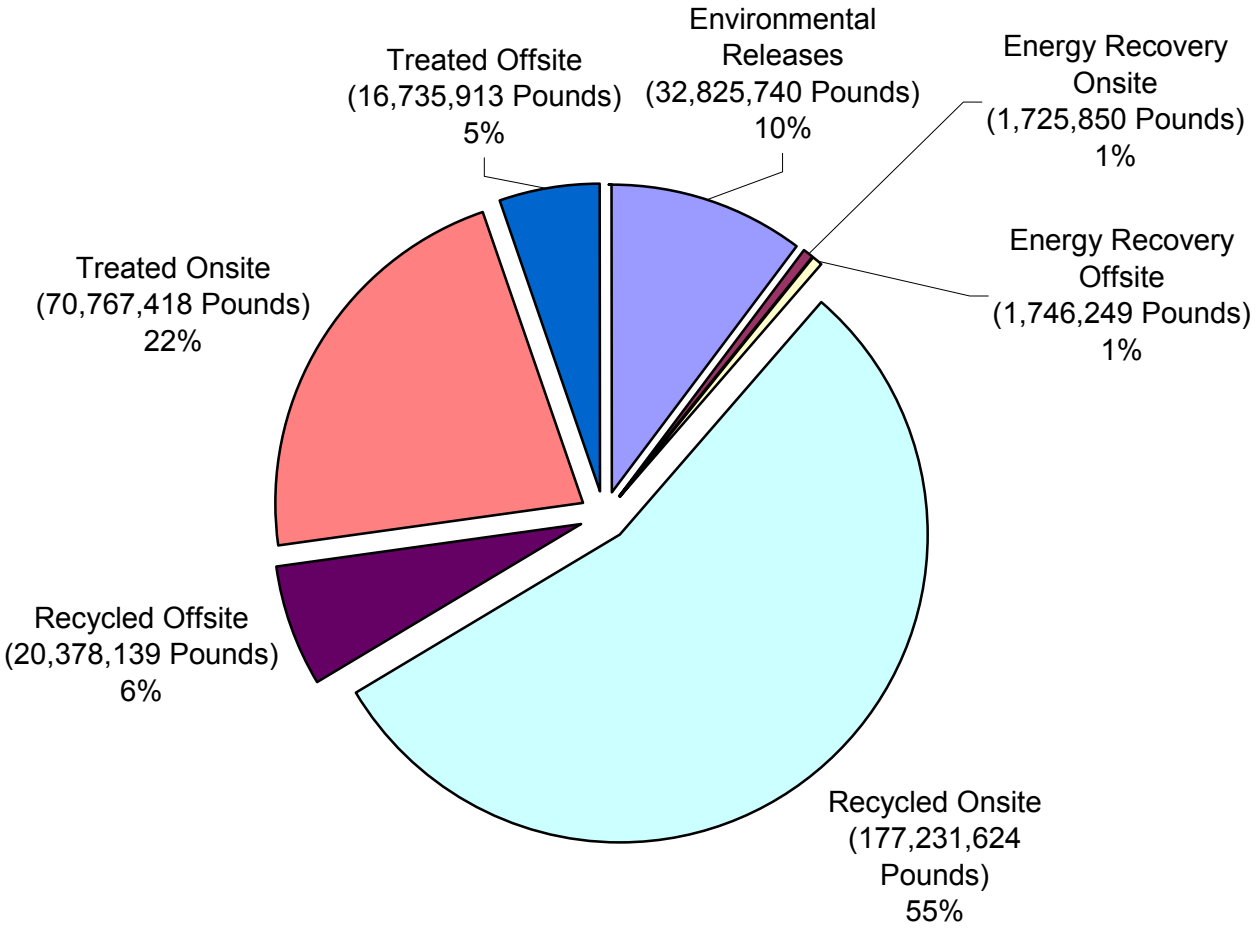
2001 Right-To-Know Chemical Information Report

State of Minnesota

A Summary of Toxic Release Inventory and Pollution Prevention Reports



Total Pounds: 321,410,932

Minnesota Emergency Response Commission

Department of Public Safety
November 2002

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Preface

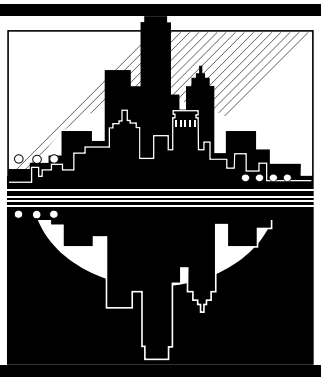
This report, covering calendar year 2001, is the annual summary of chemical management reports submitted by facilities in the State of Minnesota.

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

For additional information about the chemicals reported under the "Emergency Planning and Community Right-to-Know Act," contact the Minnesota Emergency Response Commission at (651) 297-7372 or visit our website at www.erc.state.mn.us. In addition, contact the U.S. Environmental Protection Agency's Title III Call Center at 1-800-424-9346 or visit their website at www.epa.gov/tri.

Minnesota Emergency Response Commission

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



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User's Guide to the *2001 Right-to-Know Chemical Information Report*

What is this report about?

This report summarizes chemical management activities for 425 of the largest manufacturing and select non-manufacturing facilities in Minnesota. Chemical management includes:

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

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

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

How can I use this report?

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

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

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

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

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

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

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

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

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

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

For a statewide ranking of chemical air releases in pounds, see pages 60-61.

For a statewide ranking of air releases by hazard potential, see pages 62-63.

For an overview and explanation of the “core” set of chemicals reported from 1988-2001 see pages 40-47.

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

Is this information new?

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

Who wrote this report?

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

Why is this report important?

1. It gives a facility a reason to review and evaluate its operations: Each facility that completes the reporting process has the opportunity to compare this year's chemical management processes to those of previous years. The facility may be able to determine if they have a chance to prevent pollution and reduce waste.

2. It gives a community a reason to discuss chemical issues: The information alerts citizens and facilities to chemical management activities in their communities and provides a forum to discuss chemicals and their risks.

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

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

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

No, this report only contains information on 425 facilities. These facilities are from select industrial classifications, have more than ten employees and use more than a specific amount of a reported chemical each year.

How were the reporting facilities selected?

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

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

We recommend that you call our office at 651-297-7372 or visit our website at www.erc.state.mn.us. We can provide information on chemical storage, management, releases and transfers, and pollution prevention. In addition, we can provide the names of contact persons at a facility.

