,448	0	1,304	0	306	0	438	12,496
METHYL ETHYL KETONE		9,960	0	3,292	0	0	0	0	13,252
	Totals	**56,943**	**0**	**11,503**	**0**	**306**	**0**	**438**	**69,190**
Anoka County, City of ANOKA -- MATE PRECISION TOOLING CO. -- 1295 LUND BLVD.									
CHROMIUM		0	0	0	0	28,472	0	0	28,472
	Totals	**0**	**0**	**0**	**0**	**28,472**	**0**	**0**	**28,472**
Anoka County, City of ANOKA -- PROFESSIONAL PLATING -- 2625 9TH AVE N									
LEAD COMPOUNDS		1.9	0	0	0	21.3	0	0	23.2
	Totals	**1.9**	**0**	**0**	**0**	**21.3**	**0**	**0**	**23.2**
Anoka County, City of BLAINE -- PARKER MOBIL CYLINDER DIV.-BLAINE – 1460 93RD LANE NE									
MANGANESE		7	0	0	0	32,341	0	0	32,348
NICKEL		8	0	0	0	37,600	0	0	37,608
CHROMIUM		6	0	0	0	26,355	0	0	26,361
LEAD		1	0	0	0	1,883	0	0	1,884
	Totals	**22**	**0**	**0**	**0**	**98,179**	**0**	**0**	**98,201**

Attachment 9: 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 state related fees.

In 2002, 118 facilities filed 257 Certification Statements including 57 who filed both a Form R and Certification Statement(s), and 61 who filed only a Certification Statement(s).

The following facilities filed a Certification Statement(s) for the 2002 reporting year:

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
IMI Cornelius Inc.	02-005-0003	Nickel, Copper, Chromium
Federal-Cartridge Co.	02-005-0004	Nitroglycerin, Nitric Acid, Antimony Compounds Dibutyl Phthalate
Airgas North Central, Inc.	02-005-0029	Propylene
Hoffman Enclosures, Inc.	02-005-0053	Diisocyanates, Manganese
Hoffman Enclosures, Inc.	02-005-0060	Nickel, Manganese, Chromium
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	05-073-0015	Copper Compounds, Zinc Compounds, Manganese Compounds
Cenex Harvest States	07-100-0005	Chlorine
Big Gain Inc.	07-160-0004	Zinc Compounds, Manganese Compounds, Copper Compounds
McLaughlin Gormley King	10-035-0008	Permethrin, Piperonyl Butoxide, Maleic Anhydride, Dipropyl Isocinchomeronate, Phenothrin, Tetramethrin, Dicyclopentadiene
Mammoth, Inc.	10-035-0041	Chlorodifluoromethane
Ethanol 2000	17-020-0002	Ammonia, Benzene, Cyclohexane, N-Hexane, Ethylbenzene 1,2,4 -Trimethylbenzene, Toluene, Xylene
Chart Industries, Inc.	19-006-0077	Nickel, Manganese, Chromium
Water Heater Innovations, Inc.	19-025-0027	Diisocyanates

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
W.R. Grace & Co.	19-025-0095	Nitrate Compounds
ConAgra Grain Processing Co.	19-060-0001	Chlorine
Land O'Lakes - Inver Grove Hts.	19-071-0001	Copper Compounds, Manganese Compounds, Zinc Compounds
ChemCentral/Minnesota	19-080-0001	Ethylene Glycol, Ethylbenzene, Di(2-ethylhexyl)Phthalate, Methyl Isobutyl Ketone, 1,2,4-Trimethylbenzene, N-Hexane, Glycol Ethers, Trichloroethylene, N-Butyl Alcohol, Styrene
Spectro Alloys Corp.	19-145-0009	Nickel
DPC Industries, Inc.	19-145-0018	Hydrogen Fluoride
Al-Corn Clean Fuel	20-014-0016	Ammonia, Benzene, N-Hexane, 1,2,4-Trimethylbenzene, Ethylbenzene, Toluene, Xylene
Hubbard Feeds, Inc.	21-005-0002	Zinc Compounds, Manganese Compounds, Copper Compounds
Standard Iron & Wire Works, Inc.	21-005-0064	Nickel, Manganese, Chromium
Crown Fixtures Corp.	22-110-0014	Trichlorofluoromethane, Dichlorodifluoromethane, Diisocyanates
Airgas North Central, Inc.	24-005-0040	Propylene
Agra Resources Coop	24-005-0081	Benzene, Cyclohexane, N-Hexane, Xylene, Toluene Zinc (fume or dust), Ethylbenzene
Degussa Construction, Inc.	27-005-0008	Diisocyanates, Toluene Diisocyanate (mixed isomers)
FMS Corporation	27-005-0092	Ammonia
Caterpillar Paving Products, Inc.	27-015-0053	Ethylene Glycol
Bodycote Thermal Processing	27-056-0070	Ammonia
Douglas Corp.	27-056-0076	Diisocyanates
Filmtec Corporation	27-060-0002	Diisocyanates
Honeywell, Inc.	27-070-0001	Diisocyanates
Lubrication Technologies, Inc.	27-070-0041	Ethylene Glycol
Electrochemicals, Inc.	27-120-0010	Ethylene Glycol, Formaldehyde
Hawkins, Inc.	27-135-0030	Formic Acid
Purina Mills LLC	27-135-0062	Copper Compounds, Manganese Compounds, Zinc Compounds
Diamond Vogel – North Inc.	27-135-0079	Diisocyanates, Toluene Diisocyanate (mixed isomers)
Davis-Frost, Inc.	27-135-0098	Maleic Anhydride
Aggregate Industries	27-135-0130	Nitrate Compounds
Kohl & Madden Printing Ink Corp.	27-135-0222	Barium Compounds
Hauenstein & Burmeister, Inc.	27-135-0281	Nickel
GE Osmonics, Inc.	27-140-0006	Nitrogen Bearing Cross Linker (Trade Secret Pending)
Ceram-Traz Corporation	27-175-0002	Diethanolamine

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Foam Enterprises, Inc.	27-180-0069	1,1-Dichloro-1-fluoroethane, Chlorodifluoromethane
Hutchinson Technology, Inc.	27-180-0078	Ammonia
Lamb-Weston/RDO Frozen	29-120-0003	Chlorine
Jennie-O Turkey Store	34-010-0002	Formaldehyde
Trouw Nutrition USA	34-175-0007	Zinc Compounds, Copper Compounds, Manganese Compounds
Willmar Poultry Farms	34-175-0079	Formaldehyde
Land O'Lakes - Willmar	34-175-0080	Copper Compounds, Manganese Compounds, Zinc Compounds
Ag Processing, Inc.	37-045-0012	Chlorine
Koch Materials Co.	42-095-0003	1,2,4-Trimethylbenzene, Ethylbenzene, Toluene
ADM	42-095-0048	Benzene, Chlorine
Seneca Foods	43-030-0001	Peracetic Acid
ADM Alliance Nutrition	43-030-0017	Zinc Compounds, Manganese Compounds
Hutchinson Mfg., Inc.	43-055-0029	Chromium, Manganese, Nickel
Haugen Furniture Co.	43-055-0037	Glycol Ethers
Weigh-Tronix, Inc.	46-035-0041	Chromium, Nickel
Innovex, Inc.	47-100-0002	Chlorine, Hydrochloric Acid (aerosol), Sodium Dimethyldithiocarbamate
Larson-Glastron Boats,Inc.	49-120-0003	Diisocyanates, Dimethyl Phthalate
Crestliner, Inc.	49-120-0025	Diisocyanates
Central MN Ethanol Coop	49-120-0048	Ammonia, Benzene, n-Hexane, 1,2,4-Trimethylbenzene, Ethylbenzene, Toluene, Xylene
Land O'Lakes - Adams	50-004-0016	Zinc Compounds
Hormel Foods Corporation	50-015-0002	Sodium Nitrite, Chlorine
Carlson Craft Social	52-065-0002	Antimony
Alumacraft Boat Co.	52-080-0001	Diisocyanates
Hubbard Feeds, Inc.	53-150-0007	Zinc Compounds, Copper Compounds, Manganese Compounds
Hubbard Feeds, Inc.	53-150-0043	Copper Compounds, Manganese Compounds, Zinc Compounds
Quest International	55-095-0017	Nitric Acid, Ammonia, Peracetic Acid
Lund Boat Company	56-251-0003	Diisocyanates
Arctic Cat, Inc.	57-115-0042	Diisocyanates, Ethylene Glycol
Honeywell Electronic Materials	62-060-0001	Hydrochloric Acid (aerosol), Sulfuric Acid (aerosol)
C&H Chemical	62-070-0010	Sodium Nitrite

