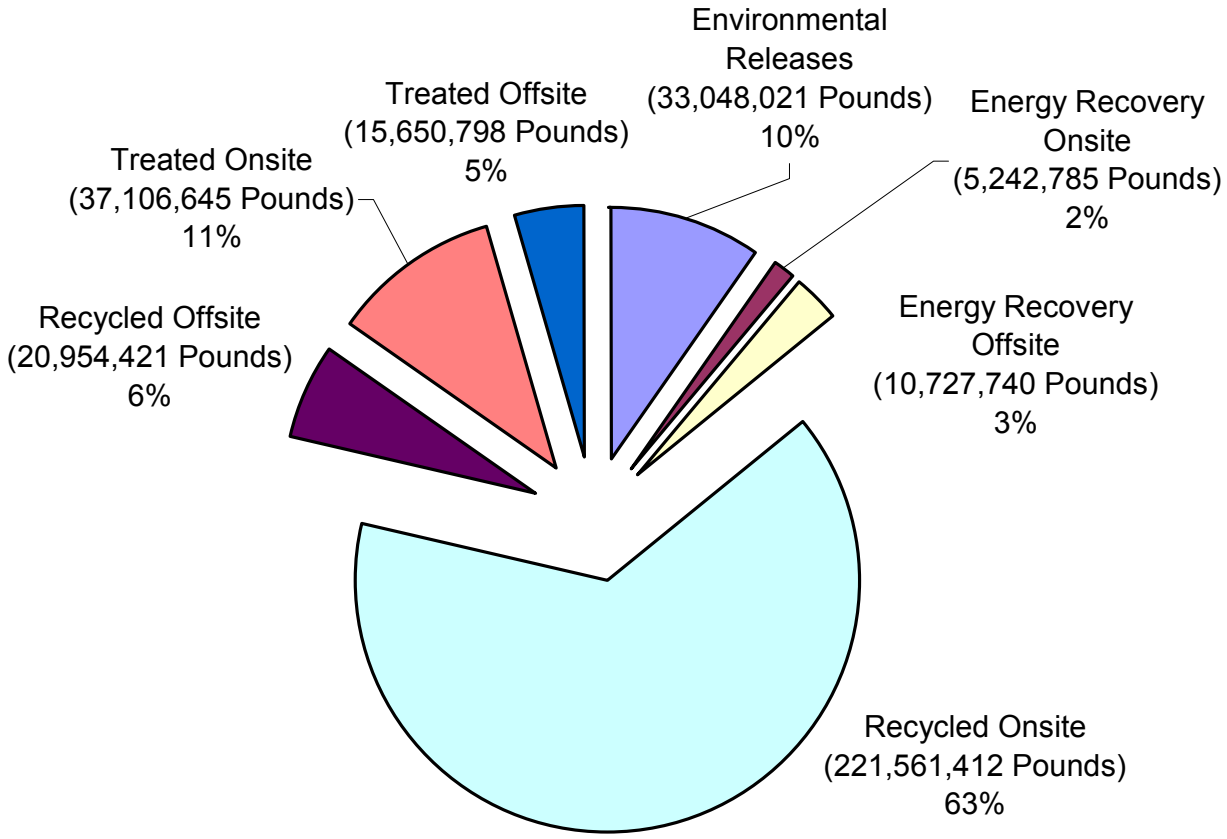
2000 Right-To-Know Chemical Information Report

State of Minnesota

A Summary of Toxic Release Inventory and Pollution Prevention Reports



Total Pounds : 344,291,822

Minnesota Emergency Response Commission

Department of Public Safety
November 2001

Department of Public Safety
November 2001

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Preface

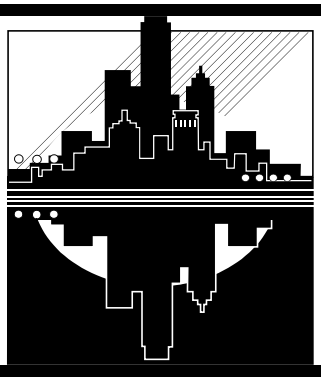
This report, covering calendar year 2000, is the annual summary of chemical management reports submitted by facilities in the State of Minnesota.

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 Title III Hotline 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 *2000 Right-to-Know Chemical Information Report*

What is this report about?

This report summarizes chemical management activities for 400 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 30. 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 pages 23-24.

For a statewide ranking of facilities reporting Dioxin and Dioxin-like Compounds, see pages 25-26.

For a statewide ranking of facilities reporting Mercury and Mercury Compounds, see pages 27-28.

For a statewide ranking of the number of facilities in each county reporting environmental releases, off-site transfers, and total chemicals managed, see page 29.

For a statewide ranking of chemical air releases in pounds, see pages 63-64.

For a statewide ranking of air releases by hazard potential, see pages 65-66.

For an overview and explanation of the “core” set of chemicals reported from 1988-2000 see pages 40-51.

For information on pollution prevention activities at facilities and a sample of information available for your community, turn to pages 52-59. 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 400 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 360 "extremely" hazardous chemicals. Some common chemicals on this list are chlorine, ammonia, sulfuric acid, nitric acid, formaldehyde, hydroquinone, and many agricultural insecticides. Any facility (business, farm, public institution, municipality, individual, etc.) that stores any extremely hazardous chemical beyond a threshold amount must contact the Emergency Response Commission and cooperate in the planning process. A list of these facilities is sent to counties and municipalities and is available for public inspection. Emergency plans focus on these facilities and on the routes likely to be used for the transportation of extremely hazardous chemicals.

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

Section 313 of the law deals with toxic chemical release reporting. Facilities which manufacture, process, or use certain toxic chemicals in excess of a specified amount, must submit annual reports on the amounts of toxic chemicals released into the air, water, and land or transferred off-site. This is the only multi-media data now being collected on toxic chemical releases and transfers. This toxic chemical release information is the focus of this report.

B. Minnesota Emergency Response Commission and Regional Review Committees

Title III is unique in that its effective implementation depends on the involvement of local and state government, business and industry, broadcast and news media, community groups, and citizens. The federal law requires each state to 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 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 *2000 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 2000:

In 2000, 400 facilities reported releases of 33 million pounds to the environment, while the total amount of chemicals managed was 344.2 million pounds. This compares to 399 facilities reporting 31.9 million pounds of environmental releases in 1999 with 333.3 million pounds of chemicals being managed. In 1998, 428 facilities reported 32.6 million pounds of environmental releases and 309.3 million pounds of chemicals managed (Figures 1 & 3). For the 2000 reporting year, 126 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 66% of total environmental releases. Based on the ranking in Part IV, Attachment 2, the top twenty facilities account for 87% of total chemicals managed. The chemicals most commonly *managed* were Lead, Sulfuric Acid (aerosol forms only), Methanol, Methyl Ethyl Ketone, and Toluene. The chemicals most commonly *released* to the environment were Barium Compounds, Copper Compounds, Styrene, Methanol, and Toluene.

352 facilities filed 955 Pollution Prevention Progress Reports for 2000. Each Progress Report represents a pollution prevention objective for a chemical. Of the reports filed, 44% established a numerical objective and 56% established non-numeric objectives. 58% of the Progress Reports indicated the objectives have been met and 42% 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.

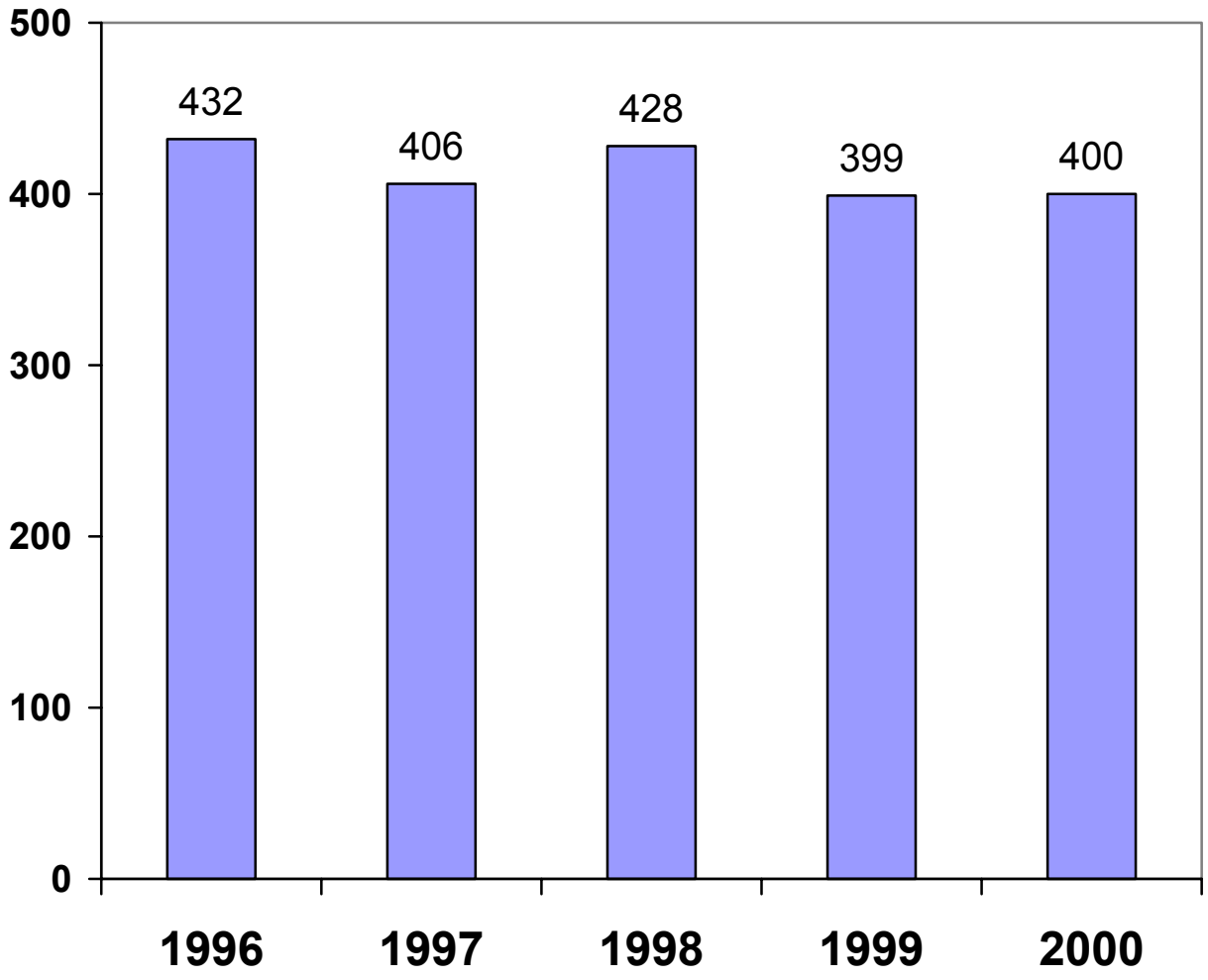
The top three chemicals in terms of total pounds of air releases were Styrene, Methanol, and Toluene. The top three chemicals in terms of hazard potential were Mercury, Dioxin and Dioxin-like Compounds, and Copper.

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

John Wallace
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)

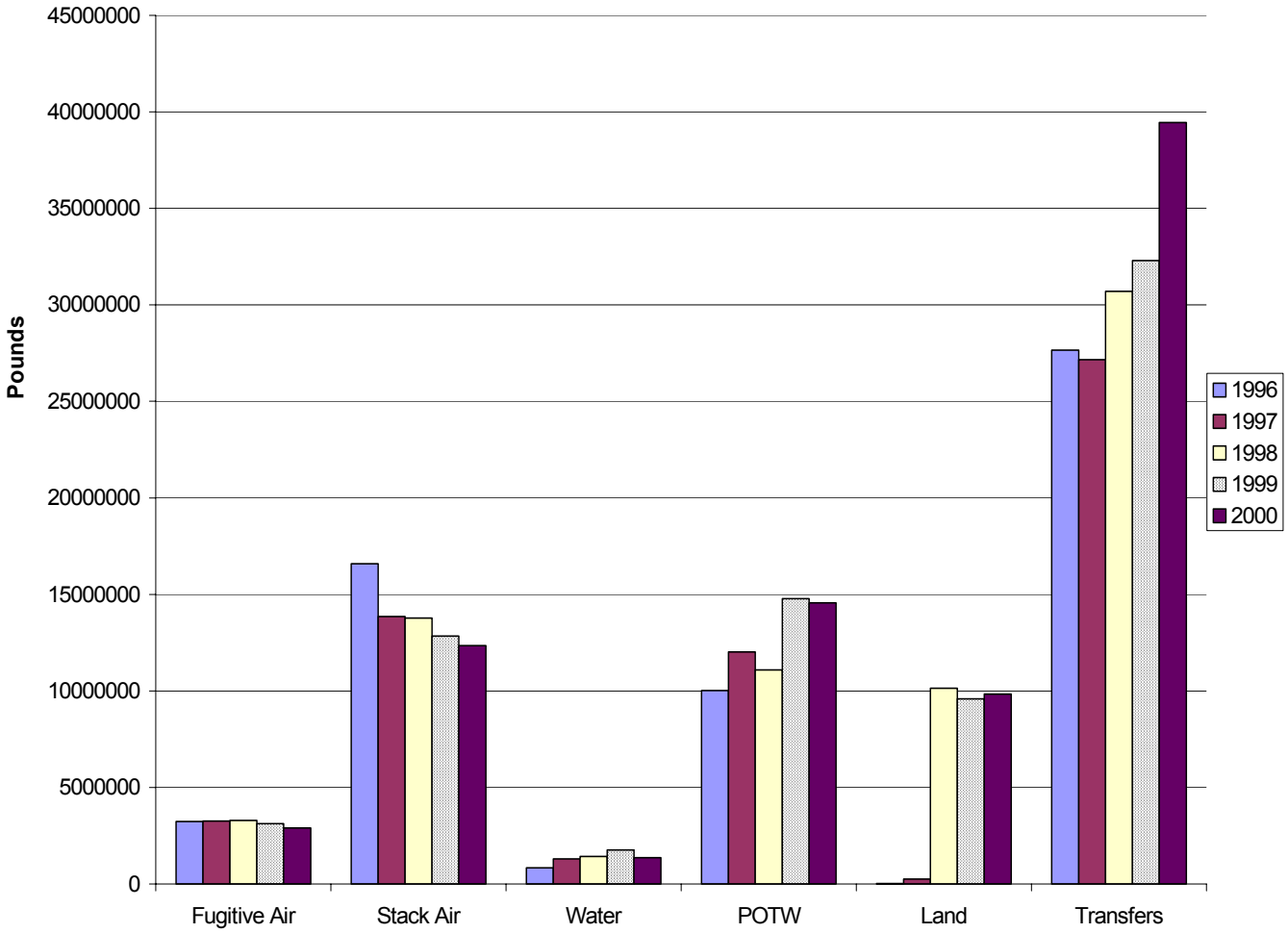

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Figure 3: Environmental Releases and Chemical Management (Section 8, Form R)