I. Introduction

A. SARA Title III

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

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

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

To enable communities to focus on chemicals and facilities of immediate concern, the U.S. Environmental Protection Agency has compiled a list of 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 *2001 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 2001:

In 2001, 425 facilities reported releases of 32.8 million pounds to the environment, while the total amount of chemicals managed was 321.4 million pounds. This compares to 404 facilities reporting 34.8 million pounds of environmental releases in 2000 with 347 million pounds of chemicals being managed. In 1999, 403 facilities reported 32.8 million pounds of environmental releases and 335.6 million pounds of chemicals managed (Figures 1 & 3). For the 2001 reporting year, 131 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 67% 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, Methanol, Ammonia, Sulfuric Acid (aerosol forms only) and Methyl Ethyl Ketone. The chemicals most commonly *released* to the environment were Barium Compounds, Copper Compounds, Ammonia, Zinc Compounds and Methanol.

344 facilities filed 1029 Pollution Prevention Progress Reports for 2001. Each Progress Report represents a pollution prevention objective for a chemical. Of the reports filed, 48% established a numerical objective and 52% established non-numeric objectives. 66% of the Progress Reports indicated the objectives have been met and 34% 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 Ammonia, Methanol and n-Hexane. The top three chemicals in terms of hazard potential were Mercury, Lead and Copper.

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

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

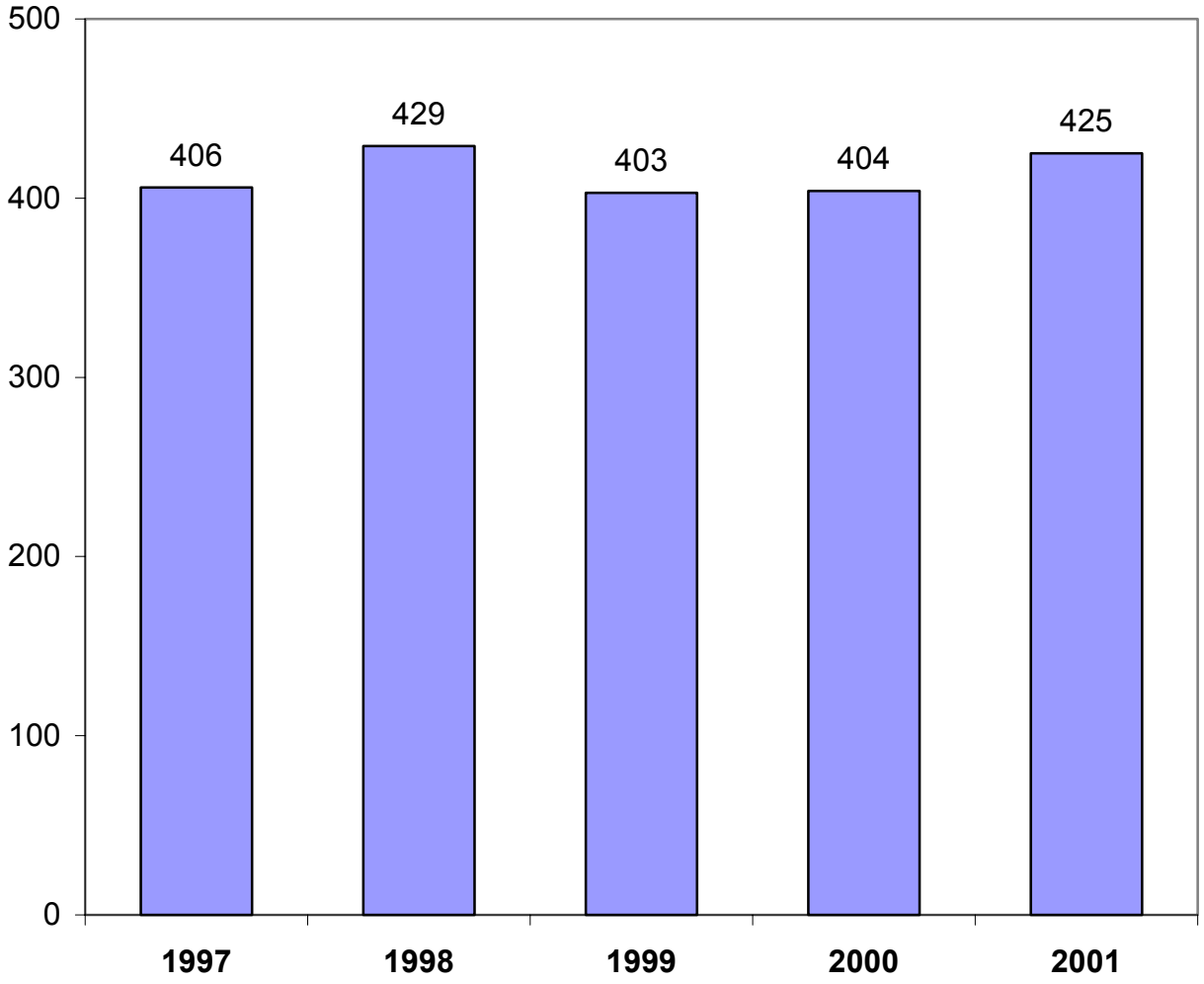

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Figure 2: Total Releases and Transfers by Medium (Sections 5 & 6 of Form R)