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Gopher State Ethanol	62-070-0029	Cyclohexane, N-Hexane, Ammonia
Harcros Chemicals, Inc.	62-070-0070	Ethylene Glycol
Ashland Distribution Company	62-070-0077	Cyclohexane, Trichloroethylene, Methyl Isobutyl Ketone, 1,2,4-Trimethylbenzene, N-Butyl Alcohol
Vopak USA, Inc.	62-070-0079	Toluene, Tetrachloroethylene, Xylene, Nitric Acid, Ammonia
Brenntag Great Lakes LLC	62-070-0082	Ethylene Glycol, 1,2,4-Trimethylbenzene, Methyl Isobutyl Ketone
Gross-Given Mfg. Co.	62-070-0108	Diisocyanates
Versa Iron & Machine	62-070-0230	Copper
Schwing America, Inc.	62-092-0001	Propylene
Quality Wood Treating Co., Inc.	62-095-0001	Copper Compounds, Arsenic Compounds, Chromium Compounds
Aspen Research Corp.	62-095-0043	Chromium Compounds
Central Bi-Products	64-110-0002	Chlorine, Chlorine Dioxide
HBOS Mfg. LP Schult Homes	64-110-0038	Diisocyanates
Minnesota Energy	65-040-0008	Benzene, Ammonia
K-Bar Industries	66-030-0086	Diisocyanates
Malt-O-Meal Co.	66-060-0041	Zinc Compounds
Agri-Energy, LLC	67-055-0022	Ammonia, Benzene, Cyclohexane, N-Hexane
Staver Foundry Co.	69-440-0020	Chromium, Nickel
Chaska Chemical Co., Inc.	70-082-0002	Nitric Acid, Glycol Ethers
Conklin Company, Inc.	70-085-0006	Ammonia, Zinc Compounds
Fremont Industries, Inc.	70-085-0008	Sodium Nitrite, Glycol Ethers, Ethylene Glycol, N-Methyl-2-Pyrrolidone
Cargill, Inc.	71-019-0012	Manganese Compounds
Heartland Corn Products	72-120-0010	Ammonia, Benzene, Cyclohexane, N-Hexane
Gold'N Plump Poultry, Inc.	73-040-0001	Chlorine
Wiman Corp.	73-073-0031	Di(2-ethylhexyl)Phthalate
Melrose Dairy Proteins LLC	73-150-0003	Methyl Tert-Butyl Ether, Toluene, Xylene
Grede–St. Cloud Foundry, Inc.	73-230-0084	Diisocyanates
New Flyer USA	73-230-0097	Ethylene Glycol
Standard Iron & Wire Works, Inc.	73-265-0028	Manganese
Tandem Products, Inc.	74-014-0039	Copper, Nitrate Compounds
Truth Hardware	74-070-0002	Chromium, Nickel
Diversified Energy Co.	75-070-0014	Ammonia, Benzene, 1,2,4-Trimethylbenzene, N-Hexane, Ethylbenzene, Toluene, Xylene
CNH Benson	76-015-0028	Ethylene Glycol
Chippewa Valley Ethanol Co.	76-015-0036	Ammonia, Benzene, Methanol, N-Hexane, Toluene
Central Bi-Products	77-124-0002	Chlorine, Chlorine Dioxide

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Andersen Corporation	82-015-0002	Diisocyanates
Nor-Lakes Services Midwest	82-070-0009	Zinc Compounds
Badger Foundry Co.	85-145-0005	Diisocyanates
United Machine and Foundry	85-145-0066	Chromium, Nickel
Miller Felpax Corp.	85-145-0069	Diisocyanates, Proprietary Glycol
Honeywell Electronic Materials	86-019-0025	Hydrochloric Acid (aerosol),
Land O'Lakes – Howard Lake	86-085-0010	Copper Compounds

Attachment 10: Facilities which submitted an EPA Form R in 2001 but are not subject to reporting in 2002

Facility Name & Location	County	ERC ID Number
IMI Cornelius, Inc., Anoka	Anoka	02-005-0003
Mentor Corp., Anoka	Anoka	02-005-0055
Plasti Dip International, Circle Pines	Anoka	02-020-0005
Plexus Corp., Blaine	Anoka	02-020-0076
H.B. Fuller Co., Fridley	Anoka	02-055-0018
Kurt Mfg. Co., Fridley	Anoka	02-055-0071
Life Fitness, Ramsey	Anoka	02-095-0023
Coleman Powermate, Inc., Springfield	Brown	08-105-0012
Parker Hannifin Corp., Chanhassen	Carver	10-030-0024
Chart Industries, Inc., Burnsville	Dakota	19-006-0077
Finishing Equipment, Inc., Eagan	Dakota	19-025-0111
Progress Casting Group, Albert Lea	Freeborn	24-005-0044
Farmland Foods, Albert Lea	Freeborn	24-005-0050
Onyx Special Services, Inc., Bloomington	Hennepin	27-005-0134
General Mills, Inc., Eden Prairie	Hennepin	27-056-0054
Honeywell Advanced Circuits, Inc., Hopkins	Hennepin	27-095-0001
Pechiney Plastic Pkg., Minneapolis	Hennepin	27-135-0003
Valmont Applied Coating Tech., Minneapolis	Hennepin	27-135-0104
General Mills Purity Oats, Minneapolis	Hennepin	27-135-0249
Oldcastle Glass, Inc., Minneapolis	Hennepin	27-135-0620
Honeywell Advanced Circuits, Inc., Minnetonka	Hennepin	27-140-0008
Precision Diversified Industries, Plymouth	Hennepin	27-180-0029
Honeywell Advanced Circuits, Inc., St. Louis Park	Hennepin	27-215-0003
American Marine, Mora	Kanabec	33-065-0005
ADC Telecommunications, Le Sueur	Le Sueur	40-070-0039
Haugen Furniture Co., Hutchinson	McLeod	43-055-0037
Onan Power Electronics, St. Peter	Nicollet	52-080-0003
Marigold Foods, Rochester	Olmsted	55-095-0010
Kaneb Pipeline, Roseville	Ramsey	62-060-0002
Brenntag Great Lakes, Roseville	Ramsey	62-060-0003
Gopher State Ethanol, St. Paul	Ramsey	62-070-0029
SCI Enclosures, St. Paul	Ramsey	62-070-0105
Advance Corp., St. Paul	Ramsey	62-070-0356
Aspen Research Corp., White Bear Lake	Ramsey	62-095-0043
Protient, Inc., Faribault	Rice	66-030-0003
Lakeside Foods, Brooten	Stearns	73-035-0008
Vision Ease Lens, Inc., St. Cloud	Stearns	73-230-0020
Mustang Mfg. Co., Owatonna	Steele	74-070-0057
Dura Supreme, Howard Lake	Wright	86-085-0007

Attachment 11: "Core" Set of Reported Chemicals (1988-2002)

The Environmental Protection Agency (EPA) has the authority to add chemicals to the Section 313 Toxic Chemical List (see Appendix A on page 71.) 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 (2002). Pages 42 to 45 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 2002. 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 1988-2002 time period.

To facilitate a full understanding of the release/transfer data provided, two basic clarifications are needed. First, if 1988 or 2002 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 1988-2002, 543 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 1988-2002 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 46-47 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 309,244 pounds in 2001. 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 Xcel Energy (formerly NSP) facility in Becker reported 7,468,285 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)

      Sappi (formerly 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 5,787,312 pounds in 2002.

   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 and 331,000 pounds in 1998.

      - 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, Sappi (formerly Potlatch) at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred off-site to the POTW for treatment in 1988 and 5,787,312 pounds in 2002.

      - 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.

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(Amount in Pounds)

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	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	8	17,840	201,061	30	210	8	31,030
	2002	11	45,714	71,681	13	0	4	172
1,2-Butylene oxide	1988	1	1,300	0	0	0	0	0
1,2-Dibromoethane	1988	1	0	5	0	0	0	0
	2002	1	0	18	0	0	0	87
1,2-Dichloroethane	1988	2	83	12,009	0	0	0	9,400
	2001	1	7	24	0	0	0	22
1,3-Butadiene	1988	1	0	13,000	30	0	0	30
	2002	1	910	692	2	0	0	0
1,4-Dioxane	1988	3	1,879	23,584	0	0	45,985	421
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
	2002	2	579	11,102	1	0	12	68
2-Methoxyethanol	1988	1	0	9,800	0	0	0	0
4,4'-Isopropylidenediphenol	2002	2	0	1,404	0	0	0	0
4,4'-Methylenedianiline	1988	2	0	0	0	0	0	8,145
	2002	1	0	0	0	0	0	0
Acetaldehyde	2002	9	1,585	273,873	690	5	8,669	0
Acetonitrile	2002	1	0	0	0	0	0	0
Acrolein	2002	1	0	20,545	0	0	0	0
Acrylic acid	1988	1	4	120	0	0	0	0
	2002	2	1,254	12,847	0	0	0	31,136
Acrylonitrile	1988	1	0	0	0	0	0	0
Aluminum (fume or dust)	1988	4	0	27,688	4,100	0	63	109,842
	2002	5	33,395	1,657	0	0	0	925
Anthracene	2002	1	19	4	0	0	0	0
Antimony	1988	2	130	140	0	19,098	68	0
	2002	1	12	10	0	0	250	0
Antimony compounds	1988	3	5	63	6	18	28	6,405
	2002	9	10	211	1,553	42,510	1	4,473
Arsenic	1988	2	65	74	160	5,981	6	0
	2002	1	6	5	0	0	38	0
Arsenic compounds	1988	2	0	250	0	0	0	1,350
Barium	1988	4	0	21,870	1,000	84,900	0	267
	2002	4	46	118,958	5	0	1,944	255
Barium compounds	1988	3	250	250	0	0	250	2,135
	2002	21	1,331	65,709	3,436	7,284,841	5,219	151,217
Benzene	1988	4	14,180	300,310	30	970	0	715
	2002	6	16,492	9,098	2,826	0	0	16
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
	2002	1	170	8	0	0	0	0