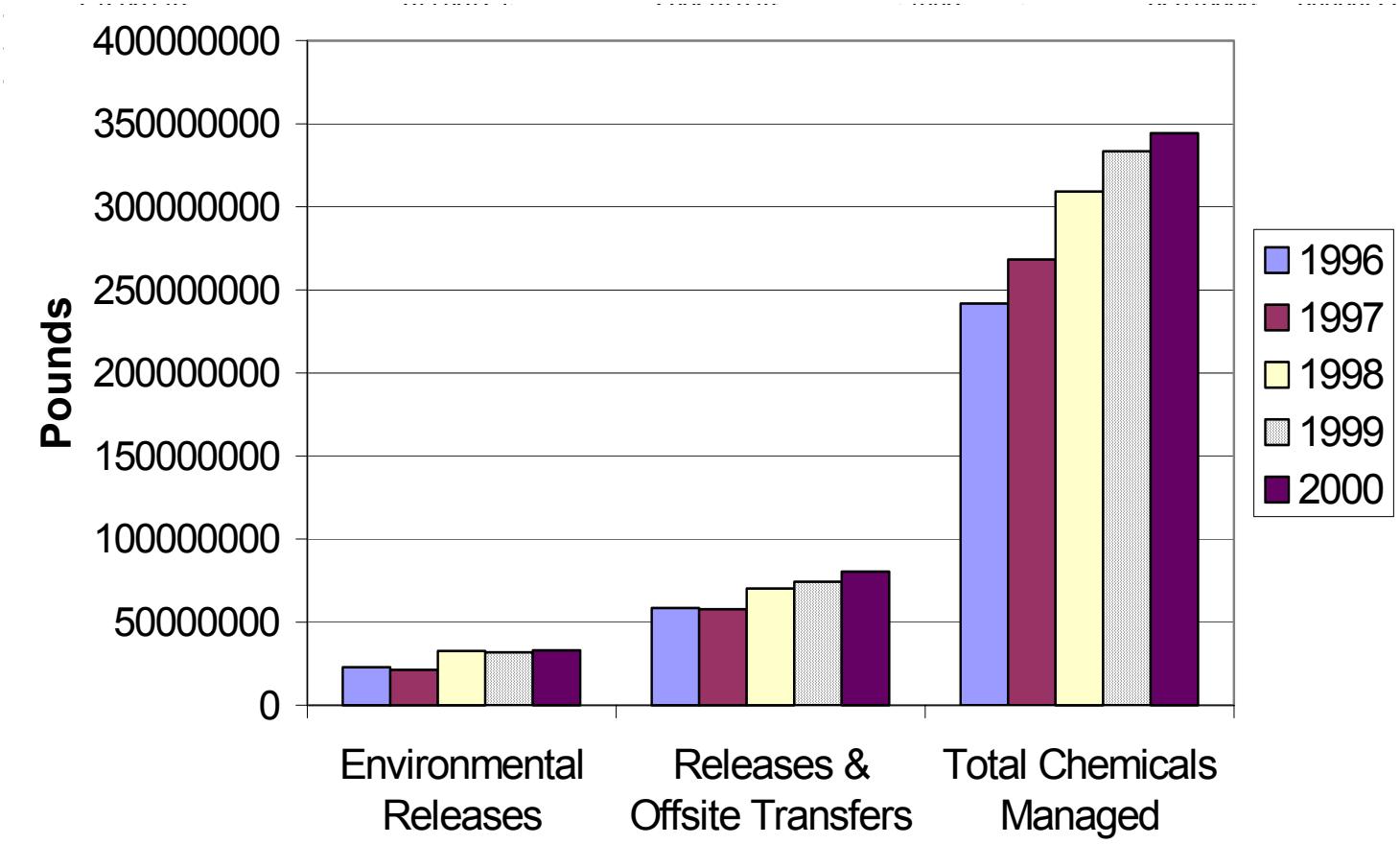

Figure 4: Facilities Filing Toxic Release Inventory (TRI) Reports by County

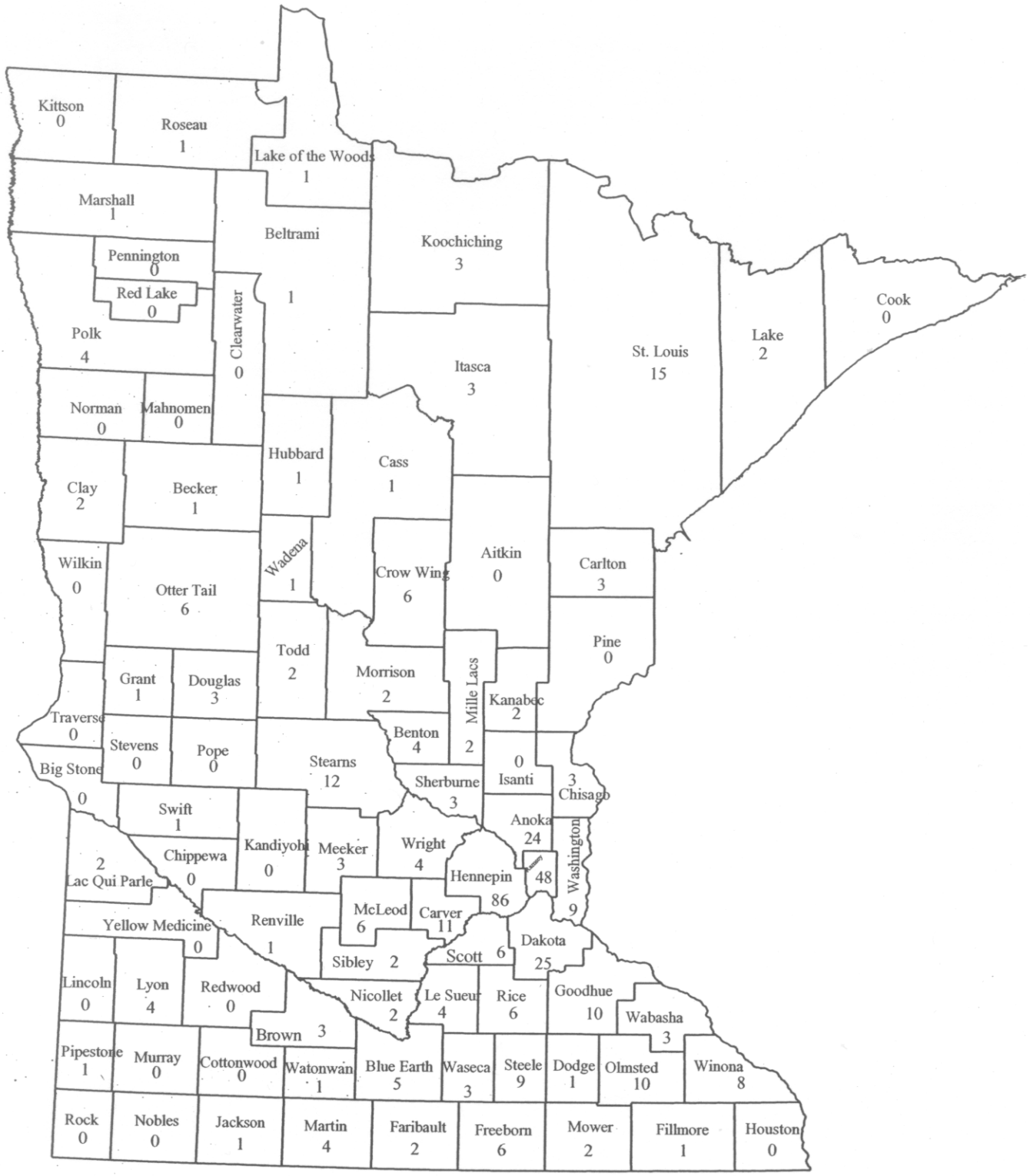

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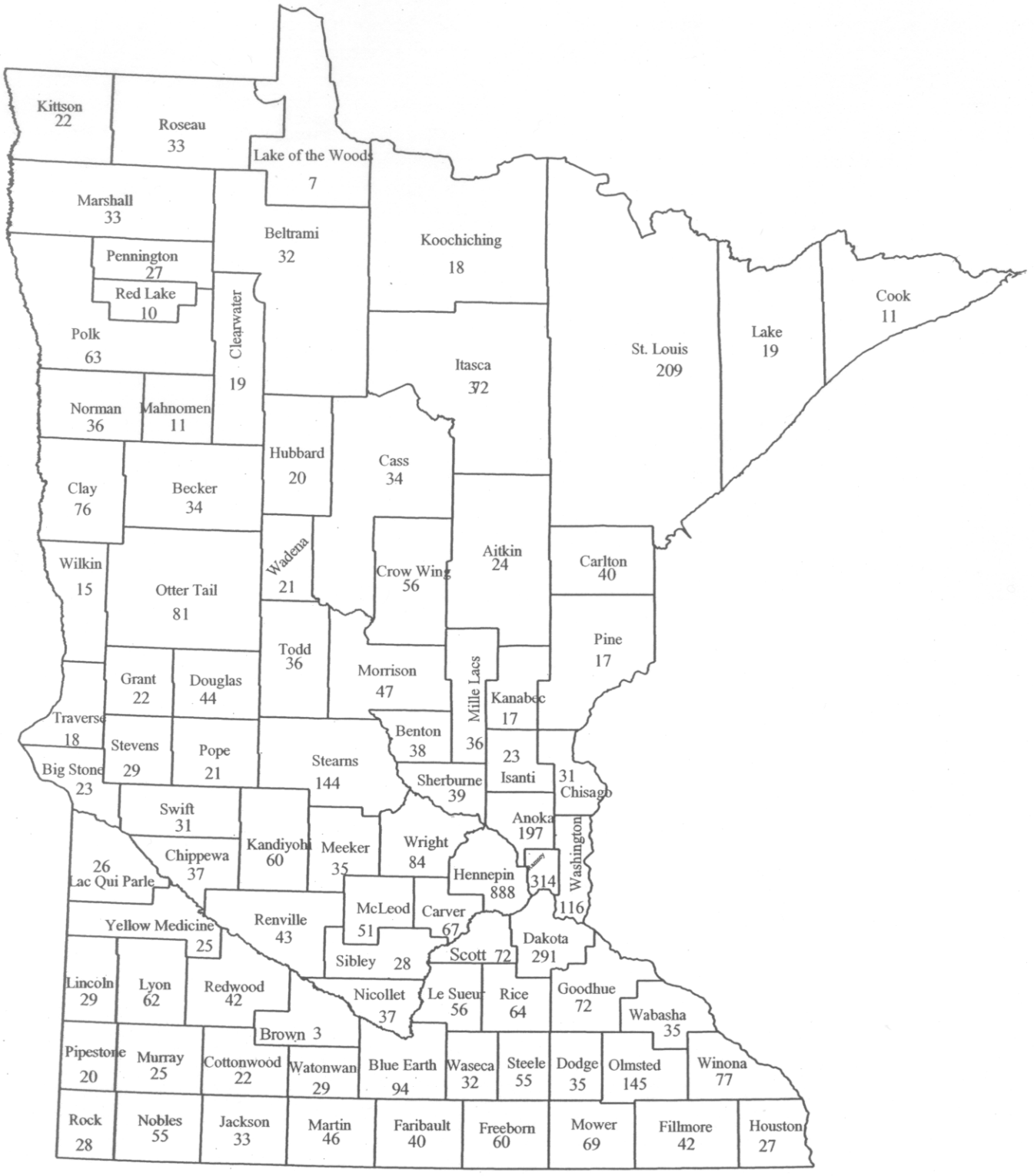
Figure 5: Facilities Filing Chemical Storage Reports (Tier II) by County



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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 2000. 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 75 to 94 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 33 million pounds of chemical releases directly to the air, water, and land and the 344 million pounds of chemicals managed in 2000 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 59. 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 1987-2000 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 Hotline" at 1-800-424-9346 or visit their website at www.epa.gov/tri.

Attachment 1: Top 20 Facilities Ranked By Total Chemicals Released for Calendar Year 2000
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 55308	**6,786,396**	0	0	0	0	654,375	0	7,440,771
Ramsey	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55165	**2,358,923**	0	0	299,164	16	0	0	2,658,103
Itasca	BOSWELL ENERGY CENTER - MN POWER 856 NW 3RD ST COHASSET, MN 55721	**1,845,333**	0	0	0	0	111,038	0	1,956,371
Ramsey	U.S. FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN 55113	**1,133,137**	0	0	4,377,938	63,109	46,000	16,835	5,637,019
Dakota	KOCH PETROLEUM GROUP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN 55077	**1,113,281**	0	868	61,901	58,734	3,147,541	937	4,383,263
Washington	XCEL ENERGY - A.S. KING GENERATING PLANT 1103 KING PLANT RD BAYPORT, MN 55003	**1,024,161**	0	0	0	0	133,734	0	1,157,895
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN 55116	**903,440**	0	4,295	0	487,000	477,709	18,300	1,890,744
Sherburne	XCEL ENERGY - BECKER RDF ASH LANDFILL 13700 SHERBURNE AVE. SOUTH BECKER, MN 55308	**812,114**	0	0	0	0	0	0	812,114
Washington	3M COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN 55016	**743,590**	30,160	7,372,031	0	427,982	4,140,069	147,917	12,861,749
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE ST. CLOUD, MN 56303	**672,000**	0	0	0	12,100	0	350	684,450

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McLeod	MINNESOTA MINING & MFG. - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN 55350-9431	**568,858**	0	1,688,312	18,726,500	4,700	3,400,000	488,760	24,877,130
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN 56649	**567,330**	350,000	0	0	0	10,461,000	0	11,378,330
Carlton	POTLATCH CORP. 2201 AVE B CLOQUET, MN 55720	**515,642**	3,452,738	0	0	0	932,306	7,813,240	12,713,926
Hennepin	XCEL ENERGY - RIVERSIDE PLANT 3100 MARSHALL ST NE MINNEAPOLIS, MN 55418	**498,113**	0	0	0	0	99,540	0	597,653
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR MANKATO, MN 56002-3247	**480,200**	0	0	0	19,000	12,400	600	512,200
Ramsey	3M COMPANY 900 BUSH AVE ST. PAUL, MN 55144-1000	**455,220**	200,200	60,704	0	0	2,015,800	86,304	2,818,228
Morrison	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DRV LITTLE FALLS, MN 56345-1100	**429,874**	0	0	0	0	0	0	429,874
Olmsted	ROCHESTER PUBLIC UTILITIES-SILVER LAKE 425 W SILVER LAKE DRV NE ROCHESTER, MN 5590-3675	**405,050**	0	0	0	0	0	0	405,050
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST OWATONNA, MN 55060	**390,000**	0	0	0	0	0	0	390,000
Pipestone	US MARINE/BAYLINER 918 SIOUX DRV PIPESTONE, MN 56164	**312,142**	0	0	0	0	0	0	312,142