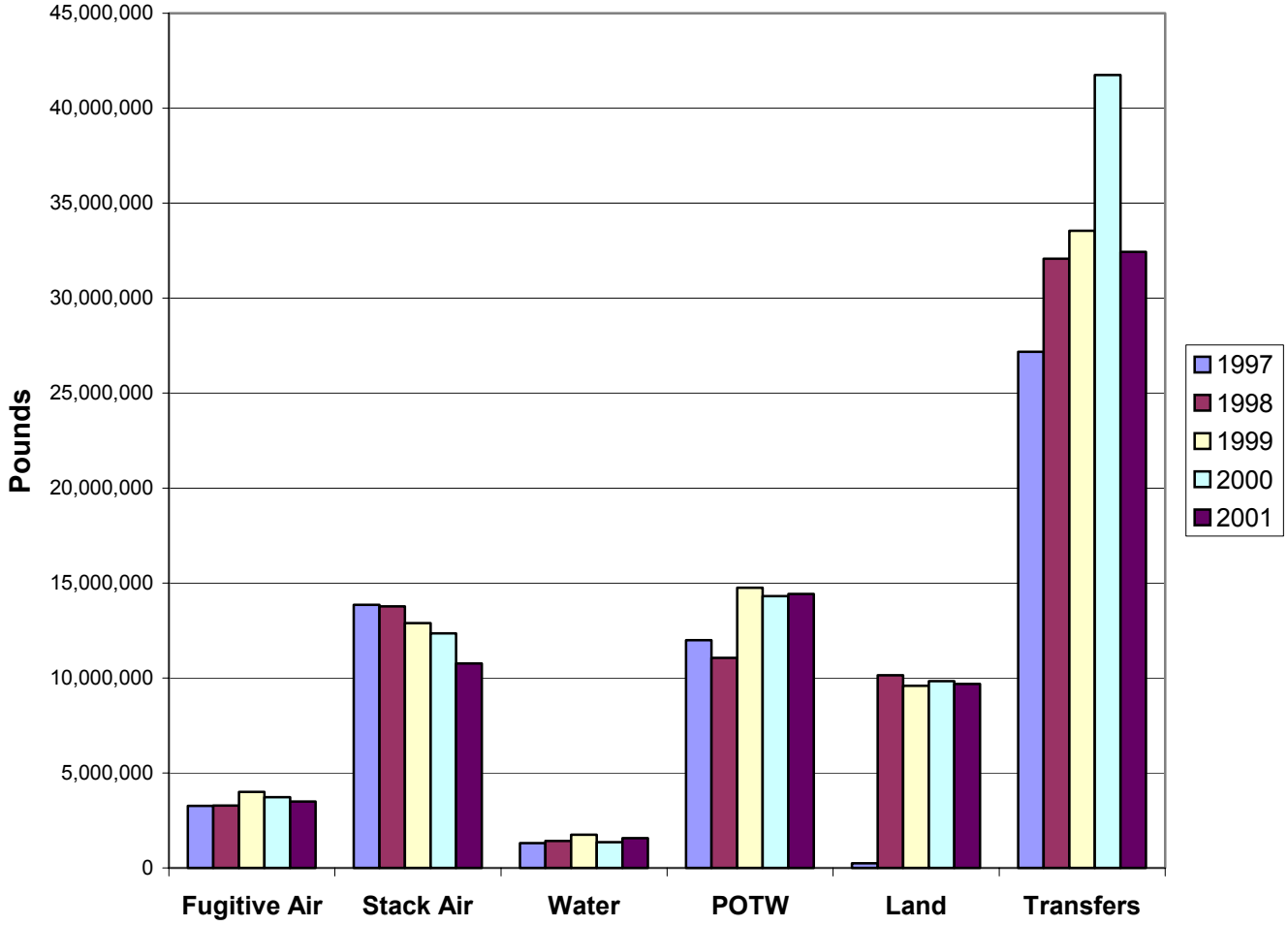

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Figure 3: Environmental Releases and Chemical Management (Section 8, Form R)