Note: See important explanatory information on pages 40-41

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

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Water	Land	POTW	Offsite (Disposal and Treatment)
Bromomethane	2002	1	12,744	0	0	0	0	0
Butyl acrylate	2002	1	42	1,660	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
	2002	2	1	21	0	0	0	0
Carbon tetrachloride	1988	1	0	0	0	0	0	0
Carbonyl sulfide	2002	3	2	1,320	0	0	0	0
Catechol	1988	1	0	0	0	0	14,000	0
	2002	2	0	0	0	5	1,071	0
Chlorine	1988	40	14,906	469,794	26,804	0	42,724	62,000
	2002	8	6,715	1,029	0	0	13	0
Chlorine dioxide	1988	3	500	19,250	0	0	0	0
	2002	2	10	25,171	0	0	0	0
Chloroform	1988	2	102,000	161,000	79,000	430	17,000	0
Chloromethane	1988	1	143,000	0	0	0	0	0
Chromium	1988	11	757	1,558	1,313	12,250	1,258	25,734
	2002	29	240	949	0	584	127	3,002
Chromium compounds	1988	11	1,300	1,496	0	12,056	46,593	36,042
	2002	21	469	2,726	182	103,020	23,923	52,723
Cobalt	1988	2	250	65	200	290	0	2
	2002	2	0	5	0	0	0	0
Cobalt compounds	1988	2	3	649	0	0	0	9,686
	2002	3	12	102	0	0	0	8,431
Copper	1988	27	2,540	3,013	57	0	3,672	30,474
	2002	47	10,534	10,276	1	1,139	995	3,562
Copper compounds	1988	15	511	1,009	5	1,283	9,695	190,419
	2002	28	69	8,388	907	280,020	2,989	213,863
Cresol (mixed isomers)	1988	1	0	0	0	24	0	0
	2002	2	60	1,070	0	5	1,755	4
Cumene	1988	1	91	0	30	0	0	30
	2002	1	810	160	0	0	0	36
Cyanide compounds	1988	8	1,250	750	0	0	27,882	7,700
	2002	5	0	1,644	0	0	155	26,591
Cyclohexane	1988	3	5,004	67,240	150	0	0	30
	2002	7	6,821	24,909	6	0	0	3,814
Decabromodiphenyl oxide	2002	3	0	0	0	0	0	4,135
Di(2-ethylhexyl) phthalate	1988	3	0	4,100	0	3	1	4,860
	2002	4	33	0	0	0	501	2,685
Dibenzofuran	2002	1	0	0	0	0	0	0
Dichloromethane	1988	40	594,104	2,176,785	1,800	0	1,839	188,395
	2002	8	8,088	96,970	0	0	492	1,996
Diethanolamine	1988	3	0	250	0	0	13,362	250
Dimethyl phthalate	1988	1	25,500	0	0	0	0	0
	2002	1	0	165	0	0	0	0
Epichlorohydrin	2002	1	3	27	0	0	0	0

Note: See important explanatory information on pages 40-41

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(Amount in Pounds)

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Water	Land	POTW	Offsite (Disposal and Treatment)
Ethyl acrylate	1988	1	2,400	960	0	0	0	0
	2002	1	1,438	1,227	13	0	0	0
Ethylbenzene	1988	11	20,790	443,063	30	1,800	500	28,143
	2002	16	23,972	104,551	12	0	0	75
Ethylene	1988	2	23,700	310	30	0	0	30
	2002	2	13,785	1,541	3	0	0	0
Ethylene glycol	1988	20	33,394	64,116	1,493	0	303,604	392,057
	2002	16	8,752	989	55	0	362,699	556
Ethylene oxide	2002	1	92	185	0	0	0	0
Formaldehyde	1988	18	4,700	749,359	3,900	0	8,197	8,385
	2002	13	2,169	223,127	1	5	19,846	418
Freon 113	1988	50	2,446,227	953,886	0	0	4,295	55,796
	2002	1	10,695	0	0	0	0	0
Glycol ethers	1988	31	322,763	837,357	0	0	306,809	59,832
	2002	26	125,433	481,067	0	0	93,546	2,085
Hexachlorobenzene	2002	1	0	0	0	0	0	0
Hydrogen cyanide	1988	1	0	95	800	0	0	0
Hydrogen fluoride	1988	3	1,550	96,500	0	0	0	0
	2002	12	229	211,487	0	0	111	0
Lead	1988	6	6,760	7,530	1,510	142,955	493	69,388
	2002	81	712	1,958	0	10	598	4,215
Lead compounds	1988	8	12,250	5,043	0	370,747	1,505	18,291
	2002	77	1,088	7,578	1,198	207,891	410	78,841
m-Xylene	2002	1	516	0	0	0	0	0
Maleic anhydride	1988	5	317	663	0	0	0	42
	2002	3	27	682	0	0	0	13
Manganese	1988	9	510	1,330	360	0	250	16,694
	2002	22	509	2,455	0	6	113	297
Manganese compounds	1988	10	13,000	2,910	5	130,000	4,810	1,050
	2002	18	3,379	11,581	28,030	1,437,753	95,729	40,642
Mercury	1988	1	2	130	0	18	0	0
	2002	7	43	20	0	0	13	10
Mercury compounds	2002	22	7	1,767	0	853	0	24
Methanol	1988	32	128,628	2,199,194	0	280,000	2,245,700	289,959
	2002	30	77,953	1,453,012	367	0	5,930,024	82,170
Methyl acrylate	1988	1	70	1,300	0	0	0	0
	2002	1	901	273	0	0	0	0
Methyl ethyl ketone	1988	44	450,882	12,859,36	240	730	1,250	668,447
	2002	30	114,314	406,619	61	5	8,290	1,424,351
Methyl isobutyl ketone	1988	23	31,057	572,202	0	0	500	57,660
	2002	8	14,218	120,676	0	0	0	2,021
Methyl methacrylate	1988	1	1,500	660	73	0	0	0
	2002	6	34,253	28,097	22	0	0	0
Molybdenum trioxide	1988	2	250	0	0	0	0	0
	2002	7	15	285	19	20,810	0	2,913
n-Butyl alcohol	1988	20	48,999	807,983	0	0	100	85,270
	2002	11	95,627	470,259	0	0	0	0
Naphthalene	1988	3	13,704	2,094	3	1,500	0	51
	2002	4	4,908	461	0	2	0	160

Note: See important explanatory information on pages 40-41

"Core" Set of Reported Chemicals (1988 - 2002)

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

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Water	Land	POTW	Offsite (Disposal and Treatment)
Nickel	1988	13	788	760	1,260	2,500	919	45,295
	2002	32	263	398	5	247	312	260
Nickel compounds	1988	4	1,355	750	0	86,040	831	1,019
	2002	24	758	14,037	249	83,930	2,474	72,224
Nitric acid	1988	52	3,156	44,371	250	0	140,957	60,501
	2002	52	3,546	28,464	0	0	97,795	105,848
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
	2002	1	7	2	0	0	0	53
Peracetic acid	1988	1	15	8	0	0	0	0
	2002	1	35	633	0	0	0	0
Phenol	1988	10	2,780	231,949	1,200	289,310	500	21,218
	2002	10	5,375	74,592	21	0	2,071	1,306
Phosphorus (yellow or white)	2002	1	0	0	0	0	0	1,293
Phthalic anhydride	1988	2	0	10,750	0	0	0	0
	2002	2	52	1,017	0	0	0	13
Polychlorinated biphenyls	2002	2	0	0	0	0	0	0
Propylene	1988	3	153,000	67,250	30	0	0	30
	2002	3	35,899	6,246	3	0	0	0
Propylene oxide	1988	1	750	750	0	0	0	0
	2002	1	5	395	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
	2002	1	2	29	2,500	0	0	9
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
	2002	29	461,131	718,371	0	0	0	2,094
tert-Butyl alcohol	1988	1	0	17,799	0	0	0	0
	2002	3	1	820	0	0	0	11
Tetrachloroethylene	1988	8	51,086	107,564	0	0	603	14,000
	2002	3	11,591	94,277	0	0	0	1
Toluene	1988	72	750,321	10,673,90	30	750	846	1,693,032
	2002	43	179,213	869,090	8	0	35	411,870
Toluene-2,4-diisocyanate	1988	7	870	575	0	0	0	2,250
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
	2002	12	37,455	251,236	0	0	44	1,796
Vanadium (fume or dust)	1988	1	0	150	0	630	0	0
Vinyl acetate	2002	1	1	0	0	0	0	598
Xylene (mixed isomers)	1988	62	561,448	4,602,829	30	2,000	800	291,947
	2002	46	148,626	762,813	32	0	3	13,627
Zinc compounds	1988	19	84,755	22,575	14,410	1,501,773	7,423	118,118
	2002	39	4,683	13,144	5,110	483,020	3,662	527,851
1988 Totals		365	8,456,206	42,057,890	141,315	2,948,711	3,272,481	5,120,902
2002 Totals		366	1,571,862	7,129,899	47,331	9,946,660	6,665,929	3,286,858