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed for Calendar Year 2000
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 55121	219,000	0	0	164,090,000	0	0	0	**164,309,000**
Dakota	KOCH SULFUR PRODUCTS COMPANY 13155 COURTHOUSE BLVD ROSEMOUNT, MN 55068	35,537	0	85	31,000,000	0	0	0	**31,035,622**
McLeod	MINNESOTA MINING & MFG. - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN 55350-9431	568,858	0	1,688,312	18,726,500	4,700	3,400,000	488,760	**24,877,130**
Washington	3M COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN 55016	743,590	30,160	7,372,031	0	427,982	4,140,069	147,917	**12,861,749**
Carlton	POTLATCH CORP. 2201 AVE B CLOQUET, MN 55720	515,642	3,452,738	0	0	0	932,306	7,813,240	**12,713,926**
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN 56649	567,330	350,000	0	0	0	10,461,000	0	**11,378,330**
Sherburne	XCEL ENERGY - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN 55308	6,786,396	0	0	0	0	654,375	0	**7,440,771**
Ramsey	U.S. FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN 55113	1,133,137	0	0	4,377,938	63,109	46,000	16,835	**5,637,019**
Ramsey	NORTH STAR STEEL-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55119	42,176	0	0	402,053	4,540,606	0	0	**4,984,835**
Dakota	KOCH PETROLEUM GROUP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN 55077	1,113,281	0	868	61,901	58,734	3,147,541	937	**4,383,263**

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed for Calendar Year 2000
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	3M COMPANY 900 BUSH AVE ST. PAUL, MN 55144-1000	455,220	200,200	60,704	0	0	2,015,800	86,304	**2,818,228**
Ramsey	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN 55165	2,358,923	0	0	299,164	16	0	0	**2,658,103**
Carver	BONGARDS' CREAMERIES 13200 CO RD 51 BONGARDS, MN 55368	5,800	0	0	0	0	2,360,297	0	**2,366,097**
Hennepin	FILMTEC CORP. 7200 OHMS LANE EDINA, MN 55439	10,460	0	0	0	0	0	2,338,932	**2,349,392**
Itasca	BOSWELL ENERGY CENTER - MN POWER 856 NW 3RD ST COHASSET, MN 55721	1,845,333	0	0	0	0	111,038	0	**1,956,371**
Rice	SHELDAHL, INC. - EAST FACILITY 805 HWY 3 N NORTHFIELD, MN 55057	91,565	0	111,957	0	654,204	1,007,411	45,689	**1,910,826**
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN 55116	903,440	0	4,295	0	487,000	477,709	18,300	**1,890,744**
Ramsey	WATER GREMLIN CO. 1610 WHITAKER AVE WHITE BEAR LAKE, MN 55110	117,341	0	0	28,380	1,471,500	0	0	**1,617,221**
Le Sueur	DAVISCO LE SUEUR CHEESE DIVISION 719 N MAIN ST LE SUEUR, MN 56058	0	0	0	547,457	0	703,637	24,348	**1,275,442**
Washington	XCEL ENERGY - A.S. KING GENERATING PLANT 1103 KING PLANT RD BAYPORT, MN 55003	1,024,161	0	0	0	0	133,734	0	**1,157,895**

Attachment 3: Top 20 Facilities Ranked by Total Air Releases for Calendar Year 2000 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
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN 55116	47,275	853,376	900,651
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE ST. CLOUD, MN 56303	64,000	570,015	634,015
McLeod	MINNESOTA MINING & MFG. - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN 55350-9431	133,280	422,143	555,423
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN 56649	39,059	480,742	519,801
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR MANKATO, MN 56002-3247	430,000	48,000	478,000
Ramsey	3M COMPANY 900 BUSH AVE ST. PAUL, MN 55144-1000	33,190	422,500	455,690
Morrison	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DRV LITTLE FALLS, MN 56345-1100	429,874	0	429,874
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST OWATONNA, MN 55060	99,000	293,000	392,000
Dakota	KOCH PETROLEUM GROUP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN 55077	143,200	236,237	379,438
Olmsted	ROCHESTER PUBLIC UTILITIES-SILVER LAKE 425 W SILVER LAKE DRV NE ROCHESTER, MN 5590-3675	25	368,805	368,830
Carlton	POTLATCH CORP. 2201 AVE B CLOQUET, MN 55720	9,475	332,555	342,030
Washington	3M COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN 55016	68,750	261,712	330,462
Pipestone	US MARINE/BAYLINER 918 SIOUX DRV PIPESTONE, MN 56164	0	312,142	312,142
Beltrami	NORTHWOOD PANELBOARD CO. 4409 NORTHWOOD ROAD NW SOLWAY, MN 56678	0	295,217	295,217
Dakota	CROWN CORK & SEAL CO. 8215 220TH ST W LAKEVILLE, MN 55044	72,000	214,000	286,000
Ramsey	REXAM BEVERAGE CAN COMPANY 139 EVA ST ST. PAUL, MN 55107	39,384	232,506	271,890

Attachment 3: Top 20 Facilities Ranked by Total Air Releases for Calendar Year 2000 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
Clay	AMERICAN CRYSTAL SUGAR CO. - MOORHEAD 2500 N 11TH ST MOORHEAD, MN 56560	510	230,023	230,533
Polk	AMERICAN CRYSTAL SUGAR CO. HWY 75 S BOX 600 CROOKSTON, MN 56716	0	214,000	214,000
Goodhue	ARCHER DANIELS MIDLAND CO. 118 MAIN ST RED WING, MN 55066	9,214	189,049	198,263
Hubbard	POTLATCH CORP. - OSB 29647 U.S. HWY. 2 BEMIDJI, MN 56601	163	194,087	194,250

Attachment 4: Statewide Listing of Amount of Releases, Transfers and Total Dioxin and Dioxin-like Compounds Managed for Calendar Year 2000
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 Grams) **Sorted by County, City, 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 Managed
Benton County, City of SARTELL -- INTERNATIONAL PAPER CO. --100 E SARTELL ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.1527	0	0	0	0.0254	0	0	0.1781
Carlton County, City of CLOQUET -- POTLATCH CORP. --2201 AVE B								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	1.215	0	0	0	0	0	0.264	1.479
Clay County, City of MOORHEAD -- AMERICAN CRYSTAL SUGAR CO. - MOORHEAD --2500 N 11TH ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	140.61	0	0	0	0	0	0	140.61
Dakota County, City of BURNSVILLE -- XCEL ENERGY - BLACK DOG PLANT --1400 E BLACK DOG RD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.12	0	0	0	0	0	0	0.12
Dakota County, City of EAGAN -- GOPHER RESOURCE CORP. --3385 S HWY 149								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.39	0	0	0	0	0	0	0.39
Dakota County, City of INVER GROVE HEIGHTS -- KOCH PETROLEUM GROUP --JUNCTION OF HWY 52 & 55								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0255	0	0	0	0	0	0	0.0255
Dakota County, City of ROSEMOUNT -- SPECTRO ALLOYS CORP. --13220 DOYLE PATH								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	18.37	0	0	0	0	0	0	18.37
Hennepin County, City of MINNEAPOLIS -- XCEL ENERGY - RIVERSIDE PLANT --3100 MARSHALL ST NE								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.18	0	0	0	0	0	0	0.18
Hubbard County, City of BEMIDJI -- POTLATCH CORP. - OSB --29647 U.S. HWY. 2								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.2819	0	0	0	0	0	0	0.2819
Itasca County, City of COHASSET -- BOSWELL ENERGY CENTER - MN POWER --856 NW 3RD ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.52	0	0	0	0	0	0	0.52
Itasca County, City of GRAND RAPIDS -- BLANDIN PAPER --115 1ST ST SW								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0597	0	0	0	0	0	6.3658	6.4255

Attachment 4: Statewide Listing of Amount of Releases, Transfers and Total Dioxin and Dioxin-like Compounds Managed for Calendar Year 2000
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 Grams) **Sorted by County, City, 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 Managed
Koochiching County, City of BIG FALLS -- PAGE & HILL FOREST PRODUCTS, INC. --7556 CTY RD 31								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0019	0	30.0137	0	0	0	0	30.0156
Koochiching County, City of INTL FALLS -- BOISE CASCADE CORP. --400 2ND ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.88	0	0	0	0	112	0	112.88
Polk County, City of CROOKSTON -- AMERICAN CRYSTAL SUGAR CO. --HWY 75 S BOX 600								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	139.66	0	0	0	0	0	0	139.66
Polk County, City of EAST GRAND FORKS -- AMERICAN CRYSTAL SUGAR CO. --BUSINESS HWY 2 E								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	312.49	0	0	0	0	0	0	312.49
Ramsey County, City of NEW BRIGHTON -- BELL LUMBER & POLE CO. --778 1ST ST NW								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	144.7385	0	0	8.7611	37.8354	191.335
Ramsey County, City of ST. PAUL -- XCEL ENERGY - HIGH BRIDGE PLANT --501 SHEPARD RD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.12	0	0	0	0	0	0	0.12
Sherburne County, City of BECKER -- XCEL ENERGY - BECKER RDF ASH LANDFILL --13700 SHERBURNE AVE. SOUTH								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	722.95	0	0	0	0	0	0	722.95
Sherburne County, City of BECKER -- XCEL ENERGY - SHERCO PLANT --13999 INDUSTRIAL BLVD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	1.78	0	0	0	0	0	0	1.78
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
Grand Totals:	1,340.03	0.00	174.75	0.00	0.03	120.76	44.47	1,680.03

Attachment 5: Statewide Listing of Amount of Releases, Transfers and Total Mercury and Mercury Compounds Managed for Calendar Year 2000
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**

	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	38.4	0	0	0	243	0	0	281.4
Benton County, City of SARTELL -- INTERNATIONAL PAPER CO. --100 E SARTELL ST								
MERCURY COMPOUNDS	17.1	0	0	0	2	0	0	19.1
Blue Earth County, City of MANKATO -- ARCHER DANIELS MIDLAND CO. --3RD & HARPER ST								
MERCURY COMPOUNDS	4.9	0	0	0	0	0	0	4.9
Dakota County, City of BURNSVILLE -- XCEL ENERGY - BLACK DOG PLANT --1400 E BLACK DOG RD								
MERCURY COMPOUNDS	58	0	0	0	0	0	0	58
Dakota County, City of EAGAN -- W.R. GRACE & CO.-CONN. GCP --1170 EAGAN INDUSTRIAL RD								
MERCURY	0	0	0	0	0	0	0	0
Dakota County, City of INVER GROVE HEIGHTS -- KOCH PETROLEUM GROUP --JUNCTION OF HWY 52 & 55								
MERCURY COMPOUNDS	57.89	0	0	14.24	0.48	0	0	72.61
Hennepin County, City of MINNEAPOLIS -- XCEL ENERGY - RIVERSIDE PLANT --3100 MARSHALL ST NE								
MERCURY COMPOUNDS	112	0	0	0	0	0	0	112
Itasca County, City of COHASSET -- BOSWELL ENERGY CENTER - MN POWER --856 NW 3RD ST								
MERCURY COMPOUNDS	330	0	0	0	0	0	0	330
Olmsted County, City of ROCHESTER -- ROCHESTER PUBLIC UTILITIES-SILVER LAKE --425 W SILVER LAKE DRV NE								
MERCURY COMPOUNDS	50	0	0	0	0	0	0	50
Otter Tail County, City of FERGUS FALLS -- OTTER TAIL POWER CO. (HOOT LAKE) --1012 WATER PLANT ROAD								
MERCURY COMPOUNDS	46	0	0	0	0	0	0	46
Ramsey County, City of ST. PAUL -- NORTH STAR RECYCLING-MINNESOTA --1678 RED ROCK RD								
MERCURY COMPOUNDS	159	0	0	0	16	0	0	175

Attachment 5: Statewide Listing of Amount of Releases, Transfers and Total Mercury and Mercury Compounds Managed for Calendar Year 2000
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**

	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 ST. PAUL -- NORTH STAR STEEL-MINNESOTA --1678 RED ROCK RD								
MERCURY COMPOUNDS	152	0	0	0	144	0	0	296
Ramsey County, City of ST. PAUL -- XCEL ENERGY - HIGH BRIDGE PLANT --501 SHEPARD RD								
MERCURY COMPOUNDS	67	0	0	0	0	0	0	67
Sherburne County, City of BECKER -- XCEL ENERGY - BECKER RDF ASH LANDFILL --13700 SHERBURNE AVE. SOUTH								
MERCURY COMPOUNDS	690	0	0	0	0	0	0	690
Sherburne County, City of BECKER -- XCEL ENERGY - SHERCO PLANT --13999 INDUSTRIAL BLVD								
MERCURY COMPOUNDS	990	0	0	0	0	0	0	990
St Louis County, City of AURORA -- LASKIN ENERGY CENTER - MN POWER --5699 COLBY LAKE RD								
MERCURY COMPOUNDS	22	0	0	0	0	0	0	22
St Louis County, City of DULUTH -- STORA ENSO DULUTH MILL --100 N CENTRAL AVE								
MERCURY COMPOUNDS	3.6	0	0	0	0	0	0	3.6
St Louis County, City of HIBBING -- HIBBING PUC --1832 SIXTH AVENUE EAST								
MERCURY COMPOUNDS	15	0	0	0	0.135	0	0	15.135
Washington County, City of BAYPORT -- XCEL ENERGY - A.S. KING GENERATING PLANT --1103 KING PLANT RD								
MERCURY COMPOUNDS	160	0	0	0	0	0	0	160
Washington County, City of ST. PAUL PARK -- MARATHON ASHLAND PETROLEUM, LLC --100 W 3RD AVE								
MERCURY COMPOUNDS	4.67	0	0	0.449	0	0	0	5.119
Winona County, City of WINONA -- MILLER WASTE MILLS, INC. - RTP --580 E FRONT ST								
MERCURY COMPOUNDS	0.085	0	0	0	0	0	0	0.085
Grand Totals:	2,977.65	0	0	14.69	405.62	0	0	3,397.95