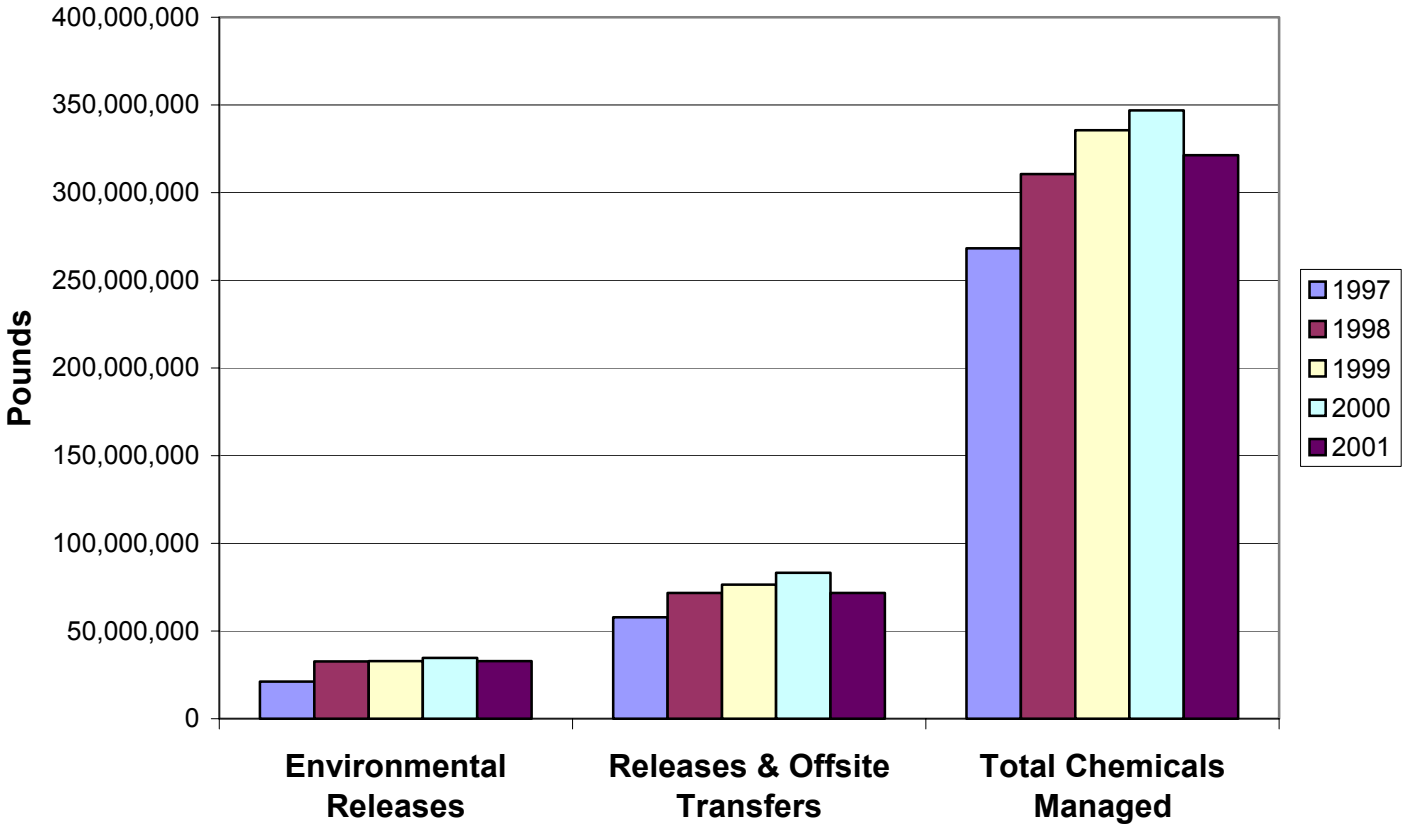

Figure 4: Facilities Filing Toxic Release Inventory (TRI) Reports by County

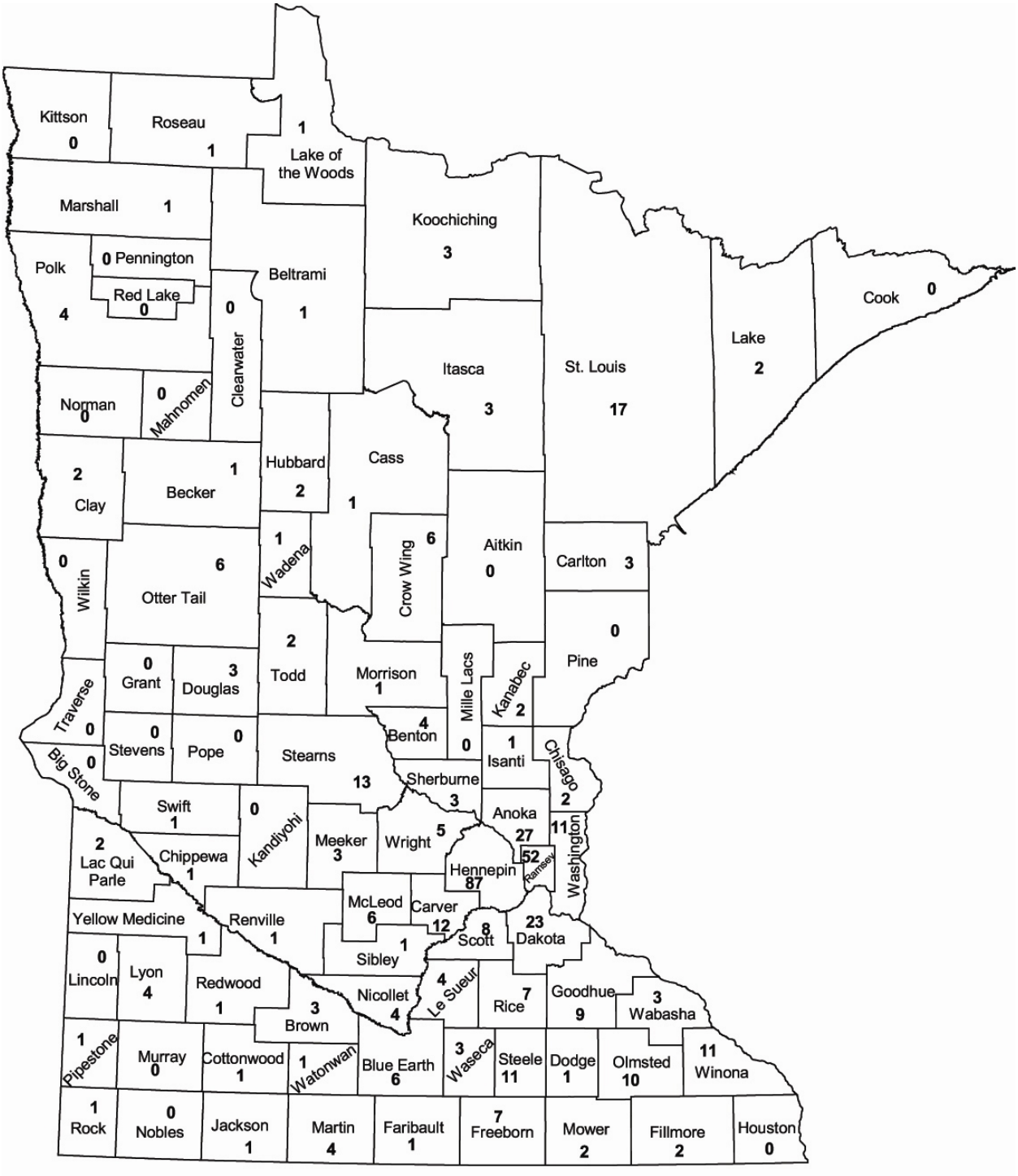

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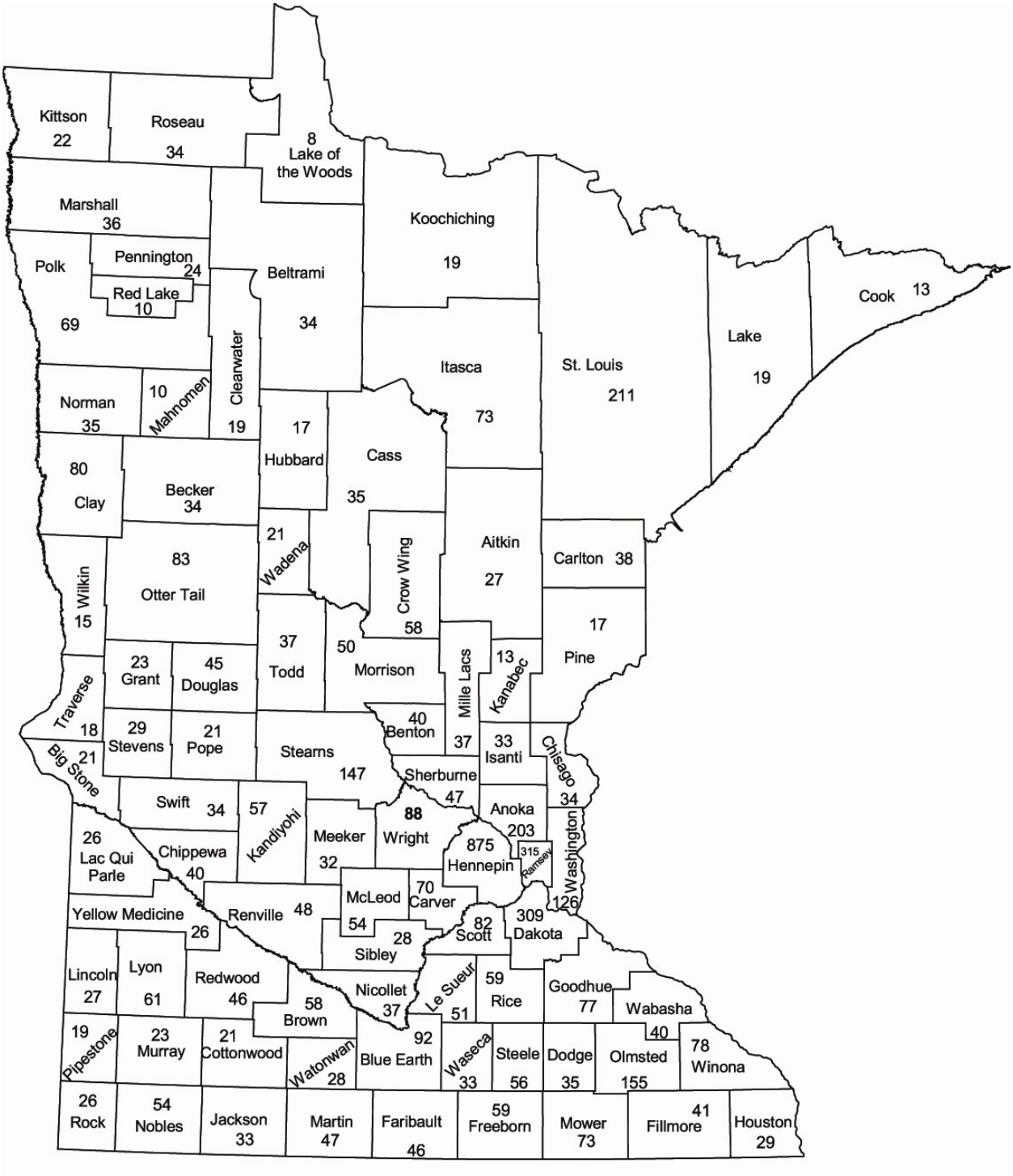
Figure 5: Facilities Filing Chemical Storage Reports (Tier II) by County