Note: See important explanatory information on pages 40-41

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

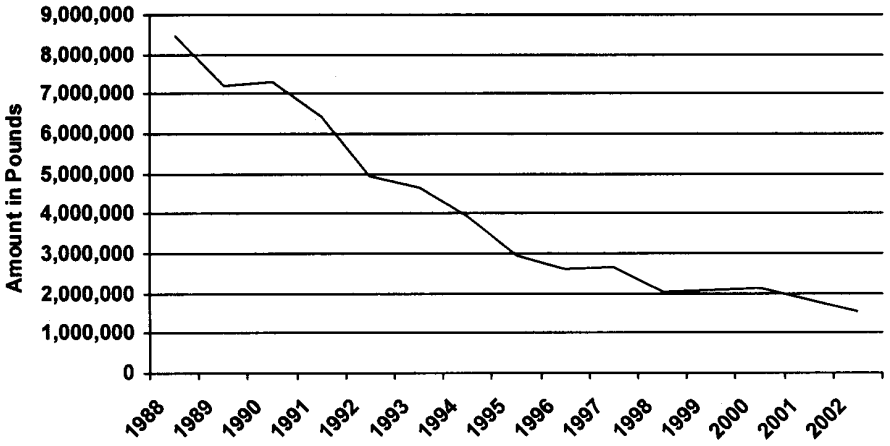


Figure 7: "Core" Set of Chemicals - Stack Air

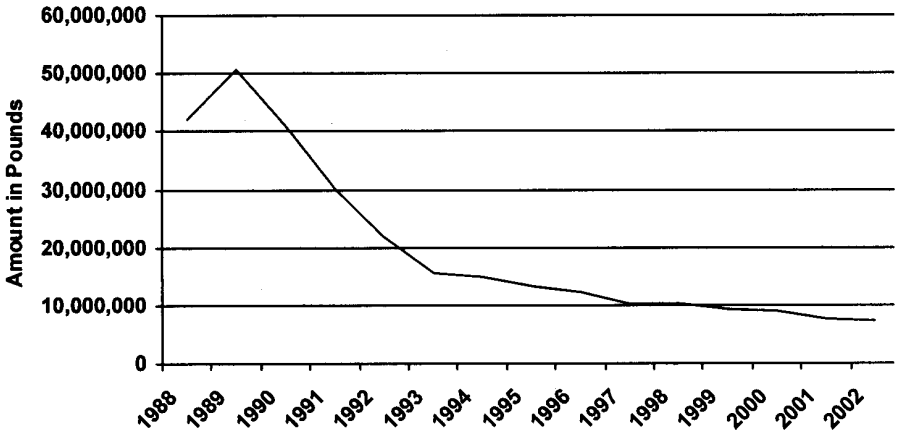
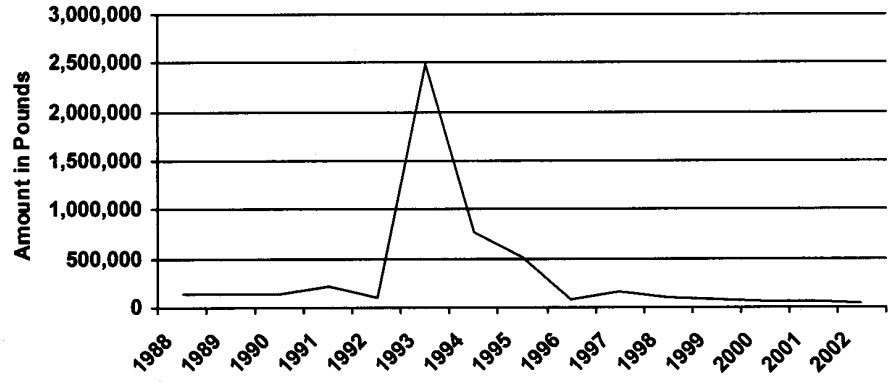


Figure 8: "Core" Set of Chemicals - Water



Note: See important explanatory information on pages 40-41

Figure 9: "Core" Set of Chemicals - Land

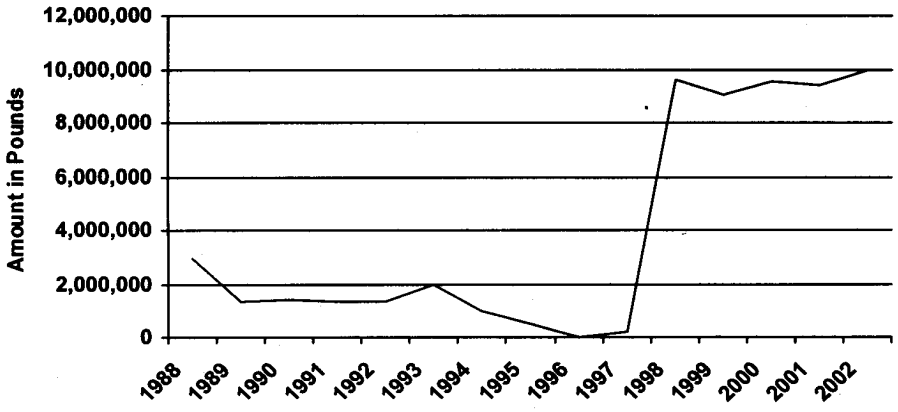


Figure 10: "Core" Set of Chemicals - POTW

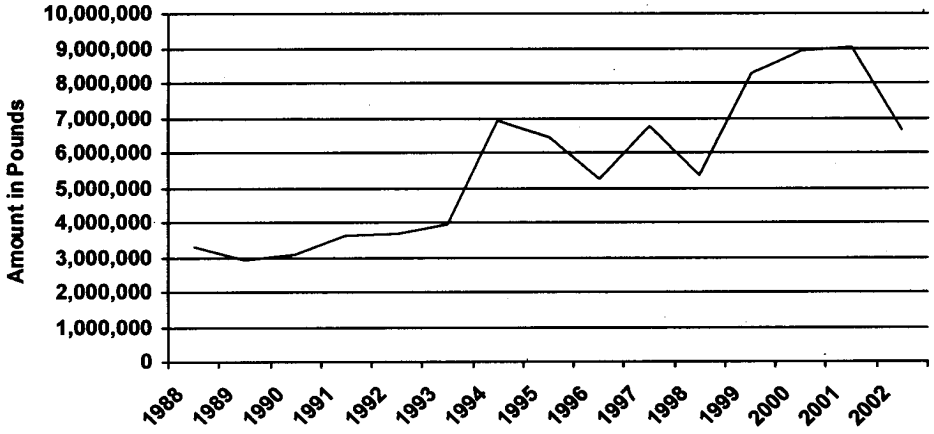
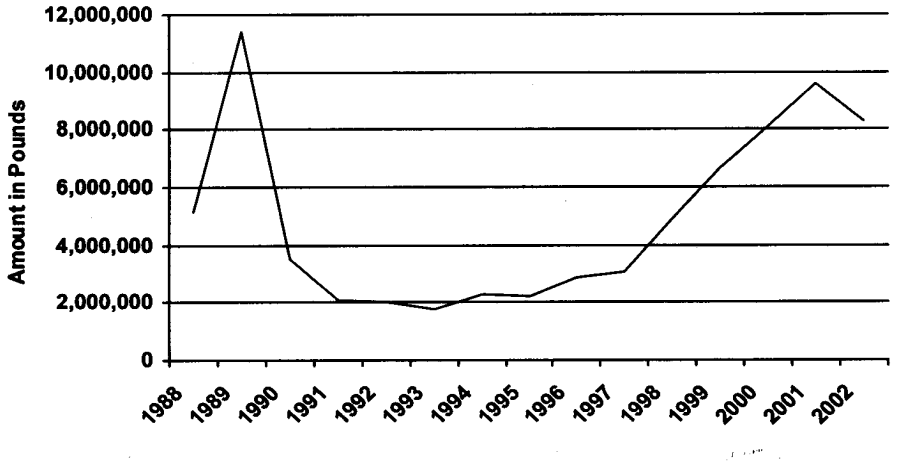


Figure 11: "Core" Set of Chemicals - Offsite Transfers (Disposal and Treatment Only)



Note: See important explanatory information on pages 40-41

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.

Progress Reports for reporting years 1995-2002 are available for review at the ERC office. Progress Reports for years prior to 1995 are available for review at the Minnesota Pollution Control Agency's Pollution Prevention and Sustainability Office.