Attachment 6: Number of Facilities (by County) Reporting Releases and Transfers for Calendar Year 2000
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	24	386,894	1,697,369	2,236,638
Becker	1	38	281	281
Beltrami	1	295,217	295,217	295,217
Benton	4	68,074	83,176	365,642
Blue Earth	5	601,323	840,495	869,831
Brown	3	55,376	858,220	885,793
Carlton	3	531,046	8,344,286	12,729,330
Carver	11	150,529	449,015	2,837,318
Cass	1	6,806	6,806	6,806
Chisago	3	32,478	32,478	35,067
Clay	2	244,268	244,268	297,868
Crow Wing	6	97,412	177,559	190,296
Dakota	25	2,325,287	2,593,726	201,145,745
Dodge	1	65,501	469,001	469,001
Douglas	3	67,539	199,419	306,528
Faribault	2	14,279	14,279	14,279
Fillmore	1	95,289	110,098	110,098
Freeborn	6	100,336	295,132	327,269
Goodhue	10	461,059	742,776	1,972,330
Grant	1	21,318	22,823	22,823
Hennepin	86	2,075,656	9,886,779	12,223,726
Hubbard	1	194,250	194,250	194,250
Itasca	3	2,005,505	2,030,163	2,216,708
Jackson	1	6,500	62,500	62,500
Kanabec	2	57,567	62,967	62,967
Koochiching	3	586,243	586,243	11,397,243
Lac Qui Parle	2	408,474	408,594	728,742
Lake	2	32,025	58,876	81,876
Lake of the Woods	1	48,963	59,150	59,150
Le Sueur	4	165,712	276,029	1,527,123
Lyon	4	105,097	109,173	109,173
Marshall	1	112,775	112,775	112,775
Martin	4	283,196	327,249	348,039
McLeod	6	591,573	3,109,824	25,327,641
Meeker	3	50,025	537,583	898,766
Mille Lacs	2	3,053	16,603	16,603
Morrison	2	464,749	464,749	464,749
Mower	2	164,182	199,047	199,047
Nicollet	2	56,247	62,117	64,117
Olmsted	10	632,172	1,544,305	1,940,028
Otter Tail	6	282,480	654,630	1,459,655
Pipestone	1	312,142	312,142	312,142
Polk	4	468,748	496,667	564,008
Ramsey	48	5,761,607	15,097,432	23,426,947
Renville	1	174,300	174,300	174,300
Rice	6	217,629	1,742,308	3,086,805
Roseau	1	57,000	68,727	68,727
Scott	6	65,521	1,292,861	1,794,235
Sherburne	3	7,684,653	7,824,970	8,479,345
Sibley	2	0	0	38,686
St Louis	15	522,528	853,539	1,054,299
Stearns	12	964,014	2,074,520	2,608,979
Steele	9	423,951	656,929	690,054
Swift	1	101	102,801	102,801
Todd	2	12,777	20,549	20,549
Wabasha	3	113,606	127,459	127,459
Wadena	1	6,240	6,240	6,240
Waseca	3	14,294	233,066	261,780
Washington	9	2,119,521	10,089,435	15,395,606
Watonwan	1	8	19,088	19,088
Winona	8	124,517	691,696	1,158,863
Wright	4	58,348	256,218	287,867
Totals:	**400**	**33,048,021**	**80,380,980**	**344,291,822**

Attachment 7: Sample Statewide Listing of Amount of Releases, Transfers, and Total Chemicals Managed for Calendar Year 2000
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

	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 -- FEDERAL CARTRIDGE COMPANY --900 EHLEN DRV								
ETHYLENE GLYCOL	30	0	0	0	0	0	372,843	372,873
COPPER COMPOUNDS	5,692	0	0	0	550	0	0	6,242
BARIUM COMPOUNDS	1,579	0	0	0	46	0	0	1,625
LEAD COMPOUNDS	1,778	0	0	0	36,612	0	0	38,390
NITRATE COMPOUNDS (WATER DISSOCIABLE)	0	0	0	0	0	0	31,225	31,225
Totals	**9,079**	**0**	**0**	**0**	**37,208**	**0**	**404,068**	**450,355**
Anoka County, City of ANOKA -- HOFFMAN ENCLOSURES INC. - MAIN PLANT --2100 HOFFMAN WAY								
TOLUENE	6,313	1,612	17,435	6,689	0	0	0	32,049
GLYCOL ETHERS	13,261	13,013	539	0	0	0	408	27,221
METHYL ETHYL KETONE	3,508	0	12,318	4,668	0	0	0	20,494
XYLENE (MIXED ISOMERS)	11,399	9,668	192	0	0	0	0	21,259
N-BUTYL ALCOHOL	9,184	9,170	2	0	0	0	0	18,356
Totals	**43,665**	**33,463**	**30,486**	**11,357**	**0**	**0**	**408**	**119,379**
Anoka County, City of ANOKA -- IMI CORNELIUS INC. --ONE CORNELIUS PLACE								
NITRIC ACID	30	0	0	0	0	22,100	0	22,130
NITRATE COMPOUNDS (WATER DISSOCIABLE)	0	0	0	0	0	0	30,300	30,300
NICKEL	445	0	0	0	31,300	0	0	31,745
CHROMIUM	786	0	0	0	86,800	0	0	87,586
COPPER	51	0	0	0	18,800	0	0	18,851
Totals	**1,312**	**0**	**0**	**0**	**136,900**	**22,100**	**30,300**	**190,612**
Anoka County, City of ANOKA -- LIFE FITNESS CONSUMER DIVISION --14150 SUNFISH LAKE BLVD								
MANGANESE	41	0	0	0	9,712	0	0	9,753
Totals	**41**	**0**	**0**	**0**	**9,712**	**0**	**0**	**9,753**
Anoka County, City of ANOKA -- LUND INDUSTRIES INC --911 LUND BLVD								
STYRENE	83,168	0	6,426	0	0	0	0	89,594
Totals	**83,168**	**0**	**6,426**	**0**	**0**	**0**	**0**	**89,594**
Anoka County, City of ANOKA -- MATE PRECISION TOOLING COMPANY --1295 LUND BLVD.								
CHROMIUM	0	0	0	0	46,530	0	0	46,530
Totals	**0**	**0**	**0**	**0**	**46,530**	**0**	**0**	**46,530**
Anoka County, City of ANOKA -- MENTOR CORPORATIONS --800 LUND BLVD								
TOLUENE	13,138	0	355	0	0	0	0	13,493
Totals	**13,138**	**0**	**355**	**0**	**0**	**0**	**0**	**13,493**

Attachment 8: Facilities Filing a Certification Statement (Alternate Threshold Option) instead of an EPA Form R

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

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

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

In 2000, 126 facilities filed 282 Certification Statements including 48 who filed both a Form R and Certification Statement(s), and 78 who filed only a Certification Statement(s).

The following facilities filed a Certification Statement(s) for the 2000 reporting year:

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Federal-Cartridge Co.	02-005-0004	Nitroglycerin Nitric Acid Antimony Compounds
Airgas North Central, Inc.	02-005-0029	Propylene
Hoffman Enclosures, Inc.	02-005-0053	Diisocyanates
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 Ltd., LLP	05-073-0015	Copper Compounds Zinc Compounds Manganese Compounds

Hubbard Feeds, Inc.	07-100-0006	Copper Compounds Zinc Compounds Manganese Compounds Selenium Compounds Cobalt Compounds
Farmland Feed Mill	07-100-0049	Copper Compounds Zinc Compounds Manganese Compounds
Feed Service Co., Inc.	07-100-0057	Zinc Compounds
Big Gain Inc.	07-160-0004	Zinc Compounds Manganese Compounds Copper Compounds
Softsoap Enterprises, Inc.	10-035-0003	Diethanolamine
McLaughlin Gormley King	10-035-0008	Permethrin Piperonyl Butoxide Maleic Anhydride Phenothrin Tetramethrin Dicyclopentadiene Dipropyl Isocinchomeronate
Ethanol 2000	17-020-0002	Ammonia Benzene Cyclohexane n-Hexane
Water Heater Innovations, Inc.	19-025-0027	Diisocyanates
Materials Processing Corporation	19-025-0091	Copper
W.R. Grace & Co.	19-025-0095	Nitrate Compounds
ConAgra Grain Procssing Co.	19-060-0001	Chlorine
Land O'Lakes - Inver Grove Hts.	19-071-0001	Copper Compounds Manganese Compounds Zinc Compounds
Cenex Harvest States	19-071-0004	Zinc Compounds
ChemCentral/Minnesota	19-080-0001	Ethylene Glycol Ethylbenzene Di(2-ethylhexyl) Phthalate (DEHP) Methyl Isobutyl Ketone 1,2,4 -Trimethylbenzene n-Hexane Glycol Ethers Dibutyl Phthalate
Spectro Alloys Corp.	19-145-0009	Nickel
Dole Explosives, Inc.	19-145-0014	Ammonia Nitrate Compounds

DPC Industries, Inc.	19-145-0018	Hydrogen Fluoride
Flint Ink Corp.	19-180-0001	Barium Compounds
Al-Corn Clean Fuel	20-014-0016	Ammonia Benzene Cyclohexane n-Hexane
Hubbard Feeds, Inc.	21-005-0002	Zinc Compounds Manganese Compounds
Standard Iron & Wire Works, Inc.	21-005-0064	Manganese
Crown Fixtures Corp.	22-110-0014	Trichlorofluoromethane Dichlorodifluoromethane Diisocyanates
Corn Plus	22-110-0019	Benzene
Pro-Corn	23-134-0019	Ammonia Benzene Cyclohexane n-Hexane
Schweigert Foods	24-005-0001	Ammonia
Airgas North Central, Inc.	24-005-0040	Propylene
Kerry Ingredients	24-005-0072	Nitric Acid
Agra Resources Coop	24-005-0081	Ammonia Benzene Cyclohexane n-Hexane
Red Wing Shoe Co., Inc. Plant II	25-110-0001	Diisocyanates
Red Wing Shoe Co., Inc. Plant I	25-110-0008	Diisocyanates
SKW MBT Operations, Inc.	27-005-0008	Diisocyanates Toluene Diisocyanate
Hitchcock Industries, Inc.	27-005-0013	Diisocyanates
FMS Corporation	27-005-0092	Ammonia Tetrachloroethylene
Caterpillar Paving Products , Inc.	27-015-0053	Ethylene Glycol
Birchwood Laboratories, Inc.	27-056-0001	Barium Compounds
Douglas Corp.	27-056-0076	Diisocyanates
Reliance Motion Control	27-056-0081	Diisocyanates
Filmtec Corporation	27-060-0002	Diisocyanates

Honeywell, Inc.	27-070-0001	Diisocyanates
Electrochemicals, Inc.	27-120-0010	Ethylene Glycol
Bureau of Engraving, Inc.	27-135-0011	Hydrochloric Acid (aerosol)
Hawkins, Inc.	27-135-0030	Formic Acid
Purina Mills, Inc.	27-135-0062	Copper Compounds Manganese Compounds Zinc Compounds
Kohl & Madden Printing Ink Corp	27-135-0222	Barium Compounds
Hauenstein & Burmeister	27-135-0281	Nickel Chromium
Hiawatha Metalcraft	27-135-0474	Chromium Compounds
Sierra Corp./TK Products	27-140-0007	Cumene
Honeywell Advanced Circuits, Inc.	27-140-0008	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)
Ceram-Traz Corporation	27-175-0002	Diethanolamine
Foam Enterprises, Inc.	27-180-0069	1,1-Dichloro-1-fluoroethane
Hutchinson Technology, Inc.	27-180-0078	Ammonia
Hardcoat, Inc.	27-215-0038	Chromium Nitric Acid
Lamb-Weston/RDO Frozen	29-120-0003	Chlorine
Jennie-O Foods, Inc.	34-010-0002	Formaldehyde
Ducoa L.P.	34-175-0007	Zinc Compounds Copper Compounds Manganese Compounds
Willmar Poultry Farms, Inc.	34-175-0079	Formaldehyde
Land O' Lakes - Willmar	34-175-0080	Copper Compounds Manganese Compounds Zinc Compounds
Land O' Lakes - Dawson	37-045-0001	Copper Compounds Manganese Compounds Zinc Compounds
Ag Processing, Inc.	37-045-0012	Chlorine
Koch Materials Co.	42-095-0003	1,2,4 -Trimethylbenzene Ethylbenzene Toluene

Minnesota Corn Processors	42-095-0048	Benzene Xylene Cyclohexane Toluene Chlorine
Seneca Foods	43-030-0001	Peracetic Acid
Consolidated Nutrition, L.C.	43-030-0017	Zinc Compounds
Hutchinson Mfg., Inc.	43-055-0029	Chromium Manganese Nickel
Polyfoam, Inc.	43-065-0002	Sulfuric Acid (aerosol)
Crestliner	49-120-0025	Diisocyanates
Minnesota Corn Processors	49-120-0048	Benzene Ammonia Cyclohexane n-Hexane
Land O' Lakes	50-004-0016	Manganese Compounds Zinc Compounds Copper Compounds
Hormel Foods Corporation	50-015-0002	Sodium Nitrite Chlorine
Alumacraft Boat Co.	52-080-0001	Diisocyanates
Hubbard Feeds, Inc.	53-150-0007	Manganese Compounds Zinc Compounds Copper Compounds
Hubbard Feeds, Inc.	53-150-0043	Copper Compounds Manganese Compounds Zinc Compounds
Quest International	55-095-0017	Nitric Acid Ammonia Peracetic Acid
Lund Boat Company	56-251-0003	Diisocyanates
Arctic Cat, Inc.	57-115-0042	Diisocyanates Ethylene Glycol
Bell Lumber & Pole Co.	62-045-0001	Pentachlorophenol
Honeywell Advanced Circuits, Inc.	62-060-0001	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)

Milsolv Corp.	62-060-0003	1,2,4 -Trimethylbenzene Glycol Ethers n-Butyl Alcohol 2-Ethoxyethanol Ethylbenzene Styrene Methyl Isobutyl Ketone
Buckbee-Mears St. Paul	62-070-0009	Chlorine
C&H Enterprises, Inc.	62-070-0010	Glycol Ethers Sodium Nitrite
Ford Motor Company- Twin Cities Assembly Plant	62-070-0020	Benzene Cyclohexane Manganese Compounds
Harcros Chemicals, Inc.	62-070-0070	Ethylene Glycol
Ashland Distribution Company	62-070-0077	Cyclohexane n-Butyl Alcohol Methyl Isobutyl Ketone 1,2,4-trimethylbenzene Ethylene Glycol
Vopak USA, Inc.	62-070-0079	Toluene Tetrachloroethylene Ethylene Glycol Nitric Acid Ammonia
HCI Worum Chemical Co.	62-070-0082	Toluene-2,6-Diisocyanate Glycol Ethers n-Butyl Alcohol Ethylene Glycol Methyl Isobutyl Ketone 1,2,4-Trimethylbenzene Ethylbenzene n-Hexane Dichloromethane Trichloroethylene Tetrachloroethylene Diethanolamine N-Methyl-2-pyrrolidone Dimethyl Phthalate Cumene 4,4'-Isopropylidenediphenol Zinc Compounds 2,2-Dichloro-1,1,1-Trifluoroethane
Gross-Given Mfg. Co.	62-070-0108	Trichlorofluoromethane Dichlorodifluoromethane Diisocyanates
Versa Iron & Machine	62-070-0230	Copper Compounds
Schwing America, Inc.	62-092-0001	Propylene