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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 2001. 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 72 to 87 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 32.8 million pounds of chemical releases directly to the air, water, and land and the 321.4 million pounds of chemicals managed in 2001 are not necessarily an indicator of human and environmental exposure to these chemicals. Several factors determine the impact of releases and transfers on public health and the environment. A chemical risk involves the toxicity of a substance and the exposure to it.

In all cases, more information than the TRI can provide is needed to assess potential exposure and risk concerns. The magnitude, duration, and frequency of exposure to a toxic chemical is necessary to assess the human response to the exposure. The TRI data are in amounts or volumes of annual emissions. These numbers do not address the quantities emitted per day or whether releases are continuous or intermittent. Therefore, the TRI can only indicate toxic chemicals that may be of concern and which require further attention and analysis.

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

E. Minnesota Toxic Pollution Prevention Act

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

1. Establishes state policy encouraging the prevention of toxic pollution.

2. Provides technical assistance to help companies prevent toxic pollution by expanding the responsibilities and staff of the Minnesota Technical Assistance Program (MnTAP).

3. Provides matching grants to help companies study or demonstrate the feasibility of applying specific technologies and methods to prevent pollution.

4. Requires each facility reporting toxic chemical releases to develop a toxic pollution prevention plan establishing goals for reducing or eliminating these releases. In addition, these facilities must submit annual progress reports to the Minnesota Emergency Response Commission. A sample of the information available from these progress reports is included in this report on page 55. A complete listing is available from the Emergency Response Commission (651-297-7372).

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

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

F. Public Access to TRI Data

The Toxic Release Inventory is updated annually. TRI reports filed for 1987-2001 are available from a number of sources. The Minnesota Emergency Response Commission will make data from individual facilities in Minnesota available at its office located at: 444 Cedar Street, Suite 223, St. Paul, MN 55101, through its website at www.erc.state.mn.us or by calling 651-297-7372. For TRI information covering all fifty states, please contact the U.S. Environmental Protection Agency through its "Emergency Planning and Community Right-to-Know Call Center" at 1-800-424-9346 or visit their website at www.epa.gov/tri.

Attachment 1: Top 20 Facilities Ranked By Total Chemicals Released (Section 8.1) for Calendar Year 2001

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

State of Minnesota
Department of Public Safety
Emergency Response Commission

(Amount in Pounds)

County	Facility	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Chemicals Managed
Sherburne	XCEL ENERGY - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN	**6,552,706**	0	0	0	0	620,640	0	7,173,346
Ramsey	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	**2,742,986**	0	0	240,000	81	0	0	2,983,067
Itasca	MINNESOTA POWER - BOSWELL ENERGY CENTER 1210 NW 3RD ST COHASSET, MN	**1,975,773**	0	0	0	0	125,000	0	2,100,773
Ramsey	US FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN	**1,324,451**	0	0	2,459,014	46,372	60,000	13,435	3,903,272
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN	**1,123,041**	0	628	295,743	58,498	22,406,023	574	23,884,507
Washington	XCEL ENERGY - A.S. KING GENERATING 1103 KING PLANT RD BAYPORT, MN	**1,083,536**	0	0	0	0	123,000	0	1,206,536
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN	**940,296**	79,294	46,822	0	1,022,923	11,728,417	138,092	13,955,844
Sherburne	XCEL ENERGY - BECKER RDF ASH LANDFILL 13700 SHERBURNE AVE. SOUTH BECKER, MN	**725,455**	0	0	0	0	0	0	725,455
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE ST. CLOUD, MN	**639,015**	0	0	0	30,000	0	0	669,015
Carlton	SAPPI CLOQUET LLC 2201 AVE B CLOQUET, MN	**598,741**	500,875	0	0	0	6,283,588	8,196,360	15,579,564

Attachment 1: Top 20 Facilities Ranked By Total Chemicals Released (Section 8.1) for Calendar Year 2001

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

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(Amount in Pounds)

County	Facility	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Chemicals Managed
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN	**546,049**	0	106	0	561,145	319,159	27,300	1,453,759
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN	**525,670**	330,000	0	0	0	7,552,000	0	8,407,670
Hennepin	XCEL ENERGY - RIVERSIDE PLANT 3100 MARSHALL ST NE MINNEAPOLIS, MN	**453,704**	0	0	0	0	92,000	0	545,704
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR MANKATO, MN	**440,200**	0	0	0	22,000	12,400	600	475,200
Stearns	GREDE - ST. CLOUD 5200 FOUNDRY CIRCLE ST. CLOUD, MN	**439,696**	0	0	0	127,681	0	9,569	576,946
Todd	CENTRAL BI-PRODUCTS HWY 71 N BOX 359 LONG PRAIRIE, MN	**434,000**	0	0	10,100	0	56,500	6,400	507,000
McLeod	3M - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN	**425,456**	0	13,940	14,812,100	1	2,792,300	1,803,360	19,847,156
Redwood	CENTRAL BI-PRODUCTS RR CO RD 25 N REDWOOD FALLS, MN	**408,000**	0	0	9,500	0	48,500	2,500	468,500
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST OWATONNA, MN	**394,000**	0	0	0	0	0	0	394,000
Ramsey	3M COMPANY 900 BUSH AVE ST. PAUL, MN	**366,999**	25,247	1,076	0	0	1,649,700	151,589	2,194,611

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed (Sections 8.1-8.7) for Calendar Year 2001