Progress Report Issues

Approximately fifty-four 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

A sample of a statewide listing found on page 55 summarizes 2002 Progress Report information. A complete listing is available from the Emergency Response Commission (651-297-7372). 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 54 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 52 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 2001 & 2002 - actual quantity of this chemical reported on the EPA Form R (Sections 8.1 - 8.7) in 2001 and 2002

Source Reduction - describes the reduction activity code(s) that was used to meet pollution prevention objective (see pages 53-54 for source reduction (W) code descriptions)

P CODES 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	Combustion
P07	De-icing
P08	Developing (non-photographic)
P09	Drying
P10	Electroless/Immersion coating
P11	Electroplating
P12	Extruding any material
P13	Fiberglass product manufacturing
P14	Foam blowing
P15	Food processing (human and animal)
P16	Heat treating
P17	Laminating/Pressing any material
P18	Lens grinding
P19	Machining any material (polishing, routing, drilling, etc.)
P20	Metal melting
P21	Metal shredding
P22	Metal treating (anodizing, phosphating, pickling, etc.)
P23	Molding any material (bending, forming, shaping, etc.)
P24	Organic coating (painting, varnishing, adhesive, etc.)
P25	Paper manufacturing
P26	Photographic processing
P27	Printing
P28	Refining
P29	Refrigerating/Freezing
P30	Regenerating resin
P31	Smelting
P32	Sterilizing (fumigating, disinfecting, etc.)
P33	Stripping any coating
P34	Tanning
P35	Vacuum depositing (vapor, ion, epitaxy, etc.)
P36	Water treating (neutralizing, evaporating, etc.)
P37	Weatherizing (wood treating, corrosion inhibiting, etc.)
P38	Welding any material (soldering, brazing, joining, etc.)
P39	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

Anoka County, City of ANOKA -- FEDERAL CARTRIDGE COMPANY -- 900 EHLEN DRV

Chemical Name	Baseline Year	Baseline Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 2001	2002	2003	2004	Reported		P.R.	Met Objective
Barium Compounds	1991	100					2001	4,724	2002 / 2000 = 1.25	Yes
							2002	10,073		

Process 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 MIXTURE FORMULATIONS THAT REPLACE OR REDUCE THE AMOUNT OF BARIUM REQUIRED.

Non Numeric Progress: PRODUCED LIMITED AMOUNTS OF TOTAL METAL FREE PRIMING MIX WHICH IS BARIUM FREE.

Chemical Name	Baseline Year	Baseline Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 2001	2002	2003	2004	Reported		P.R.	Met Objective
Copper Compounds	1991	8,900					2001	31,149	2002 / 2001 = 1.25	No
							2002	5,018,225		

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

Intended Activity
W64 IMPROVED DRAINING PROCEDURES
W67 IMPROVED RINSE EQUIPMENT DESIGN
W71 REPLACEMENT OF THE PRESENT ATMOSPHERIC ANNEALERS WITH AN OXYGEN FREE UNIT TO REDUCE THE AMOUNT OF OXIDE REMOVAL REQUIRING POST ANNEALING.

Employed Activity
W42 SUBSTITUTED RAW MATERIALS
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Process P22 METAL TREATING (ANODIZING, PHOSPHATING, PICKLING, ETC.)

Intended Activity
W71 REPLACEMENT OF THE PRESENT ATMOSPHERIC ANNEALERS WITH AN OXYGEN FREE UNIT TO REDUCE THE AMOUNT OF OXIDE REMOVAL REQUIRING POST ANNEALING.

Employed Activity
W82 MODIFIED DESIGN OR COMPOSITION

Non Numeric Objective: INSTALL CONTROLLED ATMOSPHERE ANNEALER TO REDUCE OR ELIMINATE THE AMOUNT OF COPPER OXIDE REMOVAL REQUIRED AFTER ANNEALING. EVALUATE ALTERNATE METALS AND COATING COMPOSITION. REDUCE THE AMOUNT OF COPPER PLATED SHOT PRODUCED.

Non Numeric Progress: INCREASED PRODUCTION OF NON-COPPER BASED COMPONENTS AND PLATED SHOT. CONTINUED EVALUATION OF LESS AGGRESSIVE CLEANERS.

Barriers to P2: F01 INSUFFICIENT CAPITAL TO INSTALL NEW SOURCE REDUCTION EQUIPMENT OR IMPLEMENT NEW SOURCE REDUCTION ACTIVITIES/INITIATIVES.

Chemical Name	Baseline Year	Baseline Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 2001	2002	2003	2004	Reported		P.R.	Met Objective
Ethylene Glycol	1991	200,000					2001	271,345	2002 / 2001 = 1.25	No
							2002	334,918		

Process P12 EXTRUDING ANY MATERIAL

Attachment 13: Facilities not subject to Pollution Prevention Progress reporting in 2002

Facility Name and Location	County	ERC ID #
Alliant Integrated Defense Co. LLC, St. Francis	Anoka	02-106-0001
Ballantine, Inc., Anoka	Anoka	02-005-0062
Pro-Tech Interconnect Solutions LLC, Chaska	Carver	10-035-0012
Busch Agricultural Resources, Inc., Moorhead	Clay	14-145-0010
Taconite Harbor Energy Center, Schroeder	Cook	16-999-0001
Image Rotomolding Enterprises, Inc, Brainerd	Crow Wing	18-015-0081
Crown Cork & Seal Co. (USA), Inc., Lakeville	Dakota	19-080-0011
Dole Explosives, Inc., Rosemount	Dakota	19-145-0014
Ecolab, Inc., Eagan	Dakota	19-025-0004
Intek Weatherseal Products, Inc., Hastings	Dakota	19-060-0013
Materials Processing Corp., Eagan	Dakota	19-025-0091
Pro-Corn LLC, Preston	Fillmore	23-134-0019
Amesbury Group, Inc., Cannon Falls	Goodhue	25-025-0029
934th Airlift Wing Reserve Stn., IAP, Minneapolis	Hennepin	27-999-0021
Applied Coating Technology, Inc., Eden Prairie	Hennepin	27-056-0004
Foam Enterprises, Inc., Plymouth	Hennepin	27-180-0069
Gaytee Stained Glass Inc., Minneapolis	Hennepin	27-135-0636
Hanson Spancrete Midwest Inc., Maple Grove	Hennepin	27-115-0036
James Ford Bell Research (General Mills), Golden Valley	Hennepin	27-070-0003
Lind Electronics, Inc., St. Louis Park	Hennepin	27-215-0085
Spicer Off-Highway Products Division, Plymouth	Hennepin	27-180-0012
Technical Plating, Inc., Brooklyn Park	Hennepin	27-015-0036
Technical Resin Packaging, Inc., Brooklyn Park	Hennepin	27-015-0094
The Bureau Electronics Group, Minneapolis	Hennepin	27-135-0011
Anderson Chemical Co., Litchfield	Meeker	47-100-0005
Custom Products, Inc., Litchfield	Meeker	47-100-0028
Pemstar, Inc., Rochester	Olmsted	55-095-0006
Dairy Farmers of America, Fergus Falls	Otter Tail	56-165-0005
C & H Chemical Company, St. Paul	Ramsey	62-070-0010
GE Interlogix, St. Paul	Ramsey	62-070-0417
Honeywell Electronic Materials, Inc., Roseville	Ramsey	62-060-0001
Lubrication Technologies, Inc, Roseville	Ramsey	62-060-0080
Mercury Waste Solutions, Inc., Roseville	Ramsey	62-060-0092
North Star Recycling-Minnesota, St. Paul	Ramsey	62-070-0334
Quality Wood Treating Co., White Bear Lake	Ramsey	62-095-0001
Schroeder Milk Co., Inc., Maplewood	Ramsey	62-035-0013
Northfield Acquisition Co. - East Facility, Northfield	Rice	66-060-0002
Telamco, Inc., Lonsdale	Rice	66-040-0007
ADC Telecommunications, Shakopee	Scott	70-085-0065
Xcel Energy - Becker RDF Ash Landfill, Becker	Sherburne	71-009-0018
U.S. DOD USAF Duluth ANG AFB, Minnesota, Duluth	St Louis	69-125-0230
SPX Valves and Controls, Sartell	Stearns	73-262-0002
Viking Waterbeds Inc., St. Joseph	Stearns	73-239-0013
Northern Food and Dairy Inc, Bertha	Todd	77-009-0005
Birds Eye Foods, Inc., Waseca	Waseca	81-070-0001
Dean Foods North Central, Inc., Woodbury	Washington	82-191-0001
Honeywell Electronic Materials, Inc., Buffalo	Wright	86-019-0025
Sunny Fresh Foods, Monticello	Wright	86-109-0004

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.

$$\text{Index} = \frac{\text{Potential exposure}}{\text{Toxicity}} = \text{Hazard Potential}$$

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 2002 Minnesota Toxic Release Inventory. The next four 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 2002 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)

Attachment 14: Chemicals released for the year 2002 in order from the largest to the smallest total air releases

Sections: 5.1, 5.2 of EPA Form "R"