Quality Wood Treating Co., Inc.	62-095-0001	Copper Compounds Arsenic Compounds Chromium Compounds
Central Biproducts	64-110-0002	Chlorine
Malt-O-Meal Co.	66-060-0041	Zinc Compounds
Agri-Energy, LLC	67-055-0022	Ammonia Benzene Cyclohexane n-Hexane
Minnesota Explosives Co.	69-058-0002	Nitric Acid
Duluth Brass Mfg.	69-125-0220	Copper
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 Nitrate Compounds
Fremont Industries, Inc.	70-085-0008	Sodium Nitrite Glycol Ethers Methanol Ethylene Glycol N-Methyl-2-Pyrrolidone
Cargill, Inc.	71-019-0012	Zinc Compounds
Heartland Corn Products	72-120-0010	Ammonia Benzene Cyclohexane n-Hexane
Gold' N Plump Poultry, Inc.	73-040-0001	Chlorine
Melrose Dairy Proteins LLC	73-150-0003	Methyl Tert-Butyl Ether Toluene Xylene
Wiman Corporation	73-230-0054	Di(2-Ethylhexyl) Phthalate
Grede–St. Cloud Foundry, Inc.	73-230-0084	Propylene Diisocyanates
New Flyer USA	73-230-0097	Chromium Nickel Manganese Ethylene Glycol
Standard Iron & Wire Works, Inc.	73-265-0028	Manganese

Tandem Products, Inc.	74-014-0039	Diisocyanates Nitrate Compounds
Diversified Energy Co.	75-070-0014	Ammonia Benzene Cyclohexane n-Hexane
Chippewa Valley Ethanol Co.	76-015-0036	Ammonia Benzene Cyclohexane n-Hexane
Central Bi-Products	77-124-0002	Chlorine
Cargill, Inc.	81-039-0015	Copper Compounds Zinc Compounds
Andersen Corporation	82-015-0002	Antimony Compounds Diisocyanates
Badger Foundry Co.	85-145-0005	Diisocyanates
United Machine and Foundry	85-145-0066	Chromium Nickel
Honeywell Advanced Circuits, Inc.	86-019-0025	Hydrochloric Acid (aerosol) Sulfuric Acid (aerosol)
Land O' Lakes	86-085-0010	Copper Compounds Manganese Compounds Zinc Compounds
Standard Iron & Wire Works, Inc.	86-109-0028	Manganese
Knight Colors and Chemicalc Co.	86-120-0005	Barium Compounds

Attachment 9: Facilities which submitted an EPA Form R in 1999 but are not subject to reporting in 2000

Facility Name & Location	County	ERC ID Number
RMS, Blaine	Anoka	02-020-0067
Carter-Day International Inc., Fridley	Anoka	02-055-0075
Life Fitness Consumer Div., Ramsey	Anoka	02-095-0015
Crystal Cabinet Works, Inc., Sauk Rapids	Benton	05-073-0030
Crown Beverage Packing, Mankato	Blue Earth	07-100-0004
Lifecore Biomedical, Inc., Chaska	Carver	10-035-0038
Amoco Oil, Moorhead	Clay	14-145-0005
Cenex Harvest States, Inver Grove Heights	Dakota	19-071-0004
University of Minnesota, Rosemount	Dakota	19-145-0017
Darling International Inc., Blue Earth	Faribault	22-010-0001
Foldcraft Co., Kenyon	Goodhue	25-079-0015
Flame Metals Processing Corp., Bloomington	Hennepin	27-005-0080
Gustafson LLC, Eden Prairie	Hennepin	27-056-0069
Northern Star Co., Minneapolis	Hennepin	27-135-0053
Mentor Minnesota Operations, Minneapolis	Hennepin	27-135-0516
Inno Flex Corp., New Hope	Hennepin	27-165-0048
Minnesota Rubber, St. Louis Park	Hennepin	27-215-0021
Lambweston/RDO Frozen, Park Rapids	Hubbard	29-120-0003
Arrow Tank and Engineering Co., Cambridge	Isanti	30-019-0023
Jennie-O Foods, Inc., Willmar	Kandiyohi	34-175-0008
DairiConcepts, LP, Winsted	Mcleod	43-109-0002
Pollock Mfg., Inc., Darwin	Meeker	47-039-0002
Swift & Co., Worthington	Nobles	53-150-0003
Arctic Cat, Inc., Thief River Falls	Pennington	57-115-0042
Wolkerstorfer Co., Inc., New Brighton	Ramsey	62-045-0012
Quebecor Printing, St. Paul	Ramsey	62-070-0193
University of Minnesota, Lamberton	Redwood	64-059-0003
University of Minnesota, Redwood Falls	Redwood	64-110-0031
University of Minnesota, Redwood Falls	Redwood	64-110-0033
University of Minnesota, Redwood Falls	Redwood	64-110-0034
University of Minnesota, Redwood Falls	Redwood	64-110-0036
Borden Chemical, Inc., Virginia	St. Louis	69-440-0002
Truth Hardware, Owatonna	Steele	74-070-0002
University of Minnesota, Waseca	Waseca	81-070-0010
Midwest Metal Products, Inc., Winona	Winona	85-145-0101
Knight Colors and Chemicals Co., Montrose	Wright	86-120-0005

Attachment 10: "Core" Set of Reported Chemicals (1988-2000)

The Environmental Protection Agency (EPA) has the authority to add chemicals to the Section 313 Toxic Chemical List (see Appendix A on page 75.) 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 (2000). Pages 42 to 49 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 2000. 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 1988-2000 time period.

To facilitate a full understanding of the release/transfer data provided, two basic clarifications are needed. First, if 1988 or 2000 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 1988-2000, over 500 facilities that met the reporting criteria for one or more years notified the ERC that they were no longer required to file. Several factors are responsible for this development, including pollution prevention initiatives, chemical substitution or elimination, regulatory changes, and facilities moving to another state or going out of business. For these reasons, it appears that there have been reductions in chemical releases into the environment, especially into the air. However, **the following factors should be considered before drawing any conclusion relative to the upward/downward release/transfer trends**:

1. Manufacture and process thresholds began at 75,000 pounds for the 1987 reporting year, dropped to 50,000 pounds for 1988, and dropped to 25,000 pounds for 1989 and thereafter. Therefore, some facilities may have been required to report in 1989, but not 1988.

2. Effective with the 1995 reporting year, facilities whose "total annual reportable amount" does not exceed 500 pounds, and that do not manufacture, process, or otherwise use more than one million pounds of a TRI chemical, were permitted to submit a certification statement (EPA Form A) instead of the EPA Form R. Form A's do not include any release or transfer amount information.

3. Prior to the 1991 reporting year, facilities were required to report only transfers to Publicly Owned Treatment Works (POTW) and other off-site locations for the purposes of treatment and disposal. The federal Pollution Prevention Act of 1990 added to the TRI the collection of data for energy recovery and recycling. Because this data was not collected until 1991, comparisons can only be drawn between 1988-2000 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 50-51 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 422,143 pounds in 2000. Numerous other large and small facilities contributed to the remaining reductions in stack air emissions.

   c. Water

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

   d. Land

      The NSP facility in Becker reported 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)

      Potlatch at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred to the POTW in 1988, 4,482,658 pounds in 1998, and 7,765,026 pounds in 2000.

   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, 331,000 pounds in 1998 and 414,000 pounds in 2000.

      - The 3M facility in Cottage Grove reported total off-site transfers for treatment of Methyl Ethyl Ketone, Toluene, Xylene, and Ethylene Glycol of 4,630,000 pounds in 1989 but only 10,000 pounds of these same four chemicals in 1990.

      - As indicated under the POTW heading above, Potlatch at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred off-site to the POTW for treatment in 1988 and 7,765,026 pounds in 2000.

      - Numerous facilities, as part of an EPA enforcement initiative, reported for the first time in the year 2000 the off-site transfers of Nitrate Compounds for treatment for reporting years 1995-1999.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
1,1,1-Trichloroethane	1988	74	1,078,094	2,079,144	0	0	3,397	293,477
1,1,2,2-Tetrachloroethane	1988	1	250	50,000	0	0	0	0
1,1,2-Trichloroethane	1988	1	120	16,000	0	0	0	3,400
1,2,4-Trimethylbenzene	1988	9	17,840	201,061	30	210	8	31,030
	2000	12	26,084	91,294	14	0	6	1,327
1,2-Butylene oxide	1988	1	1,300	0	0	0	0	0
1,2-Dibromoethane	1988	1	0	5	0	0	0	0
	2000	1	0	0	0	0	0	5
1,2-Dichloroethane	1988	2	83	12,009	0	0	0	9,400
1,3-Butadiene	1988	1	0	13,000	30	0	0	30
	2000	1	406	4	2	0	0	0
1,4-Dioxane	1988	3	1,879	23,584	0	0	45,985	421
	2000	1	59	1,181	0	0	64,757	0
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
	2000	3	5,917	16,724	1	0	15	35,976
2-Methoxyethanol	1988	1	0	9,800	0	0	0	0
	2000	1	0	0	0	0	0	0
4,4'-Isopropylidenediphenol	2000	2	0	24	0	0	0	7,900
4,4'-Methylenedianiline	1988	2	0	0	0	0	0	8,145
Acetaldehyde	2000	5	5	197,752	720	5	9,470	1
Acetonitrile	2000	1	1	52	20	0	0	0
Acrolein	2000	1	0	29,813	0	0	0	0

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Acrylic acid	1988	1	4	120	0	0	0	0
	2000	2	1,906	14,809	0	0	0	15,278
Acrylonitrile	1988	1	0	0	0	0	0	0
Allyl chloride	2000	1	144	71	1	0	0	264
Aluminum (fume or dust)	1988	4	0	27,688	4,100	0	63	109,842
	2000	5	15,194	750	0	0	0	76,070
Anthracene	2000	1	255	5	0	0	0	260
Antimony	1988	2	130	140	0	19,098	68	0
	2000	1	13	37	0	0	251	18,000
Antimony compounds	1988	3	5	63	6	18	28	6,405
	2000	8	10	111	1,240	32,410	0	18,054
Arsenic	1988	2	65	74	160	5,981	6	0
	2000	1	7	18	0	0	38	11,000
Arsenic compounds	1988	2	0	250	0	0	0	1,350
	2000	1	0	0	0	0	0	33
Barium	1988	4	0	21,870	1,000	84,900	0	267
	2000	2	5	11	5	0	0	2,580
Barium compounds	1988	3	250	250	0	0	250	2,135
	2000	24	2,535	78,916	9,493	7,168,363	7,330	1,297,107
Benzene	1988	4	14,180	300,310	30	970	0	715
	2000	4	8,916	9,683	8	0	3	69
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
	2000	1	255	5	0	0	0	0
Bromomethane	2000	1	16,687	0	0	0	0	0
Butyl acrylate	2000	1	23	4	0	0	0	0

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
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
	2000	1	0	0	0	0	0	5
Carbon disulfide	1988	2	0	7,600	0	0	0	0
	2000	2	751	255	0	0	0	0
Carbon tetrachloride	1988	1	0	0	0	0	0	0
Carbonyl sulfide	2000	3	752	1,669	0	0	0	0
Catechol	1988	1	0	0	0	0	14,000	0
	2000	2	0	0	0	5	1,169	0
Chlorine	1988	40	14,906	469,794	26,804	0	42,724	62,000
	2000	12	7,793	4,215	255	0	8	0
Chlorine dioxide	1988	3	500	19,250	0	0	0	0
	2000	2	10	28,942	0	0	0	0
Chloroform	1988	2	102,000	161,000	79,000	430	17,000	0
	2000	1	5,300	4,500	11,000	0	0	15
Chloromethane	1988	1	143,000	0	0	0	0	0
	2000	1	85,668	0	0	0	0	0
Chromium	1988	11	757	1,558	1,313	12,250	1,258	25,734
	2000	30	337	1,738	5	0	639	148,775
Chromium compounds	1988	11	1,300	1,496	0	12,056	46,593	36,042
	2000	19	179	2,357	107	105,848	43,833	147,047
Cobalt	1988	2	250	65	200	290	0	2
	2000	3	0	30	0	0	0	13,250
Cobalt compounds	1988	2	3	649	0	0	0	9,686
	2000	1	255	255	0	0	0	510
Copper	1988	27	2,540	3,013	57	0	3,672	30,474
	2000	49	9,017	11,761	8	5	2,055	937,411

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Copper compounds	1988	15	511	1,009	5	1,283	9,695	190,419
	2000	28	560	9,081	971	327,020	7,368	1,592,990
Cresol (mixed isomers)	1988	1	0	0	0	24	0	0
	2000	1	5	255	0	5	1,918	0
Cumene	1988	1	91	0	30	0	0	30
	2000	1	255	255	0	0	0	255
Cyanide compounds	1988	8	1,250	750	0	0	27,882	7,700
	2000	7	255	1,556	0	0	1,032	17,512
Cyclohexane	1988	3	5,004	67,240	150	0	0	30
	2000	7	13,775	30,251	6	0	0	3,852
Decabromodiphenyl oxide	2000	5	0	0	0	0	0	14,882
Di(2-ethylhexyl) phthalate	1988	3	0	4,100	0	3	1	4,860
	2000	5	49	0	0	0	1,005	6,276
Dibenzofuran	2000	1	0	0	0	0	0	0
Dichloromethane	1988	40	594,104	2,176,785	1,800	0	1,839	188,395
	2000	9	18,321	67,111	0	0	352	26,901
Diethanolamine	1988	3	0	250	0	0	13,362	250
Dimethyl phthalate	1988	1	25,500	0	0	0	0	0
	2000	1	0	256	0	0	0	0
Ethyl acrylate	1988	1	2,400	960	0	0	0	0
	2000	1	4,911	318	47	0	0	922
Ethylbenzene	1988	11	20,790	443,063	30	1,800	500	28,143
	2000	16	18,682	158,011	15	0	5	801
Ethylene	1988	2	23,700	310	30	0	0	30
	2000	2	14,191	1,875	4	0	0	0
Ethylene glycol	1988	20	33,394	64,116	1,493	0	303,604	392,057
	2000	13	26,070	436	0	0	409,298	7,344
Ethylene oxide	2000	3	95	300	0	0	0	0

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Formaldehyde	1988	18	4,700	749,359	3,900	0	8,197	8,385
	2000	15	4,272	140,024	31	5	36,676	7,116
Freon 113	1988	50	2,446,227	953,886	0	0	4,295	55,796
	2000	1	18,630	0	0	0	0	0
Glycol ethers	1988	31	322,763	837,357	0	0	306,809	59,832
	2000	30	137,526	580,645	0	0	239,725	8,839
Hexachlorobenzene	2000	2	0	0	0	0	0	5
Hydrogen cyanide	1988	1	0	95	800	0	0	0
Hydrogen fluoride	1988	3	1,550	96,500	0	0	0	0
	2000	14	126	229,471	0	0	17	4,141
Lead	1988	6	6,760	7,530	1,510	142,955	493	69,388
	2000	6	1,042	2,971	0	0	78	181,282
Lead compounds	1988	8	12,250	5,043	0	370,747	1,505	18,291
	2000	15	294	2,717	58	179,010	140	119,176
Maleic anhydride	1988	5	317	663	0	0	0	42
	2000	3	144	235	0	0	0	600
Manganese	1988	9	510	1,330	360	0	250	16,694
	2000	23	536	2,302	0	0	302	49,844
Manganese compounds	1988	10	13,000	2,910	5	130,000	4,810	1,050
	2000	16	3,072	12,434	27,670	1,177,568	125,860	159,206
Mercury	1988	1	2	130	0	18	0	0
	2000	2	38	0	0	0	0	0
Mercury compounds	2000	19	3	1,733	0	890	8	318
Methanol	1988	32	128,628	2,199,194	0	280,000	2,245,700	289,959
	2000	33	177,556	1,601,907	87	0	7,876,168	51,934
Methyl acrylate	1988	1	70	1,300	0	0	0	0
	2000	1	3,255	918	0	0	0	0