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	220,000	0	0	148,560,000	0	0	0	**148,780,000**
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55 INVER GROVE HEIGHTS, MN	1,123,041	0	628	295,743	58,498	22,406,023	574	**23,884,507**
McLeod	3M - HUTCHINSON 915 ADAMS ST SE HUTCHINSON, MN	425,456	0	13,940	14,812,100	1	2,792,300	1,803,360	**19,847,156**
Dakota	FLINT HILLS RESOURCES, LP 13155 COURTHOUSE BLVD ROSEMOUNT, MN	15,750	0	3,848	8,400,000	0	8,400,000	0	**16,819,598**
Carlton	SAPPI CLOQUET LLC 2201 AVE B CLOQUET, MN	598,741	500,875	0	0	0	6,283,588	8,196,360	**15,579,564**
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD COTTAGE GROVE, MN	940,296	79,294	46,822	0	1,022,923	11,728,417	138,092	**13,955,844**
Koochiching	BOISE CASCADE CORP. 400 2ND ST INTL FALLS, MN	525,670	330,000	0	0	0	7,552,000	0	**8,407,670**
Sherburne	XCEL ENERGY - SHERCO PLANT 13999 INDUSTRIAL BLVD BECKER, MN	6,552,706	0	0	0	0	620,640	0	**7,173,346**
Ramsey	NORTH STAR STEEL-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	15,409	0	0	226,185	4,673,082	0	0	**4,914,676**
Ramsey	US FILTER RECOVERY SERVICES INC. 2430 ROSE PLACE ROSEVILLE, MN	1,324,451	0	0	2,459,014	46,372	60,000	13,435	**3,903,272**

Attachment 2: Top 20 Facilities Ranked By Total Chemicals Managed (Sections 8.1-8.7) for Calendar Year 2001

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	NORTH STAR RECYCLING-MINNESOTA 1678 RED ROCK RD ST. PAUL, MN	2,742,986	0	0	240,000	81	0	0	**2,983,067**
Hennepin	FILMTEC CORP. 7200 OHMS LANE EDINA, MN	12,753	0	0	0	0	0	2,700,005	**2,712,758**
Ramsey	3M COMPANY 900 BUSH AVE ST. PAUL, MN	366,999	25,247	1,076	0	0	1,649,700	151,589	**2,194,611**
Itasca	MINNESOTA POWER - BOSWELL ENERGY CENTER 1210 NW 3RD ST COHASSET, MN	1,975,773	0	0	0	0	125,000	0	**2,100,773**
Ramsey	WATER GREMLIN CO. 1610 WHITAKER AVE WHITE BEAR LAKE, MN	41,206	0	0	37,620	1,435,904	0	0	**1,514,730**
Rice	SHELDAHL, INC. - EAST FACILITY 805 HWY 3 N NORTHFIELD, MN	76,243	0	111,261	0	443,052	825,747	43,714	**1,500,017**
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD ST. PAUL, MN	546,049	0	106	0	561,145	319,159	27,300	**1,453,759**
Washington	MARATHON ASHLAND PETROLEUM, LLC 100 W 3RD AVE ST. PAUL PARK, MN	221,663	0	3,570	601,995	182	496,711	3,532	**1,327,653**
Washington	XCEL ENERGY - A.S. KING GENERATING PLANT 1103 KING PLANT RD BAYPORT, MN	1,083,536	0	0	0	0	123,000	0	**1,206,536**
Winona	TRW AUTOMOTIVE 5752 INDUSTRIAL PARK RD WINONA, MN	72	0	0	0	1,201,281	0	0	**1,201,353**

Attachment 3: Top 20 Facilities Ranked by Total Air Releases for Calendar Year 2001
Sections 5.1 and 5.2 of EPA Form "R"

State of Minnesota
Department of Public Safety
Emergency Response Commission

(Amount in Pounds)

County	Facility	Fugitive Air	Stack Air	Total Air Releases
Stearns	ELECTROLUX HOME PRODUCTS 701 N 33RD AVE, ST. CLOUD, MN	62,000	556,015	618,015
Ramsey	FORD - TWIN CITIES ASSEMBLY PLANT 966 S MISSISSIPPI RIVER BLVD, ST. PAUL, MN	36,777	487,463	524,240
Koochiching	BOISE CASCADE CORP. 400 2ND ST, INTL FALLS, MN	30,605	455,651	486,256
Todd	CENTRAL BI-PRODUCTS HWY 71 N BOX 359, LONG PRAIRIE, MN	434,000	750	434,750
Blue Earth	CENEX HARVEST STATES 2020 S RIVERFRONT DR, MANKATO, MN	390,000	44,000	434,000
McLeod	3M - HUTCHINSON 915 ADAMS ST SE, HUTCHINSON, MN	105,504	309,244	414,748
Carlton	SAPPI CLOQUET LLC 2201 AVE B, CLOQUET, MN	11,452	385,642	397,094
Redwood	CENTRAL BI-PRODUCTS RR CO RD 25 N, REDWOOD FALLS, MN	394,000	750	394,750
Steele	CROWN CORK & SEAL CO., INC. 2929 W BRIDGE ST, OWATONNA, MN	98,000	295,000	393,000
Morrison	LARSON GLASTRON BOATS, INC. 700 PAUL LARSON MEMORIAL DRV, LITTLE FALLS, MN	365,142	0	365,142
Ramsey	3M COMPANY 900 BUSH AVE, ST. PAUL, MN	27,800	331,600	359,400
Dakota	FLINT HILLS RESOURCES, LP JUNCTION OF HWY 52 & 55, INVER GROVE HEIGHTS, MN	123,127	229,531	352,658
Olmsted	ROCHESTER PUBLIC UTILITIES - SILVER LAKE 425 W SILVER LAKE DRV NE, ROCHESTER, MN	25	343,912	343,937
Beltrami	NORTHWOOD PANELBOARD CO. 4409 NORTHWOOD ROAD NW, SOLWAY, MN	0	321,437	321,437
Ramsey	REXAM BEVERAGE CAN COMPANY 139 EVA ST, ST. PAUL, MN	43,776	263,351	307,127
Blue Earth	ADM CO. 2019 3RD AVE, MANKATO, MN	21,029	279,400	300,429
Washington	3M - COTTAGE GROVE CENTER 10746 INNOVATION RD, COTTAGE GROVE, MN	84,664	215,429	300,093
Goodhue	ADM CO. 118 MAIN ST, RED WING, MN	12,590	263,510	276,100
Lac Qui Parle	AG PROCESSING, INC. 800 DIAGONAL ST, DAWSON, MN	16,000	217,426	233,426
Dakota	CROWN CORK & SEAL CO., INC. 8415 220TH ST W, LAKEVILLE, MN	57,000	171,000	228,000