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

Chemical	Fugitive Air	Stack Air	Total Air Releases
Methanol	77,953	1,453,012	1,530,965
N-Hexane	673,946	848,414	1,522,360
Ammonia	447,717	799,290	1,247,007
Styrene	461,131	718,371	1,179,502
Toluene	179,213	869,090	1,048,303
Xylene (Mixed Isomers)	148,626	762,813	911,439
1,1-Dichloro-1-Fluoroethane	67,400	570,000	637,400
Glycol Ethers	125,433	481,067	606,500
N-Butyl Alcohol	95,627	470,259	565,886
Methyl Ethyl Ketone	114,314	406,619	520,933
Hydrochloric Acid (Aerosol Forms Only)	1,416	448,782	450,198
Trichloroethylene	37,455	251,236	288,691
Acetaldehyde	1,585	273,873	275,458
Formaldehyde	2,169	223,127	225,296
Hydrogen Fluoride	229	211,487	211,716
Sulfuric Acid (Aerosol Forms Only)	268	188,372	188,640
Methyl Isobutyl Ketone	14,218	120,676	134,894
Ethylbenzene	23,972	104,551	128,523
Barium	46	118,958	119,004
1,2,4-Trimethylbenzene	45,714	71,681	117,395
Tetrachloroethylene	11,591	94,277	105,868
Dichloromethane	8,088	96,970	105,058
Phenol	5,375	74,592	79,967
Barium Compounds	1,331	65,709	67,040
Methyl Methacrylate	34,253	28,097	62,350
1-Chloro-1,1-Difluoroethane	45,304	0	45,304
Propylene	35,899	6,246	42,145
Aluminum (Fume or Dust)	33,395	1,657	35,052
N-Methyl-2-Pyrrolidone	369	31,992	32,361
Nitric Acid	3,546	28,464	32,010
Cyclohexane	6,821	24,909	31,730
Benzene	16,492	9,098	25,590
Chlorine Dioxide	10	25,171	25,181
Copper	10,534	10,276	20,810
Acrolein	0	20,545	20,545
Zinc Compounds	4,683	13,144	16,771
Ethylene	13,785	1,541	15,326
Manganese Compounds	3,379	11,581	14,960
Nickel Compounds	758	14,037	14,795
Acrylic Acid	1,254	12,847	14,101
Formic Acid	6,771	7,095	13,866
Bromomethane	12,744	0	12,744
2-Ethoxyethanol	579	11,102	11,681
N,N-Dimethylformamide	55	10,760	10,815
Freon 113	10,695	0	10,695
Ethylene Glycol	8,752	989	9,741
Lead Compounds	1,088	7,578	8,667
Copper Compounds	69	8,388	8,457
Chlorine	6,715	1,029	7,744
Vanadium Compounds	275	7,075	7,350
Flammable Organic Solvent 1 (Trade Secret Pending)	680	6,120	6,800
Flammable Organic Solvent 2 (Trade Secret Pending)	644	5,796	6,440
Naphthalene	4,908	461	5,369
2-Chloro-1,1,1,2-Tetrafluoroethane	0	3,393	3,393
Chromium Compounds	469	2,726	3,195
Manganese	509	2,455	2,964

Attachment 14: Chemicals released for the year 2002 in order from the largest to the smallest total air releases

Sections: 5.1, 5.2 of EPA Form "R"

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

Chemical	Fugitive Air	Stack Air	Total Air Releases
Polycyclic Aromatic Compounds	2,093	810	2,903
Diisocyanates	1,617	1,086	2,703
Lead	712	1,958	2,670
Ethyl Acrylate	1,438	1,227	2,665
Chlorodifluoromethane	2,570	0	2,570
Flammable Organic Solvent 3 (Trade Secret Pending)	244	2,196	2,440
Mercury Compounds	7	1,767	1,774
Butyl Acrylate	42	1,660	1,702
Cyanide Compounds	0	1,644	1,644
1,3-Butadiene	910	692	1,602
4,4'-Isopropylidenediphenol	0	1,404	1,404
Carbonyl Sulfide	2	1,320	1,322
Dicyclopentadiene	227	1,074	1,301
Chromium	240	949	1,189
Methyl Acrylate	901	273	1,174
Cresol (Mixed Isomers)	60	1,070	1,130
Phthalic Anhydride	52	1,017	1,069
Cumene	810	160	970
Tert-Butyl Alcohol	1	820	821
Toluene Diisocyanate (Mixed Isomers)	170	540	710
Maleic Anhydride	27	682	709
Peracetic Acid	35	633	668
Nickel	263	398	661
M-Xylene	516	0	516
Nitrate Compounds (Water Dissociable)	1	513	514
Sodium Dimethyldithiocarbamate	255	255	510
Propylene Oxide	5	395	400
Chlorotrifluoromethane	327	0	327
Molybdenum Trioxide	15	285	300
Ethylene Oxide	92	185	277
Zinc (Fume or Dust)	51	198	249
Antimony Compounds	10	211	221
Biphenyl	170	8	178
Dimethyl Phthalate	0	165	165
Cobalt Compounds	12	102	114
Benzo(g,h,i)perylene	14	53	67
Mercury	43	20	63
Phenanthrene	3	51	54
Di(2-Ethylhexyl) Phthalate	33	0	33
1,2-Dichloroethane	7	24	31
Selenium Compounds	2	29	31
Epichlorohydrin	3	27	30
Anthracene	19	4	23
Carbon Disulfide	1	21	22
Antimony	12	10	22
1,2-Dibromoethane	0	18	18
Arsenic	6	5	11
Pentachlorophenol	7	2	9
Cobalt	0	5	5
Triethylamine	0	4	4
Vinyl Acetate	1	0	1
Totals	**2,824,280**	**10,063,769**	**12,888,048**

Attachment 15: 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
mercury	1	1,837	19.80	23.06	water
lead (Pb)	2	11,337	15.55	19.60	water
copper	3	29,267	15.06	19.53	water
dioxins (total 2,3,7,8 congeners)	4	0.022670	21.09	19.45	terr flora
chromium (VI)*	5	4,384	15.63	19.27	water
nickel	6	15,456	14.96	19.14	aq biota
aluminum	7	35,052	13.96	18.50	water
zinc	8	17,020	14.03	18.26	water
barium	9	186,044	12.69	17.96	water
antimony	10	243	15.53	17.91	aq biota
manganese	11	17,924	13.38	17.64	water
bromomethane (methybromide)	12	12,744	13.50	17.61	air
acrolein	13	20,545	13.24	17.55	air
dichloromethane (methylene chloride)	14	105,058	12.32	17.35	air
tetrachloroethylene	15	105,868	12.30	17.32	air
selenium	16	31	15.35	16.84	water
trichloroethylene	17	288,691	11.09	16.55	air
acetaldehyde	18	275,458	10.96	16.40	air
formaldehyde	19	225,296	10.91	16.26	air
arsenic	20	11	15.08	16.12	aq biota
1,2-dibromoethane	21	18	14.75	16.01	air/UR
acrylic acid	22	14,101	11.74	15.89	air
chromium (III)*	23	4,384	12.12	15.76	water
hexane (n-)	24	1,522,360	9.57	15.75	air
styrene	25	1,179,502	9.63	15.71	air
benzene	26	25,590	11.16	15.57	air
butadiene (1,3-)	27	1,602	12.35	15.56	air
ammonia	28	1,247,007	9.39	15.49	air
methyl ethyl ketone (MEK)	29	520,933	9.70	15.42	air
1,2-dichloroethane	30	31	13.89	15.38	air/UR
pentachlorophenol	31	9	14.20	15.15	terr flora/SF
chlorine dioxide	32	25,181	10.71	15.12	air
hydrogen chloride	33	450,198	9.40	15.05	air
methyl isobutyl ketone (MIBK)	34	134,894	9.76	14.89	air
propylene oxide	35	400	12.19	14.80	air
xylenes	36	911,955	8.77	14.73	air
toluene	37	1,048,303	8.64	14.66	air
epichlorohydrin	38	30	12.95	14.43	air/Rfc
ethylene oxide	39	277	11.67	14.11	air
chlorine	40	7,744	10.22	14.11	air
ethylbenzene	41	128,523	8.95	14.06	air
diethylhexylphthalate (2-)	42	33	12.42	13.93	water
toluene 2,4-diisocyanate	43	710	10.88	13.73	air/TLV
methanol	44	1,530,965	7.50	13.68	water
ethoxyethanol (2-, = "cellosolve")	45	11,681	9.44	13.51	air

Substance	Rank	Total Amount (pounds/yr) of Air Emissions	Index Value (log units)	Index (pounds/yr) Weighted Emissions	Basis for the Index
cumene (isopropyl benzene)	46	970	10.44	13.43	air
phenol	47	79,967	8.45	13.36	water
n-butyl alcohol	48	565,886	7.50	13.25	water
trimethylbenzene	49	117,395	8.16	13.23	air/TLV
dimethylformamide (n,n-)	50	10,815	8.74	12.77	air
carbon disulfide	51	22	11.39	12.73	air
ethyl acrylate	52	2,665	9.18	12.61	water
cyclohexane	53	31,730	7.94	12.44	air
sulfuric acid	54	188,640	7.10	12.37	air
tert-butyl alcohol	55	821	9.30	12.21	air
naphthalene	56	5,369	8.48	12.21	water
cresol/cresylic acid	57	1,130	8.82	11.87	air/TLV
ethylene glycol	58	9,741	7.26	11.25	water
trichlorotrifluoroethane (1,1,2-,1,2,2-, = freon 113)	59	10,695	6.93	10.96	air
maleic anhydride	60	709	7.63	10.48	water
triethylamine	61	4	9.82	10.42	air/Rfc
methyl acrylate	62	1,174	7.21	10.28	water
dimethyl phthalate	63	165	7.67	9.89	water
phthalic anhydride	64	1,069	6.03	9.06	terr flora
vinyl acetate	65	1	8.79	8.79	air
methyl methacrylate	66	62,350	3.79	8.59	water
biphenyl (diphenyl)	67	178	3.97	6.22	aq biota
anthracene	68	23	4.05	5.41	water
chromium (total)*	69	4,384	0.00	3.64	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 incoordination 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 Methacryate: 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 sever 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 effect 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, preservant 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 sever eye and skin irritant.