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Methyl ethyl ketone	1988	44	450,882	12,859,366	240	730	1,250	668,447
	2000	37	168,524	677,956	204	5	9,031	329,348
Methyl isobutyl ketone	1988	23	31,057	572,202	0	0	500	57,660
	2000	12	18,893	154,206	0	0	0	4,557
Methyl methacrylate	1988	1	1,500	660	73	0	0	0
	2000	5	36,775	21,005	78	0	0	0
Molybdenum trioxide	1988	2	250	0	0	0	0	0
	2000	7	15	302	15	24,110	0	4,921
n-Butyl alcohol	1988	20	48,999	807,983	0	0	100	85,270
	2000	13	135,360	543,780	0	0	0	4
Naphthalene	1988	3	13,704	2,094	3	1,500	0	51
	2000	3	5,200	527	0	0	0	16,535
Nickel	1988	13	788	760	1,260	2,500	919	45,295
	2000	39	557	2,204	5	0	1,146	89,201
Nickel compounds	1988	4	1,355	750	0	86,040	831	1,019
	2000	26	811	15,084	265	77,048	3,368	164,032
Nitric acid	1988	52	3,156	44,371	250	0	140,957	60,501
	2000	61	3,712	42,961	0	0	49,341	347,784
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
Peracetic acid	1988	1	15	8	0	0	0	0
	2000	1	40	764	0	0	0	0
Phenol	1988	10	2,780	231,949	1,200	289,310	500	21,218
	2000	10	12,198	57,433	255	0	2,233	7,410

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Phthalic anhydride	1988	2	0	10,750	0	0	0	0
	2000	2	63	393	0	0	0	702
Polychlorinated biphenyls	2000	3	74	4	0	0	0	1,524
Propylene	1988	3	153,000	67,250	30	0	0	30
	2000	2	42,423	7,210	4	0	0	0
Propylene oxide	1988	1	750	750	0	0	0	0
	2000	1	0	600	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
	2000	1	5	255	2,400	0	0	270
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
	2000	35	570,825	1,286,448	0	0	0	2,386
tert-Butyl alcohol	1988	1	0	17,799	0	0	0	0
	2000	2	5	1,105	0	0	0	130
Tetrachloroethylene	1988	8	51,086	107,564	0	0	603	14,000
	2000	3	9,263	18,952	0	0	0	6
Toluene	1988	72	750,321	10,673,905	30	750	846	1,693,032
	2000	53	249,524	1,258,587	8	0	261	187,334
Toluene-2,4-diisocyanate	1988	7	870	575	0	0	0	2,250
	2000	2	0	0	0	0	0	16,430
Toluene-2,6-diisocyanate	1988	4	348	39	0	0	0	170

Note: See important explanatory information on pages 40-41.

"Core" Set of Reported Chemicals (1988 - 2000)

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)
Trichloroethylene	1988	27	466,036	396,587	0	0	1,500	53,123
	2000	14	32,268	294,451	0	0	54	46
Vanadium (fume or dust)	1988	1	0	150	0	630	0	0
Vinyl acetate	2000	2	2	16,679	0	0	0	0
Xylene (mixed isomers)	1988	62	561,448	4,602,829	30	2,000	800	291,947
	2000	61	159,018	1,247,026	52	0	11	7,878
Zinc compounds	1988	19	84,755	22,575	14,410	1,501,773	7,423	118,118
	2000	36	7,023	57,126	5,261	448,020	4,082	977,052
	1988 Totals	365	8,456,206	42,057,890	141,315	2,948,711	3,272,481	5,120,902
	2000 Totals	361	2,084,725	9,047,106	60,315	9,540,317	8,899,053	7,142,683

Note: See important explanatory information on pages 40-41.

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

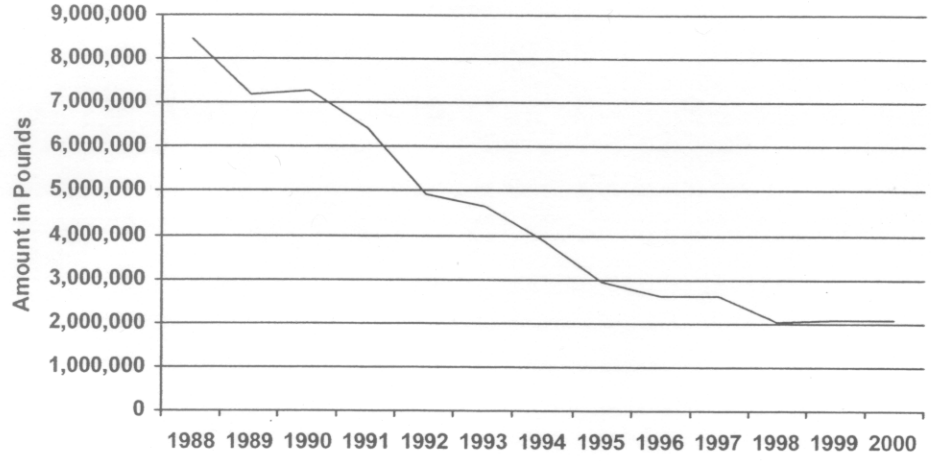


Figure 7: "Core" Set of Chemicals - Stack Air

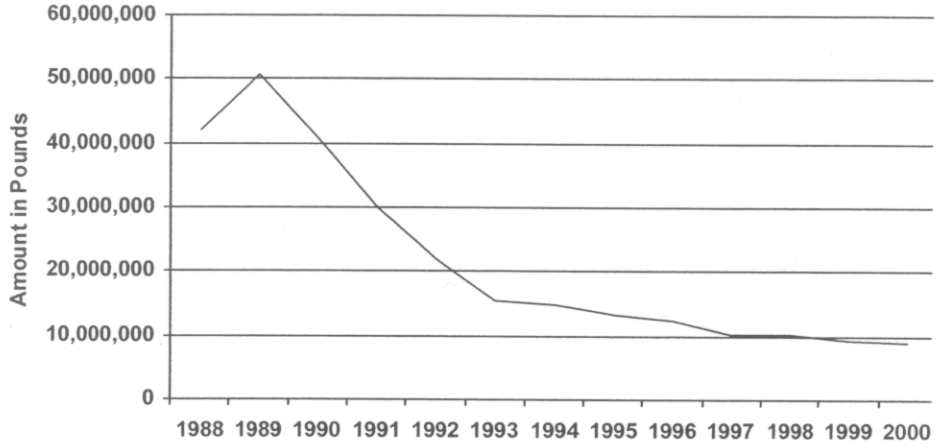
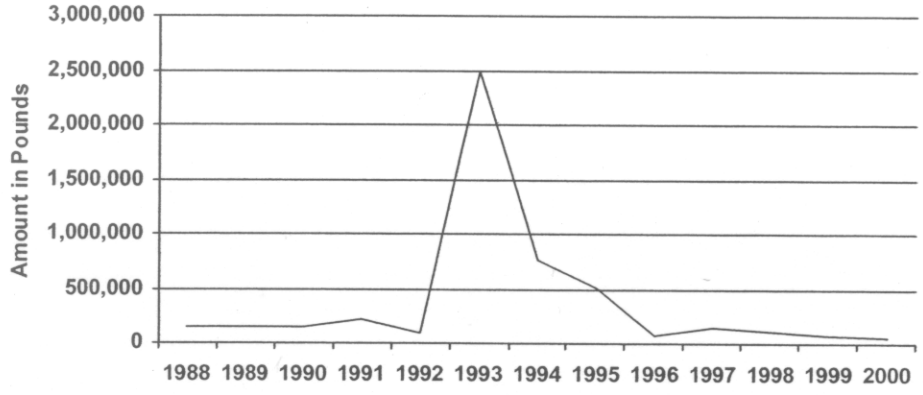


Figure 8: "Core" Set of Chemicals - Water



Note: See important explanatory information on pages 40-41.

Figure 9: "Core" Set of Chemicals - Land

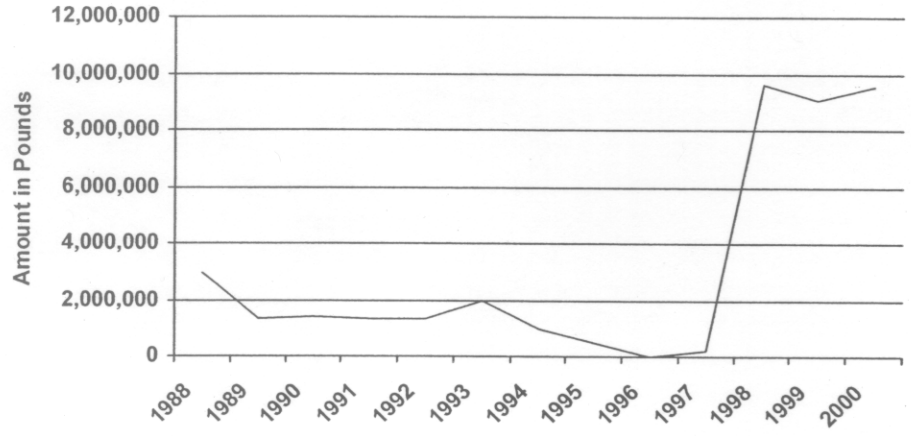


Figure 10: "Core" Set of Chemicals - POTW

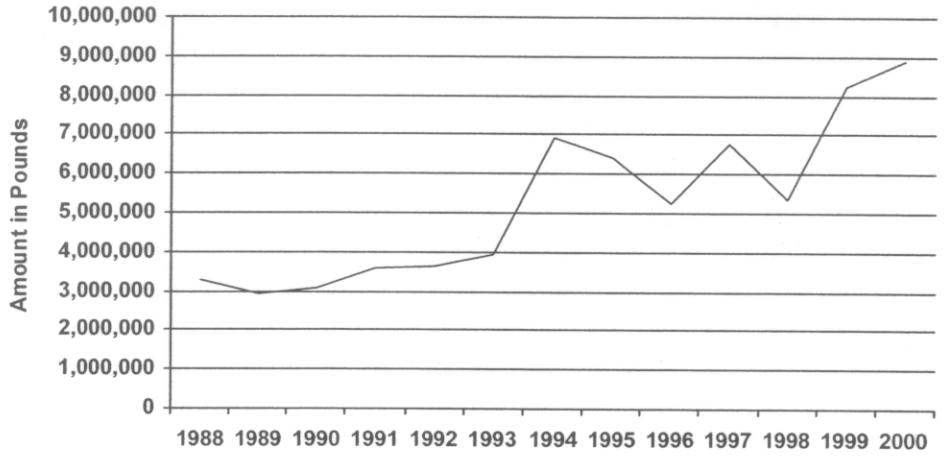
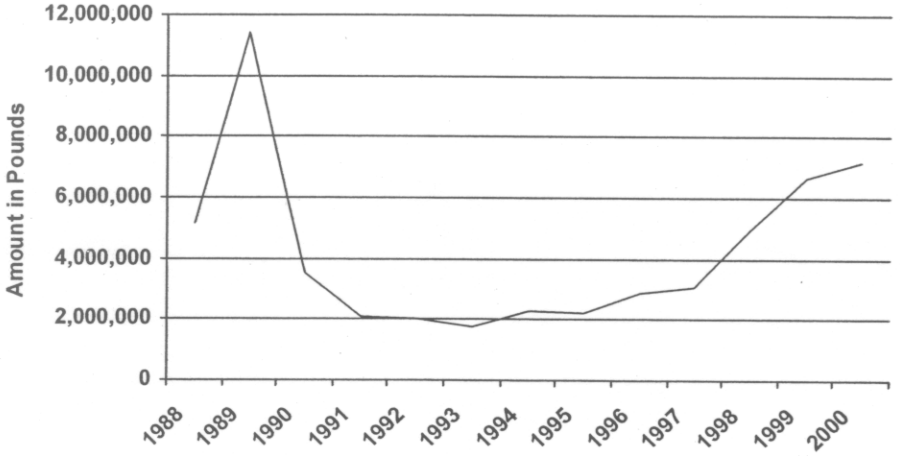


Figure 11: "Core" Set of Chemicals - Offsite Transfers (Disposal and Treatment Only)



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.

The 2000 Progress Reports are available for review at the ERC office. Copies of the Progress Reports are also available from the Minnesota Pollution Control Agency (MPCA), the Minnesota Technical Assistance Program (MNTAP), and Office of Environmental Assistance (OEA). Progress Reports for years prior to 1995 are available for review at the MPCA's Pollution Prevention and Sustainability Office.

Progress Report Issues

Approximately fifty-six 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 59 summarizes 2000 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 58 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 56 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 1999 & 2000 - actual quantity of this chemical reported on the EPA Form R (Sections 8.1 - 8.7) in 1999 and 2000

Source Reduction - describes the reduction activity code(s) that was used to meet pollution prevention objective (see pages 57-58 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

Attachment 11: Minnesota Pollution Prevention Progress Report Summary of Activities for 2000

State of Minnesota
Department of Public Safety
Emergency Response Commission

Sorted by County, City, Facility

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

Chemical	Baseline Year	Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 1999	2000	2001	2002	Reported		P.R.	Met Objective
Barium Compounds	1991	100					1999	1,700	2000 / 1999 = 1.13	Yes
							2000	1,740		

Process P02 CHEMICAL MIXING (DENATURING, FORMULATING, BLENDING, ETC.)
Intended Activity
W42 SUBSTITUTED RAW MATERIALS
Employed Activity
W42 SUBSTITUTED RAW MATERIALS

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

Non Numeric Progress: EVALUATE NEW CHEMICALS TO REPLACE BARIUM COMPOUNDS IN PRIMING MIX FORMULATION. CONTINUE LONG-TERM TESTING OF PRIMING MIX MANUFACTURED WITH BARIUM FREE COMPOUNDS AND MARKET PRIMING MIX WITH LOW BARIUM CONTENT.

Chemical	Baseline Year	Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 1999	2000	2001	2002	Reported		P.R.	Met Objective
Copper Compounds	1991	8900					1999	8,270	2000 / 1999 = 1.13	Yes
							2000	11,800		

Process P05 CLEANING ANY MATERIAL (DEGREASING, WASHING, ETC.)
Intended Activity
W64 IMPROVED DRAINING PROCEDURES
W67 IMPROVED RINSE EQUIPMENT DESIGN
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING
Employed Activity
W52 MODIFIED EQUIPMENT, LAYOUT, OR PIPING

Process P10 ELECTROLESS/IMMERSION COATING
Intended Activity
W68 IMPROVED RINSE EQUIPMENT OPERATION
W81 CHANGED PRODUCT SPECIFICATIONS
Employed Activity
W82 MODIFIED DESIGN OR COMPOSITION

Process P11 ELECTROPLATING
Intended Activity
W90 NOT APPLICABLE
Employed Activity
W81 CHANGED PRODUCT SPECIFICATIONS

Non Numeric Objective: EVALUATE NEW CLEANING CHEMICALS TO PRODUCE LESS COPPER WASTE IN WATER IN METAL CLEANING, INERT GAS ANNEALING TO REDUCE/ELIMINATE COPPER OXIDE REQUIRED TO BE REMOVED AFTER ANNEALING, AND NON-COPPER COATED SHOT FOR USE IN SHOTGUN SHELLS.