Attachment 4: Statewide Listing of Amount of Releases, Transfers and Total Dioxin and Dioxin-like Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Grams)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Benton County, City of SARTELL — INTERNATIONAL PAPER CO. --- 100 E SARTELL ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.1	0	0	0	0.0276	0	0	0.1276
Carlton County, City of CLOQUET — SAPPI CLOQUET LLC --- 2201 AVE B								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	1.385	0	0	0	0	0	0.251	1.636
Clay County, City of MOORHEAD — AMERICAN CRYSTAL SUGAR CO. - MOORHEAD --- 2500 N 11TH ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.141	0	0	0	0	0	0	0.141
Crow Wing County, City of DEERWOOD — TRUS JOIST - A WEYERHAEUSER BUSINESS --- CO RD 102								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.133	0	0	0	0	0	0	0.133
Dakota County, City of EAGAN — GOPHER RESOURCE CORP. --- 3385 S HWY 149								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.37	0	0	0	0	0	0	0.37
Dakota County, City of INVER GROVE HEIGHTS — FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0286	0	0	0	0	0	0	0.0286
Dakota County, City of ROSEMOUNT — SPECTRO ALLOYS CORP. --- 13220 DOYLE PATH								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	20.211	0	0	0	0	0	0	20.211
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	0.332	0	0	0	0	0	0	0.332
Itasca County, City of COHASSET — MINNESOTA POWER - BOSWELL ENERGY CENTER --- 1210 NW 3RD ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.55	0	0	0	0	0	0	0.55
Itasca County, City of GRAND RAPIDS — BLANDIN PAPER --- 115 1ST ST SW								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	7.97	7.97
Itasca County, City of GRAND RAPIDS — POTLATCH CORP. --- 502 CO RD 63								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.011	0	0	0	0	0.099	0	0.11
Koochiching County, City of BIG FALLS — PAGE & HILL FOREST PRODUCTS, INC. --- 7556 CTY RD 31								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0028	0	0	0	0	0	0	0.0028
Koochiching County, City of INTL FALLS — BOISE CASCADE CORP. --- 400 2ND ST								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.6	0	0	0	0	111	0	111.6
Otter Tail County, City of FERGUS FALLS — OTTER TAIL POWER CO. (HOOT LAKE) --- 1012 WATER PLANT ROAD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.0675	0	0	0	0	0	0	0.0675
Polk County, City of CROOKSTON — AMERICAN CRYSTAL SUGAR CO. - CROOKSTON --- HWY 75 S BOX 600								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.127	0	0	0	0	0	0	0.127
Polk County, City of EAST GRAND FORKS — AMERICAN CRYSTAL SUGAR CO. - EAST GRAND FORKS --- BUSINESS HWY 2 E								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.298	0	0	0	0	0	0	0.298
Ramsey County, City of NEW BRIGHTON — BELL LUMBER & POLE CO. --- 778 1ST ST NW								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	1160.17	0	0	8.5177	33.0704	1201.76
Ramsey County, City of ST. PAUL — XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.13	0	0	0	0	0	0	0.13
Renville County, City of RENVILLE — SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.27	0	0	0	0	0	0	0.27
Sherburne County, City of BECKER — XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	915.39	0	0	0	0	0	0	915.39
Sherburne County, City of BECKER — XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	1.69	0	0	0	0	0	0	1.69
St Louis County, City of COOK — POTLATCH CORP. --- 9358 HWY 53 S								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.2337	0	0	0	0	0	0	0.2337
Washington County, City of BAYPORT — XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.21	0	0	0	0	0	0	0.21
Washington County, City of COTTAGE GROVE — 3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD								
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.115	0	0	0	0	0	0	0.115
Grand Totals:	942.58	0.00	1,160.1	0.00	0.03	119.62	41.29	2,263.6

Attachment 5: Statewide Listing of Amount of Releases, Transfers and Total Mercury and Mercury Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Becker County, City of DETROIT LAKES — S. J. ELECTRO SYSTEMS, INC. --- 22650 COUNTY HIGHWAY 6								
MERCURY	36.9	0	0	0	0	0	0	36.9
Benton County, City of SARTELL — INTERNATIONAL PAPER CO. --- 100 E SARTELL ST								
MERCURY COMPOUNDS	17.95	0	0	0	1.53	0	0	19.48
Blue Earth County, City of MANKATO — ADM CO. --- 2019 3RD AVE								
MERCURY COMPOUNDS	6.05	0	0	0	0	0	0	6.05
Crow Wing County, City of BRAINERD — POTLATCH CORP. --- 1801 MILL AVE NE								
MERCURY COMPOUNDS	28.1	0	0	0	0	0	0	28.1
Dakota County, City of BURNSVILLE — XCEL ENERGY - BLACK DOG PLANT --- 1400 E BLACK DOG RD								
MERCURY COMPOUNDS	43	0	0	0	0	0	0	43
Dakota County, City of INVER GROVE HEIGHTS — FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55								
MERCURY COMPOUNDS	54.03	0	0	9	1.08	0	0	64.11
Hennepin County, City of MINNEAPOLIS — XCEL ENERGY - RIVERSIDE PLANT --- 3100 MARSHALL ST NE								
MERCURY COMPOUNDS	100	0	0	0	0	0	0	100
Itasca County, City of COHASSET — MINNESOTA POWER - BOSWELL ENERGY CENTER --- 1210 NW 3RD ST								
MERCURY COMPOUNDS	370	0	0	0	0	0	0	370
Mower County, City of AUSTIN — AUSTIN UTILITIES - NE POWER STATION --- 3511 11TH ST NE								
MERCURY COMPOUNDS	7.6	0	0	0	0	0	0	7.6
Olmsted County, City of ROCHESTER — ROCHESTER PUBLIC UTILITIES - SILVER LAKE --- 425 W SILVER LAKE DRV NE								
MERCURY COMPOUNDS	6	0	0	0	0	0	0	6
Otter Tail County, City of FERGUS FALLS — OTTER TAIL POWER CO. (HOOT LAKE) --- 1012 WATER PLANT ROAD								
MERCURY COMPOUNDS	39	0	0	0	0	0	0	39
Ramsey County, City of ST. PAUL — NORTH STAR RECYCLING-MINNESOTA --- 1678 RED ROCK RD								
MERCURY COMPOUNDS	197	0	0	0	81	0	0	278
Ramsey County, City of ST. PAUL — NORTH STAR STEEL-MINNESOTA --- 1678 RED ROCK RD								
MERCURY COMPOUNDS	192	0	0	0	46	0	0	238
Ramsey County, City of ST. PAUL — XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD								
MERCURY COMPOUNDS	72.4	0	0	0	0	0	0	72.4
Renville County, City of RENVILLE — SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21								
MERCURY	21.4	0	0	0	0	0	0	21.4
Sherburne County, City of BECKER — XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH								
MERCURY COMPOUNDS	610	0	0	0	0	0	0	610
Sherburne County, City of BECKER — XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD								
MERCURY COMPOUNDS	980	0	0	0	0	0	0	980
St Louis County, City of AURORA — MINNESOTA POWER - LASKIN ENERGY CENTER --- 5699 COLBY LAKE RD								
MERCURY COMPOUNDS	23	0	0	0	0	0	0	23
St Louis County, City of COOK — POTLATCH CORP. --- 9358 HWY 53 S								
MERCURY COMPOUNDS	3.7	0	0	0	0	0	0	3.7
MERCURY	0.49	0	0	0	0	0	0	0.49
St Louis County, City of DULUTH — STORA ENSO DULUTH MILL --- 100 N CENTRAL AVE								
MERCURY COMPOUNDS	2.3	0	0	0	0	0	0	2.3
St Louis County, City of HIBBING — HIBBING PUC --- 1832 SIXTH AVENUE EAST								
MERCURY COMPOUNDS	14.3	0	0	0	0	0	0	14.3
Washington County, City of BAYPORT — XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD								
MERCURY COMPOUNDS	130	0	0	0	0	0	0	130
Washington County, City of COTTAGE GROVE — 3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD								
MERCURY COMPOUNDS	69.6	0	0	0	371	0	0	440.6
Washington County, City of ST. PAUL PARK — MARATHON ASHLAND PETROLEUM, LLC --- 100 W 3RD AVE								
MERCURY COMPOUNDS	5.33	0	0	0.42	0	0	0	5.75
Winona County, City of WINONA — MILLER WASTE MILLS, INC. - RTP --- 580 E FRONT ST								
MERCURY COMPOUNDS	1.02	0	0	0	0	0	0	1.02
Winona County, City of WINONA — WATLOW WINONA, INC. --- 1241 BUNDY BLVD								
MERCURY	0	0	0	0	25	0	0	25
Grand Totals:	3,031.1	0.00	0.00	9.42	525.61	0.00	0.00	3,566.2