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.

Appendix A: EPA EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW SECTION 313 List of Toxic Chemicals

Individually listed EPCRA Section 313 chemicals with CAS numbers are arranged alphabetically starting on page II–3. Following the alphabetical list, the EPCRA Section 313 chemicals are arranged in CAS number order. Covered chemical categories follow.

Certain EPCRA Section 313 chemicals listed in Table II have parenthetic "qualifiers." These qualifiers indicate that these EPCRA Section 313 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:

Chemical	CAS Number	Qualifier
Aluminum (fume or dust)	7429-90-5	**Only** if it is a fume or dust form.
Aluminum oxide (fibrous forms)	1344-28-1	**Only** if it is a fibrous form.
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)	7664-41-7	**Only** 10% of aqueous forms. 100% of anhydrous forms.
Asbestos (friable)	1332-21-4	**Only** if it is a friable form.
Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	**Only** if it is an aerosol form as defined.
Phosphorus (yellow or white)	7723-14-0	**Only** if it is a yellow or white form.
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	**Only** if it is an aerosol form as defined.
Vanadium (except when contained in an alloy)	7440-62-2	**Except** if it is contained in an alloy.
Zinc (fume or dust)	7440-66-6	**Only** if it is in a fume or dust form.

The qualifier for the following three 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.

Chemical/ Chemical Category	CAS Number	Qualifier
Dioxin and dioxin-like compounds (manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacture of that chemical.)	NA	**Only** if they are manufactured at the facility; or are processed or otherwise used when present as contaminants in a chemical but only if they were created during the manufacture of that chemical.
Isopropyl alcohol only (only persons who manufacture by the strong acid process are subject, no supplier notification)	67-63-0	**Only** if it is being manufactured by the strong acid process. Facilities that process or otherwise use isopropyl alcohol are **not** covered.
Saccharin only persons who manufacture are subject, no supplier notification)	81-07-2	**Only** 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. Manufacturers of these chemicals do not need to notify their customers that these are reportable EPCRA section 313 chemicals.

Note: Chemicals may be added to or deleted from the list. The Emergency Planning and Community Right-to-Know Call Center, 800 424-9346, or 703 412-9810, will provide up-to-date information on the status of these changes. See section B.3.c of the instructions for more information on the *de minimis* values listed below. There are no *de minimis* levels for PBT chemicals since the *de minimis* exemption is not available for these chemicals (an asterisk appears where a *de minimis* limit would otherwise appear in Table II). However, for purposes of the supplier notification requirement only, such limits are provided in Appendix D.

Chemical Qualifiers

This table contains the list of individual EPCRA Section 313 chemicals and categories of chemicals subject to 2002 calendar year reporting. Some of the EPCRA Section 313 chemicals listed have parenthetic qualifiers listed next to them. An EPCRA Section 313 chemical that is listed without a qualifier is subject to reporting in all forms in which it is manufactured, processed, and otherwise used.

Fume or dust. Two of the metals on the list (aluminum and zinc) contain the qualifier "fume or dust." Fume or dust refers to dry forms of these metals but does not refer to "wet" forms such as solutions or slurries. As explained in Section B.3.a of these instructions, the term manufacture includes the generation of an EPCRA Section 313 chemical as a byproduct or impurity. In such cases, a facility should determine if, for example, it generated more than 25,000 pounds of aluminum fume or dust in the reporting year as a result of its activities. If so, the facility must report that it manufactures "aluminum (fume or dust)." Similarly, there may be certain technologies in which one of these metals is processed in the form of a fume or dust to make other EPCRA Section 313 chemicals or other products for distribution in commerce. In reporting releases, the facility would only report releases of the fume or dust.

EPA considers dusts to consist of solid particles generated by any mechanical processing of materials including crushing, grinding, rapid impact, handling, detonation, and decrepitation of organic and inorganic materials such as rock, ore, and metal. Dusts do not tend to flocculate, except under electrostatic forces.

EPA considers a fume to be an airborne dispersion consisting of small solid particles created by condensation from a gaseous state, in distinction to a gas or vapor. Fumes arise from the heating of solids such as lead. The condensation is often accompanied by a chemical reaction, such as oxidation. Fumes flocculate and sometimes coalesce.

Manufacturing qualifiers. Two of the entries in the EPCRA Section 313 chemical list contain a qualifier relating to manufacture. For isopropyl alcohol, the qualifier is "only persons who manufacture by the strong acid process are subject." For saccharin, the qualifier is "only persons who manufacture are subject, no supplier notification." For isopropyl alcohol, the qualifier means that only facilities manufacturing isopropyl alcohol by the strong acid process are required to report. In the case of saccharin, only manufacturers of the EPCRA Section 313 chemical are subject to the reporting requirements. A facility that processes or otherwise uses either EPCRA Section 313 chemical would not be required to report for those EPCRA Section 313 chemicals. In both cases, supplier notification does not apply because only manufacturers, not users, of the EPCRA Section 313 chemical must report.

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). The qualifier for ammonia means that anhydrous forms of ammonia are 100% reportable and aqueous forms are limited to 10% of total aqueous ammonia. Therefore when determining threshold and releases and other waste management quantities all anhydrous ammonia is included but only 10% of total aqueous ammonia is included. Any evaporation of ammonia from aqueous ammonia solutions is considered anhydrous ammonia and should be included in threshold determinations and release and other waste management calculations.

Sulfuric acid and Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size). The qualifier for sulfuric acid and hydrochloric acid means that the only forms of these chemicals that are reportable are airborne forms. Aqueous solutions are not covered by this listing but any aerosols generated from aqueous solutions are covered.

Nitrate compounds (water dissociable; reportable only when in aqueous solution). The qualifier for the nitrate compounds category limits the reporting to nitrate compounds that dissociate in water, generating nitrate ion. For the purposes of threshold determinations the entire weight of the nitrate compound must be included in all calculations. For the purposes of reporting releases and other waste management quantities only the weight of the nitrate ion should be included in the calculations of these

quantities.

Phosphorus (yellow or white). The listing for phosphorus is qualified by the term "yellow or white." This means that only manufacturing, processing, or otherwise use of phosphorus in the yellow or white chemical form triggers reporting. Conversely, manufacturing, processing, or otherwise use of "black" or "red" phosphorus does not trigger reporting. Supplier notification also applies only to distribution of yellow or white phosphorus.

Asbestos (friable). The listing for asbestos is qualified by the term "friable," referring to the physical characteristic of being able to be crumbled, pulverized, or reducible to a powder with hand pressure. Only manufacturing, processing, or otherwise use of asbestos in the friable form triggers reporting. Supplier notification applies only to distribution of mixtures or other trade name products containing friable asbestos.

Aluminum Oxide (fibrous forms). The listing for aluminum oxide is qualified by the term "fibrous forms." Fibrous refers to a man-made form of aluminum oxide that is processed to produce strands or filaments which can be cut to various lengths depending on the application. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting. Supplier notification applies only to distribution of mixtures or other trade name products containing fibrous forms of aluminum oxide.

Notes for Sections A and B of following list of TRI chemicals:

"Color Index" indicated by "C.I."

* There are no *de minimis* levels for PBT chemicals, except for supplier notification purposes (see Appendix D)

a. Individually-Listed Toxic Chemicals Arranged Alphabetically

CAS Number	Chemical Name	*De Minimis* Limit
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.)-]	*
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrone]	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-methylanthraquinone	0.1

CAS Number	Chemical Name	*De Minimis* Limit
33089-61-1	Amitraz	1.0
61-82-5	Amitrole	0.1
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)	1.0
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
191-24-2	Benzo(g,h,i)perylene	*
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
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-hydroxybenzonitrile)	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	0.1
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-oxathiin-3-carboxamide)	1.0
120-80-9	Catechol	0.1
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
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	*

CAS Number	Chemical Name	*De Minimis* Limit
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	0.1
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	Chlorothalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	0.1
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
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	0.1
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 [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	0.1
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 [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl) methyl ester]	1.0
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropane-carboxylic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]	0.1
533-74-4	Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione)	1.0

CAS Number	Chemical Name	*De Minimis* Limit
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
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
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
75-27-4	Dichlorobromomethane	0.1
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

CAS Number	Chemical Name	*De Minimis* Limit
1464-53-5	Diepoxybutane	0.1
111-42-2	Diethanolamine	1.0
38727-55-8	Diethatyl 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 [2,3-Dihydro-5,6-dimethyl-1,4-dithiin 1,1,4,4-tetraoxide]	1.0
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	Dimethylcarbamyl chloride	0.1
2524-03-0	Dimethyl chlorothiophosphate	1.0
68-12-2	N,N-Dimethylformamide	1.0
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
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	0.1
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-benzoxazolylen)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