Attachment 12: Facilities not subject to Pollution Prevention Progress reporting in 2000

Facility Name and Location	County	ERC ID #
S. J. Electro Systems, Inc., Detroit Lakes	Becker	03-055-0050
Zinpro Corporation, North Branch	Chisago	13-060-0020
Busch Agricultural Resources, Inc., Moorhead	Clay	14-145-0010
Potlatch Corp., Brainerd	Crow Wing	18-015-0002
Chart Industries, Inc., Burnsville	Dakota	19-006-0077
W.R. Grace & Co.- Conn. Gcp, Eagan	Dakota	19-025-0095
Natural Biologics LLC, Albert Lea	Freeborn	24-005-0082
Ventura Foods, LLC, Albert Lea	Freeborn	24-005-0070
Foam Enterprises, Inc., Plymouth	Hennepin	27-180-0069
G.A.F. Building Materials Corp., Minneapolis	Hennepin	27-135-0198
General Mills Operations Inc./Purity Oats, Minneapolis	Hennepin	27-135-0249
Hanson Spancrete Midwest Inc., Maple Grove	Hennepin	27-115-0036
Hauenstein & Burmeister, Inc., Minneapolis	Hennepin	27-135-0281
James Ford Bell Research (General Mills), Golden Valley	Hennepin	27-070-0003
Lindberg Heat Treating Co., Eden Prairie	Hennepin	27-056-0070
Owens-Corning, Minneapolis	Hennepin	27-135-0056
International Bildrite Inc., Intl Falls	Koochiching	36-010-0031
Fiberglass Fabricators, Inc., Le Center	Le Sueur	40-065-0012
Koch Materials Co., Marshall	Lyon	42-095-0003
Haugen Furniture Company, Hutchinson	Mcleod	43-055-0037
Anderson Chemical Co., Litchfield	Meeker	47-100-0005
Celestica, Rochester	Olmsted	55-095-0019
West Central Turkeys, Inc., Pelican Rapids	Otter Tail	56-315-0011
Northern Food And Dairy Inc., Fosston	Polk	60-125-0001
Bell Lumber & Pole Co., New Brighton	Ramsey	62-045-0001
Cortec Corp., White Bear Lake	Ramsey	62-070-0276
J & L Wire Cloth Inc., St. Paul	Ramsey	62-070-0393
Minnesota Brewing Co., St. Paul	Ramsey	62-070-0029
Nor-Lakes Services Midwest, Inc., St. Paul	Ramsey	62-070-0189
Frigoscandia Inc, Northfield	Rice	66-060-0045
Xcel Energy - Becker RDF Ash Landfill, Becker	Sherburne	71-009-0018
Dairy Farmers of America, Winthrop	Sibley	72-120-0003
Hibbing PUC, Hibbing	St. Louis	69-235-0042
Irathane Systems, Inc., Hibbing	St. Louis	69-235-0007
Nahan Printing, Inc., St. Cloud	Stearns	73-230-0099
Agrilink Foods, Waseca	Waseca	81-070-0001
Nor-Lakes Services Midwest, Inc., Hugo	Washington	82-070-0008

VI. MINNESOTA'S INDEXING SYSTEM

The following information is republished from the Minnesota Pollution Control Agency's (MPCA) "Air Pollutants-Strategy Update and Facility Emission Profile," January 1995, and from the article "An Indexing System For Comparing Toxic Air Pollutants Based Upon Their Potential Environmental Impacts," by Pratt et al **, 1993, used with permission.

In response to the need for a procedure to evaluate the potential environmental impacts of chemicals released to the air and to help prioritize regulatory work involving the toxic air pollutants, the MPCA has developed a method for comparing toxic air emissions. This method is referred to as the Indexing System and it incorporates information about the environmental fate and the toxicity (to humans and other species) of chemicals emitted into the air. The environmental fate of a substance depends upon its physical and chemical characteristics and encompasses phenomena such as transport, persistence, partitioning among environmental compartments (water, air, land, biota), and bioaccumulation. Toxicity is the potential of a substance to cause an adverse effect on the health of a human or other organism.

The Indexing System does not predict whether an effect will occur; it compares chemicals in terms of their potential to be hazardous. The Indexing System assigns numerical values to substances according to the hazard potential of the substance in any of several environmental compartments following emission into the air. The numerical value assigned to a chemical is the result of a standardized modeling scenario that predicts the potential exposure of humans or other organisms to the chemical. Depending upon the chemical, any one of a set of possible routes of uptake is evaluated in the modeling process to determine the highest potential impact from the chemical.

The environmental exposure is estimated for a number of environmental compartments using a level 3 fugacity model developed for Minnesota by Professor Don Mackay of the University of Toronto. Human intake values are taken from standard U.S. Environmental Protection Agency (EPA) values, and human toxicity is estimated using values from EPA's Integrated Risk Information System (IRIS) and Health Effects Assessment Summary Tables (Threshold Limit Values (TLVs) are used if no other values are available). Ecological toxicity is estimated for aquatic organisms using MPCA Water Quality Division Final Acute Values, and for fish-eating wildlife using a method developed by the Great Lakes Initiative. The ranking of potential environmental impact of chemicals released into the air is done by combining toxicity and environmental fate information. The quality of environmental fate and toxicity data varies among chemicals. The MPCA has applied the Indexing System to over 183 substances, and is in the process of adding more substances (about 400).

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

Discussion of the Indexing System Results

It is important to recognize that the Indexing System does not predict actual concentrations that are expected to occur in the environment. The environmental fate modeling assumed a standard emission of ten kilograms per hour to the air compartment. That amount is much greater than actual emissions of some substances and much less than emissions of others. Thus the modeling results do not represent actual concentrations of pollutant that can be expected to occur. Also, the index results cannot be viewed as indicating whether effects will occur. Instead, the value of the Indexing System is in comparing chemicals to see which is likely to be more hazardous and where in the environment that hazard is most likely to occur.

The MPCA views the modeling of organic substances with greater confidence than the modeling of inorganics or metals. Current models are not able to simulate the intricacies of the speciation process. The present modeling is based on total metal concentration, and the speciated forms were not considered. However, models for speciated forms of mercury and other metals are being evaluated. The acidification caused by inorganic (as well as organic) acidity was not factored into this method.

Despite the many difficulties of compiling this Indexing System, the benefits and potential uses are numerous. The MPCA is using results from the Indexing System to develop air toxics regulations and to assist the MPCA in setting program goals. The Indexing System may be used to assist in:

- Setting thresholds for inventory and registration requirements;
- Setting air emissions fees using hazard-based fee rates (rather than a flat rate);
- Setting thresholds for environmental monitoring and testing requirements;
- Identifying environmentally persistent and bioaccumulating chemicals that require further study;
- Refining environmental monitoring needs;
- Identifying emission reduction goals; and
- Setting priorities for facility review.

To summarize, the Indexing System provides a method for comparing the potential environmental impacts of toxic substances emitted into the air. The system does not predict actual concentrations or toxicity, but rather allows a comparison of substances according to their potential to cause a hazard in the environment. The system also indicates where in the environment a substance is most likely to cause harmful effects. The system is useful in setting priorities and to those involved in developing, manufacturing and regulating toxic pollutants. For more information on this system, please contact Greg Pratt of the MPCA at 651-296-7664.

(** Gregory Pratt, Paul Gerbec, Sherryl Livingston, Fardin Oliaei, George Bollweg, Sally Paterson, and Donald Mackay)

Application of Indexing System to Air Emissions from TRI Data

For this report, the Minnesota Emergency Response Commission applied the Indexing System Values (weighted emissions) to state-wide air emissions from the 2000 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 2000 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 13: Chemicals released for the year 2000 in order from the largest to smallest total air releases

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

Sections: 5.1, 5.2 of EPA Form "R"

Chemical	Fugitive Air	Stack Air	Total Air Releases
Styrene	570,825	1,286,448	1,857,273
Methanol	177,556	1,601,907	1,779,463
Toluene	249,524	1,258,587	1,508,111
Xylene (Mixed Isomers)	159,018	1,247,026	1,406,044
N-Hexane	592,568	597,588	1,190,156
Ammonia	97,872	1,087,807	1,185,679
Methyl Ethyl Ketone	168,524	677,956	846,480
Glycol Ethers	137,526	580,645	718,171
N-Butyl Alcohol	135,360	543,780	679,140
1,1-Dichloro-1-Fluoroethane	73,667	604,875	678,542
Hydrochloric Acid (Aerosol Forms Only)	1,069	646,653	647,722
Trichloroethylene	32,268	294,451	326,719
Sulfuric Acid (Aerosol Forms Only)	275	244,375	244,650
Hydrogen Fluoride	126	229,471	229,597
Acetaldehyde	5	197,752	197,757
Ethylbenzene	18,682	158,011	176,693
Methyl Isobutyl Ketone	18,893	154,206	173,099
Formaldehyde	4,272	140,024	144,296
1,2,4-Trimethylbenzene	26,084	91,294	117,378
Chloromethane	85,668	0	85,668
Dichloromethane	18,321	67,111	85,432
Barium Compounds	2,535	78,916	81,451
Phenol	12,198	57,433	69,631
Zinc Compounds	7,023	57,126	64,149
Methyl Methacrylate	36,775	21,005	57,780
Propylene	42,423	7,210	49,633
2-Chloro-1,1,1,2-Tetrafluoroethane	0	47,798	47,798
Nitric Acid	3,712	42,961	46,673
Cyclohexane	13,775	30,251	44,026
Acrolein	0	29,813	29,813
Chlorine Dioxide	10	28,942	28,952
Tetrachloroethylene	9,263	18,952	28,215
1-Chloro-1,1-Difluoroethane	27,719	0	27,719
N-Methyl-2-Pyrrolidone	325	27,365	27,690
Ethylene Glycol	26,070	436	26,506
Polycyclic Aromatic Compounds	29	23,159	23,189
2-Ethoxyethanol	5,917	16,724	22,641
Copper	9,017	11,761	20,778
Freon 113	18,630	0	18,630
Benzene	8,916	9,683	18,599
Acrylic Acid	1,906	14,809	16,715
Bromomethane	16,687	0	16,687
Vinyl Acetate	2	16,679	16,681
Formic Acid	9,011	7,601	16,612
Ethylene	14,191	1,875	16,066
Aluminum (Fume Or Dust)	15,194	750	15,944
Nickel Compounds	811	15,084	15,895
Manganese Compounds	3,072	12,434	15,506
Chlorine	7,793	4,215	12,008
N,N-Dimethylformamide	9,806	131	9,937
Chloroform	5,300	4,500	9,800
Copper Compounds	560	9,081	9,641
Vanadium Compounds	40	8,836	8,876
Naphthalene	5,200	527	5,727
Ethyl Acrylate	4,911	318	5,229
Toluene Diisocyanate (Mixed Isomers)	764	3,796	4,560
Methyl Acrylate	3,255	918	4,173
Lead	1,042	2,971	4,013
Lead Compounds	294	2,717	3,011
Manganese	536	2,302	2,838

Attachment 13: Chemicals released for the year 2000 in order from the largest to smallest total air releases

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

Sections: 5.1, 5.2 of EPA Form "R"

Chemical	Fugitive Air	Stack Air	Total Air Releases
Nickel	557	2,204	2,761
Chromium Compounds	179	2,357	2,536
Carbonyl Sulfide	752	1,669	2,421
Chromium	337	1,738	2,075
Cyanide Compounds	255	1,556	1,811
Mercury Compounds	3	1,733	1,736
Dicyclopentadiene	368	1,329	1,697
Diisocyanates	266	1,092	1,358
1,4-Dioxane	59	1,181	1,240
Tert-Butyl Alcohol	5	1,105	1,110
Carbon Disulfide	751	255	1,006
Nitrate Compounds (Water Dissociable)	0	876	876
Peracetic Acid	40	764	804
Dioxin And Dioxin-Like Compounds	3	597	600
Propylene Oxide	0	600	600
Cobalt Compounds	255	255	510
Cumene	255	255	510
Phthalic Anhydride	63	393	456
Chlorodifluoromethane	439	0	439
1,3-Butadiene	406	4	410
Ethylene Oxide	95	300	395
Maleic Anhydride	144	235	379
Molybdenum Trioxide	15	302	317
Benzo(G,H,I)Perylene	1	278	279
Zinc (Fume Or Dust)	54	217	271
Anthracene	255	5	260
Selenium Compounds	5	255	260
Biphenyl	255	5	260
Phenanthrene	5	255	260
Cresol (Mixed Isomers)	5	255	260
Dimethyl Phthalate	0	256	256
Sodium Dimethyldithiocarbamate	255	0	255
Allyl Chloride	144	71	215
Antimony Compounds	10	111	121
Polychlorinated Biphenyls	74	4	78
Aluminum Oxide (Fibrous Forms)	0	60	60
Acetonitrile	1	52	53
Antimony	13	37	50
Di(2-Ethylhexyl) Phthalate	49	0	49
Mercury	38	0	38
Cobalt	0	30	30
Butyl Acrylate	23	4	27
Arsenic	7	18	25
4,4'-Isopropylidenediphenol	0	24	24
Barium	5	11	16
Sodium Nitrite	1	0	1
2-Methoxyethanol	0	0	0
Hexachlorobenzene	0	0	0
1,2-Dibromoethane	0	0	0
Dibenzofuran	0	0	0
1,3-Phenylenediamine	0	0	0
Decabromodiphenyl Oxide	0	0	0
Toluene-2,4-Diisocyanate	0	0	0
Cadmium Compounds	0	0	0
Tetrabromobisphenol A	0	0	0
Catechol	0	0	0
Arsenic Compounds	0	0	0
Nabam	0	0	0
Totals	2,899,262	12,351,795	15,251,057

Attachment 14: 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	1774.408	19.80	23.05	water
dioxins (total 2,3,7,8 congeners)	2	1.321095424	21.09	21.21	terr flora
copper	3	30419	15.06	19.55	water
lead (Pb)	4	7024	15.55	19.40	water
chromium (VI)*	5	4611	15.63	19.29	water
nickel	6	18656	14.96	19.23	aq biota
zinc	7	64420	14.03	18.84	water
polychlorinated biphenyls (total)	8	78.15	16.92	18.81	water
aluminum	9	15944	13.96	18.16	water
chloroform	10	9800	14.17	18.16	air
selenium	11	260	15.35	17.77	water
antimony	12	171	15.53	17.76	aq biota
bromomethane (methybromide)	13	16687	13.50	17.72	air
acrolein	14	29813	13.24	17.71	air
manganese	15	18344	13.38	17.65	water
barium	16	81467	12.69	17.60	water
dichloromethane (methylene chloride)	17	85432	12.32	17.26	air
tetrachloroethylene	18	28215	12.30	16.75	air
trichloroethylene	19	326719	11.09	16.60	air
arsenic	20	25	15.08	16.47	aq biota
acetaldehyde	21	197757	10.96	16.25	air
formaldehyde	22	144296	10.91	16.07	air
acrylic acid	23	16715	11.74	15.97	air
styrene	24	1857273	9.63	15.90	air
chromium (III)*	25	4611	12.12	15.78	water
hexane (n-)	26	1190156	9.57	15.65	air
methyl ethyl ketone (MEK)	27	846480	9.70	15.63	air
ammonia	28	1185679	9.39	15.47	air
benzene	29	18599	11.16	15.43	air
hydrogen chloride	30	647722	9.40	15.21	air
chlorine dioxide	31	28952	10.71	15.18	air
methyl isobutyl ketone (MIBK)	32	173099	9.76	15.00	air
propylene oxide	33	600	12.19	14.97	air
butadiene (1,3-)	34	410	12.35	14.97	air
xylenes	35	1406044	8.77	14.92	air
toluene	36	1508111	8.64	14.82	air
toluene 2,4-diisocyanate	37	4560	10.88	14.54	air/TLV
dioxane (1,4-)	38	1240	11.35	14.45	water
carbon disulfide	39	1006	11.39	14.39	air
chlorine	40	12008	10.22	14.30	air
ethylene oxide	41	395	11.67	14.26	air
ethylbenzene	42	176693	8.95	14.19	air
dimethylamine	43	896	11.20	14.15	air
diethylhexylphthalate (2-)	44	49	12.42	14.11	water
allyl chloride (3-chloroprene)	45	215	11.47	13.80	air

ethoxyethanol (2-, = "cellosolve")	46	22641	9.44	13.80	air
methanol	47	1779463	7.50	13.75	water
n-butyl alcohol	48	679140	7.50	13.33	water
phenol	49	69631	8.45	13.29	water
trimethylbenzene	50	117378	8.16	13.23	air/TLV
cumene (isopropyl benzene)	51	510	10.44	13.15	air
vinyl acetate	52	16681	8.79	13.01	air
ethyl acrylate	53	5229	9.18	12.90	water
dimethylformamide (n,n-)	54	9937	8.74	12.74	air
cyclohexane	55	44026	7.94	12.59	air
sulfuric acid	56	244650	7.10	12.48	air
tert-butyl alcohol	57	1110	9.30	12.35	air
naphthalene	58	5727	8.48	12.24	water
aluminum oxide	59	60	10.16	11.94	air
ethylene glycol	60	26506	7.26	11.68	water
cresol/cresylic acid	61	260	8.82	11.23	air/TLV
trichlorotrifluoroethane (1,1,2-,1,2,2-, = freon 113)	62	18630	6.93	11.20	air
methyl acrylate	63	4173	7.21	10.83	water
maleic anhydride	64	379	7.63	10.21	water
dimethyl phthalate	65	256	7.67	10.08	water
phthalic anhydride	66	456	6.03	8.69	terr flora
methyl methacrylate	67	57780	3.79	8.55	water
anthracene	68	260	4.05	6.46	water
biphenyl (diphenyl)	69	260	3.97	6.38	aq biota
chromium (total)*	70	4611	0.00	3.66	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

Qualifiers

Certain toxic chemicals listed on EPCRA section 313 have parenthetic "qualifiers." These qualifiers indicate that these toxic chemicals are subject to the section 313 reporting requirements if manufactured, processed, or otherwise used in a specific form or when a certain activity is performed. The following chemicals are reportable only if they are manufactured, processed, or otherwise used in the specific form(s) listed below:

Chemical	CAS Number	Qualifier
Aluminum (fume or dust)	7429-90-5	**Only** if it is in a fume or dust form.
Aluminum oxide (fibrous forms) 1	344-28-1	**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 percent of aqueous forms. 100 percent of anhydrous forms.
Asbestos (friable)	1332-21-4	**Only** if it is a friable form.
Hydrochloric acid (acid aerosols mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	**Only** if it is an aerosol form as including defined.
Phosphorus (yellow or white)	7723-14-0	**Only** if it is a yellow or white form.
Sulfuric acid (acid aerosols including vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	**Only** if it is an aerosol form as mists, defined.
Vanadium (except when contained in an alloy	7440-62-2	**Except** if it is contained in an alloy
Zinc (fume or dust)	7440-62-2	**Only** if it is in a fume or dust form.

The qualifier for the following two chemicals is based on the chemical activity rather than the form of the chemical. These chemicals are subject to EPCRA section 313 reporting requirements only when the indicated activity is performed.

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 (manufacturing - strong acid process, no supplier notification)	67-63-0	**Only** if it is being manufactured by the strong acid process.
Saccharin (manufacturing, 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. Manufactures of these chemicals do not need to notify their customers that these are reportable EPCRA section 313 chemicals.

De minimis

In the final rule that implemented the reporting requirements of EPCRA section 313 (53 FR 4500, February 16, 1988), EPA adopted a *de minimis* exemption which, under certain conditions, permits facilities to disregard *de minimis* levels of toxic chemicals for threshold and reporting calculations. The rule adopted a 1.0% *de minimis* level for all chemicals except those which are carcinogens, as defined in 29 CFR 1910.1200(d)(4), which have a 0.1% *de minimis* level This section of the CFR reads as follows:

> "(4) Chemical manufacturers, importers and employers evaluating chemicals shall treat the following sources as establishing that a chemical is a carcinogen or potential carcinogen for hazard communication purposes:
>
> (i) National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition);
> (ii) International Agency for Research on Cancer ([ARC) Monographs (latest editions); or
> (iii) 29 CFR part 1910, subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration."

The *de minimis* levels listed in this document are based on the most current IARC and NTP published editions and the current listings under 29 CFR part 1910, subpart Z. However, the *de minimis* levels that were in effect for any given reporting year may be different than those in this document. This is because any changes of an IARC or NTP classification of a chemical are effective for the next reporting year after the latest editions of the [ARC Monographs or NTP Annual Reports are published.

PBT chemicals

On October 29, 1999 (64 FR 58666), EPA issued a final rule that designated certain listed toxic chemicals as persistent bioaccumulative toxic (PBT) chemicals and on January 17, 2001 (66 FR 4500), EPA issued a final rule designating lead and lead compounds as PBT chemicals. In addition to lower reporting thresholds and other requirements, the *de minimis* exemption cannot be taken for PBT chemicals. Thus, *de minimis* concentration levels for the PBT chemicals are not provided in this document.

Section 2. Alphabetical List of TRI Chemicals

CAS Number	*Chemical Name*	*De Minimis Concentration*
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-(l.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-]	NA
28057-48-9	d-tuns-Allethrin [d-traps-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-M-(]. -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
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-44trifluoromethyl) benzenamine)	1.0
17804-35-2	Benomyl	1.0
98-87-3	Benzal chloride	1.0

CAS Number	*Chemical Name*	*De Minimis Concentration*
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
191-24-2	Benzo(g,h,i)perylene	NA
92-87-5	Benzidine	0.1
98-07-7	Benzoic trifluoride (Benzotrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
82657-04-3	Bifendnin	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-l-methylethyl) ether	1.0
56-35-9	Bis(tributyltin) oxide	1.0
10294-34-5	Boron trifluoride	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,31)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methylpropyl), lithium salt]	1.0
7726-95-6	Bromine	1.0
35691-65-7	1-Bromo-l-(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

CAS Number	*Chemical Name*	*De Minimis Concentration*
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	NA
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-l-azoniaadamantane chloride	1.0
106-47-8	p-Chloroanihne	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-l-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

CAS Number	*Chemical Name*	*De Minimis Concentration*
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-dimethylcyclopropane carboxylic acid, cyano(4-fluoro-3-phenoxyphenyl) methyl ester]	1.0
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-l-propenyl)-2,2-dimethylcyclopropanecarboxylic 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
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	Dibenzofiuan	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
10222-01-2	2,2-Dibromo-3-nitrilopropionamide[1]	1.0
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0

[1] On October 27,1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed

CAS Number	*Chemical Name*	*De Minimis Concentration*
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-l-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 Concentration*
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-Diamsidine 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	4Dimethylaminoazobenzene	0.1
121-69-7	NAT-Dimethylanihne	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	NN-Dimethylformamide	1.0
57-14-7	1,1-Dimethyl hydrazine	0.1
105-67-9	2,4Dimethylphenol	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	2,4Dinitrophenol	1.0
121-14-2	2,4Dinitrotoluene	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	2,4Dithiobiuret	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

CAS Number	*Chemical Name*	*De Minimis Concentration*
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
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, NN-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-I	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-lH-indene]	NA
118-74-1	Hexachlorobenzene	NA
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

CAS Number	*Chemical Name*	*De Minimis Concentration*
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
7783-06-4	Hydrogen sulfide[2]	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	NA
25311-71-1	Isofenphos [2-[[Ethoxyl[(1-methylethyl)amino]phosphinothioyl] oxy]benzoic acid 1-methylethyl ester]	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	1.0
80-05-7	4,4'-Isopropylidenediphenol	1.0
120-58-1	Isosafrole	1.0
77501-63-4	Lactofen [Benzoic acid, 5-[2-Chloro-4-(trifluoromethyl) phenoxy]-2-nitro-, 2-ethoxy-1-methyl-2-oxoethyl ester]	1.0
7439-92-1	Lead	NA
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	NA
150-50-5	Merphos	1.0
126-98-7	Methacrylonitrile	1.0
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
67-56-1	Methanol	1.0
20354-26-1	Methazole [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-]]	NA
109-86-4	2-Methoxyethanol	1.0

[2] On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for hydrogen sulfide until the stay is removed.

CAS Number	*Chemical Name*	*De Minimis Concentration*
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 Rsothiocyanatomethane]	1.0
75-86-5	2-Methyllactonitrile	1.0
74-93-1	Methyl mercaptan[3]	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-l-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	4Nitrobiphenyl	0.1
1836-75-5	Nitrofen [Benzene, 2,4-dichloro-l-(4nitrophenoxy)-]	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

[3] On August 22, 1994, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for methyl mercaptan until the stay is removed.

CAS Number	*Chemical Name*	*De Minimis Concentration*
100-02-7	4Nitrophenol	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	NNitrosodimethylamine	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 [4Chloro-5-(methylamino)-2-[3-(trifluoromethyl) phenyl]-3(2H)-pyridazinone]	1.0
2234-13-1	Octachloronaphthalene	1.0
29082-74-4	Octachlorostyrene	NA
19044-88-3	Oryzalin [4(Dipropylamino)-3,5-dinitrobenzene sulfonamide]	1.0
20816-12-0	Osmium tetroxide	1.0
301-12-2	Oxydemeton methyl [S-(2-(Ethylsulfinyl)ethyl) 0,0-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, 0,0-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]	NA
608-93-5	Pentachlorobenzene	NA
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-dimethylcyclopropane carboxylic 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-l-propenyl)cyclopropane carboxylic 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 dihydrochloride	1.0
624-18-0	1,4-Phenylenediamine dihydrochloride	1.0
90-43-7	2-Phenylphenol	1.0
57-41-0	Phenytoin	0.1

CAS Number	*Chemical Name*	*De Minimis Concentration*
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)	NA
7758-01-2	Potassium bromate	0.1
128-03-0	Potassium dimethyldithiocarbamate	1.0
137-41-7	Potassium N-methyldithiocarbamate	1.0
41198-08-7	Profenofos [O-(4-Bromo-2-chlorophenyl)-O-ethyl-S- propylphosphorothioate]	1.0
7287-19-6	Prometryn [NN-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-lH-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 (Propane)	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
10453-86-8	Resmethrin [[5-(Phenylmethyl)-3-fiuanyl]methyl-2,2- dimethyl-3-(2-methyl-l-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-l-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

CAS Number	*Chemical Name*	*De Minimis Concentration*
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-propyl ester]	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	NA
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-121 a)	1.0
354-14-3	1,1,2,2-Tetrachloro-l-fluoroethane (HCFC-121)	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-l-(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-l-propenyl) cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo2H-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'-Thiodianihne	0.1
59669-26-0	Thiodicarb	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis(iminocarbonothioyl)] biscarbamic acid diethyl ester]	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-dusocyanate	0.1
91-08-7	Toluene-2,6-dusocyanate	0.1
26471-62-5	Toluene dusocyanate (mixed isomers)	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1
8001-35-2	Toxaphene	NA
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-dimethyl-l-(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	Tnbutyltin fluoride	1.0
2155-70-6	Tributyltin methacrylate	1.0

CAS Number	*Chemical Name*	*De Minimis Concentration*
78-48-8	S,S,S-Tributyltrithiophosphate (DEF)	1.0
52-68-6	Trichlorfon [Phosphonic acid, (2,2,2-trichloro-l-hydroxyethyl)-, 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	Triclopyrtriethylammoniumsalt	1.0
121-44-8	Triethylamine	1.0
1582-09-8	Trifluralin [Benezeneamine, 2,6-dinitro-NN-dipropyl-4-(trifluoromethyl)-]	NA
26644-46-2	Triforine [NN-[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
12122-67-7	Zineb [Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex]	1.0

Section 4. 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

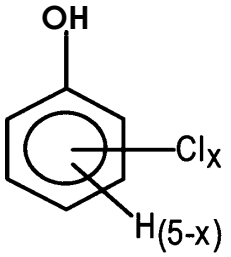
Beryllium Compounds (0.1)

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 = 1-5

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^+TN^- 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'-Dimethyldiphenyhnethane-4,4'-diisocyanate
822-06-0	Hexamethylene-1,6-diisocyanate
4098-71-9	Isophorone diisocyanate
75790-84-0 4	Methyldiphenyhnethane-3,4-diisocyanate
5124-30-1 1,1	Methylenebis(4-isocyanatocyclohexane)
101-68-8	Methylenebis(phenylisocyanate) WI)
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-Octachlorodibenzofiuan
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)

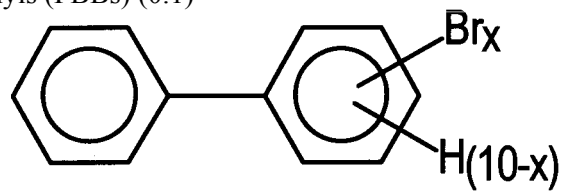
Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.

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 $C_{10}H_{19}Cl_3$ 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(aj)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,e)pyrene
191-30-0	Dibenzo(a,e)pyrene
57-97-6	7,12-Dimethylbenz(a)anthracene
193-39-5	Indeno[1,2,3-cd]pyrene
56-49-5	3-Methylcholanthrene
697-24-3	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 75.

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.