CAS Number	Chemical Name	*De Minimis* Limit
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(dimethylcarbamodithioato- 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]	*
118-74-1	Hexachlorobenzene	*
87-68-3	Hexachloro-1,3-butadiene	1.0
319-84-6	alpha-Hexachlorocyclohexane	0.1
77-47-4	Hexachlorocyclopentadiene	1.0
67-72-1	Hexachloroethane	0.1
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
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
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	*
25311-71-1	Isofenphos[2-[[Ethoxyl[(1-methylethyl)amino]phosphinothioyl]oxy] benzoic acid 1-methylethyl ester]	1.0
67-63-0	Isopropyl alcohol (only persons who manufacture by the strong acid process are subject, 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 (when lead is contained in stainless steel, brass or bronze alloys the *de minimis* level is 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
93-65-2	Mecoprop	0.1
149-30-4	2-Mercaptobenzothiazole (MBT)	1.0
7439-97-6	Mercury	*
150-50-5	Merphos	1.0
126-98-7	Methacrylonitrile	1.0

CAS Number	Chemical Name	*De Minimis* Limit
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
67-56-1	Methanol	1.0
20354-26-1	Methazole [2-(3,4-Dichlorophenyl)-4-methyl-1,2,4-oxadiazolidine-3,5-dione]	1.0
2032-65-7	Methiocarb	1.0
94-74-6	Methoxone ((4-Chloro-2-methylphenoxy) acetic acid) (MCPA)	0.1
3653-48-3	Methoxone sodium salt ((4-Chloro-2-methylphenoxy) acetate sodium salt)	0.1
72-43-5	Methoxychlor [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-Methyllactonitrile	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
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
4549-40-0	N-Nitrosomethylvinylamine	0.1
59-89-2	N-Nitrosomorpholine	0.1
16543-55-8	N-Nitrosonornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
99-55-8	5-Nitro-o-toluidine	1.0
27314-13-2	Norflurazon [4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone]	1.0
2234-13-1	Octachloronaphthalene	1.0
29082-74-4	Octachlorostyrene	*
19044-88-3	Oryzalin [4-(Dipropylamino)-3,5-dinitrobenzene sulfonamide]	1.0
20816-12-0	Osmium tetroxide	1.0

CAS Number	Chemical Name	*De Minimis* Limit
301-12-2	Oxydemeton methyl [S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid]	1.0
19666-30-9	Oxydiazon [3-[2,4-Dichloro-5-(1-methylethoxy)phenyl]- 5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one]	1.0
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 [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl)ester]	1.0
1114-71-2	Pebulate [Butylethylcarbamothioic acid S-propyl ester]	1.0
40487-42-1	Pendimethalin [N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	*
608-93-5	Pentachlorobenzene	*
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 [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, (3-phenoxyphenyl) methyl ester]	1.0
85-01-8	Phenanthrene	1.0
108-95-2	Phenol	1.0
26002-80-2	Phenothrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester]	1.0
95-54-5	1,2-Phenylenediamine	1.0
108-45-2	1,3-Phenylenediamine	1.0
106-50-3	p-Phenylenediamine	1.0
615-28-1	1,2-Phenylenediamine dihydro-chloride	1.0
624-18-0	1,4-Phenylenediamine dihydro-chloride	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
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 [O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethylphosphorothioate]	1.0
1336-36-3	Polychlorinated biphenyls (PCBs)	*
7758-01-2	Potassium bromate	0.1
128-03-0	Potassium dimethyldithio-carbamate	1.0
137-41-7	Potassium N-methyldithio-carbamate	1.0
41198-08-7	Profenofos [O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl phosphorothioate]	1.0
7287-19-6	Prometryn [N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	1.0
23950-58-5	Pronamide	1.0
1918-16-7	Propachlor [2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	1.0
1120-71-4	Propane sultone	0.1
709-98-8	Propanil [N-(3,4-Dichlorophenyl)propanamide]	1.0
2312-35-8	Propargite	1.0
107-19-7	Propargyl alcohol	1.0
31218-83-4	Propetamphos [3-[(Ethylamino)methoxyphosphinothioyl] oxy]-2-butenoic acid, 1-methylethyl ester]	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
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0
114-26-1	Propoxur [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 (Pentachloronitrobenzene)	1.0
76578-14-8	Quizalofop-ethyl [2-[4-[(6-Chloro-2-quinoxalinyl)oxy]phenoxy] propanoic acid ethyl ester]	1.0

CAS Number	Chemical Name	*De Minimis* Limit
10453-86-8	Resmethrin [[5-(Phenylmethyl)-3-furanyl]methyl-2,2-dimethyl-3-(2-methyl-1-propenyl) cyclopropanecarboxylate]	1.0
81-07-2	Saccharin (manufacturing, no supplier notification)	1.0
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
74051-80-2	Sethoxydim [2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	1.0
7440-22-4	Silver	1.0
122-34-9	Simazine	1.0
26628-22-8	Sodium azide	1.0
1982-69-0	Sodium dicamba [3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	1.0
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 (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
35400-43-2	Sulprofos [O-Ethyl O-[4-(methylthio)phenyl] phosphorodithioic acid S-propylester]	1.0
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
79-94-7	Tetrabromobisphenol A	*
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
8001-35-2	Toxaphene	*
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-di-methyl-1-(1H-1,2,4- triazol-1-yl)-2-butanone]	1.0
2303-17-5	Triallate	1.0
68-76-8	Triaziquone [2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	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
1983-10-4	Tributyltin fluoride	1.0
2155-70-6	Tributyltin methacrylate	1.0
78-48-8	S,S,S-Tributyltrithio-phosphate (DEF)	1.0

CAS Number	Chemical Name	*De Minimis* Limit
52-68-6	Trichlorfon [Phosphoric acid,(2,2,2-trichloro-l-hydroxy-ethyl)-, dimethyl ester]	1.0
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 [Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	*
26644-46-2	Triforine [N,N'-[1,4-Piperazinediylbis-(2,2,2-trichloroethylidene)]bisformamide]	1.0
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 (except when contained in an alloy)	1.0
50471-44-8	Vinclozolin [3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione]	1.0
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
1222-67-7	Zineb [Carbamodithioic acid, 1,2-ethanediyibis-, zinc complex]	1.0

Chemical Categories

EPCRA section 313 requires reporting on the toxic chemical categories listed below, in addition to the specific toxic chemicals listed in the sections above. The metal compound categories 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 1.0 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. PBT chemicals do not have *de minimis* concentrations and are marked with an NA (not applicable) in parentheses.

Chemical Categories

Antimony Compounds (1.0)
Includes any unique chemical substance that contains antimony as part of that chemical's infrastructure.

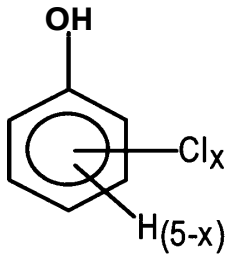
Arsenic Compounds (inorganic compounds: 0.1; organic compounds: 1.0)
Includes any unique chemical substance that contains arsenic as part of that chemical's infrastructure.

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^+CN^- where $X = H^+$ or any other group where a formal dissociation may occur. For example KCN or Ca(CN)2

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

Dioxin and Dioxin-Like Compounds (Manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacture of that chemical.) (NA)

This category includes only those chemicals listed below.

67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
57117-41-6	1,2,3,7,8- Pentachlorodibenzofuran
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran
40321-76-4	1,2,3,7,8- Pentachlorodibenzo-p-dioxin
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin

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)

$R\text{-}(OCH_2CH_2)_n\text{-}OR'$

Where n = 1, 2, or 3

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R' = H, or alkyl C7 or less; or

OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

Lead Compounds (NA)

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 (NA)

Includes any unique chemical substance that contains mercury as part of that chemical's infrastructure.

Nickel Compounds (0.1)

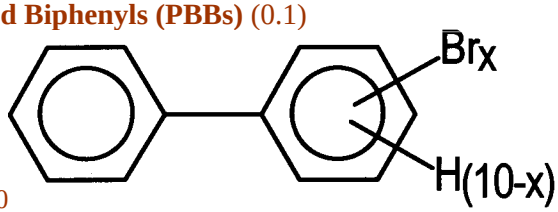
Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.

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 to 10

Polychlorinated alkanes (C_{10} to C_{13}) (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*)

$C_xH_{2x+2-y}Cl_y$

where x = 10 to 13; y = 3 to 12; and the average chlorine content ranges from 40 - 70% with the limiting molecular formulas $C_{10}H_{19}C_{l3}$ and $C_{13}H_{16}Cl_{12}$

Polycyclic aromatic compounds (PACs) (NA)

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
206-44-0	Benzo(j,k)fluorene
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
56-49-5	3-Methylcholanthrene
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.

Vanadium Compounds (1.0)

Includes any unique chemical substance that contains vanadium 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.

Persistent, bioaccumulative and toxic (PBT) chemicals have lower thresholds.

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 on page 71.

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.