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Anoka County, City of ANOKA	FEDERAL CARTRIDGE COMPANY --- 900 EHLEN DRV							
LEAD COMPOUNDS	73776.3	0	0	0	703	0	0	74479.3
Anoka County, City of ANOKA	PROFESSIONAL PLATING --- 2625 9TH AVE N							
LEAD COMPOUNDS	3	0	0	0	57.95	0	0	60.95
Anoka County, City of BLAINE	PARKER MOBIL CYLINDER DIV.-BLAINE --- 1460 93RD LANE NE							
LEAD	1	0	0	0	1347	0	0	1348
Anoka County, City of BLAINE	PLEXUS CORP. - BMN --- 1700 93RD LANE NE							
LEAD COMPOUNDS	45	0	0	0	257.9	0	0	302.9
Anoka County, City of BLAINE	SAFETY-KLEEN SYSTEMS, INC. --- 9261 ISANTI ST NE							
LEAD	0	0	0	0	646	0	0	646
Anoka County, City of COON RAPIDS	HONEYWELL, INC. - CAP --- 8840 EVERGREEN BLVD							
LEAD COMPOUNDS	0	0	0	0	1650	0	0	1650
Anoka County, City of FRIDLEY	CUMMINS POWER GENERATION/ONAN CORP. --- 1400 73RD AVE NE							
LEAD COMPOUNDS	0.5	0	0	0	117	0	0	117.5
Anoka County, City of FRIDLEY	H.B. FULLER CO. --- 5220 MAIN ST NE							
LEAD	3	0	0	0	0	0	0	3
Anoka County, City of FRIDLEY	KURT MANUFACTURING DIE CAST --- 7585 HWY 65							
LEAD	16	0	0	1827	213	0	0	2056
Anoka County, City of FRIDLEY	MICRO CONTROL CO. --- 7956 MAIN ST. NE							
LEAD COMPOUNDS	0	0	0	0	236	0	0	236
Becker County, City of DETROIT LAKES	S. J. ELECTRO SYSTEMS, INC. --- 22650 COUNTY HIGHWAY 6							
LEAD	0	0	0	0	0	0	0	0
Beltrami County, City of SOLWAY	NORTHWOOD PANELBOARD CO. --- 4409 NORTHWOOD ROAD NW							
LEAD	359	0	0	0	0	0	0	359
Benton County, City of FOLEY	GORECKI MFG., INC. --- 51 2ND AVE W							
LEAD	0	0	0	0	0	0	0	0
Benton County, City of SARTELL	INTERNATIONAL PAPER CO. --- 100 E SARTELL ST							
LEAD COMPOUNDS	127.9	0	0	0	156.2	0	0	284.1
Benton County, City of SAUK RAPIDS	X-CEL OPTICAL CO. --- 806 S BENTON DRV							
LEAD COMPOUNDS	0	0	0	0	8284	0	0	8284
Blue Earth County, City of MANKATO	ADM CO. --- 2019 3RD AVE							
LEAD COMPOUNDS	11	0	0	0	0	0	0	11
Blue Earth County, City of MANKATO	THE DOTSON COMPANY, INC. --- 200 W ROCK ST							
LEAD	0	0	0	0	102	0	0	102
Blue Earth County, City of MANKATO	WINLAND ELECTRONICS, INC. --- 1950 EXCEL DRIVE							
LEAD	7.13	0	0	0	1693	0	0	1700.13
Brown County, City of NEW ULM	3M - ELECTRICAL PRODUCTS DIVISION --- 1700 NORTH MINNESOTA STREET							
LEAD COMPOUNDS	400	0	0	1200	11000	0	0	12600
Carlton County, City of CLOQUET	SAPPI CLOQUET LLC --- 2201 AVE B							
LEAD COMPOUNDS	3190	0	0	0	0	0	0	3190
Carlton County, City of CLOQUET	USG INTERIORS, INC. --- 35 ARCH ST							
LEAD	0	0	0	0	0	0	0	0
Carver County, City of CHANHASSEN	PARKER HANNIFAN CORP. --- 2860 WATER TOWER PLACE							
LEAD	1	0	0	0	318	0	0	319
Carver County, City of CHANHASSEN	ROBERTS AUTOMATIC PRODUCTS --- 880 LAKE DRV							
LEAD	0	0	0	0	15561	0	0	15561
Carver County, City of CHANHASSEN	ROSEMOUNT, INC. --- 8200 MARKET BLVD							
LEAD COMPOUNDS	17.9	0	0	0	656.1	0	0	674
Carver County, City of CHASKA	PRO-TECH, INC. --- 4300 PEAVEY RD							
LEAD	1	0	0	0	699	0	0	700

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Chippewa County, City of MONTEVIDEO	MICRO DYNAMICS CORP. --- 1646 N. 9TH ST.							
LEAD	0	0	0	0	3792	0	0	3792
Crow Wing County, City of BRAINERD	POTLATCH CORP. --- 1801 MILL AVE NE							
LEAD COMPOUNDS	846	0	0	0	0	0	0	846
Crow Wing County, City of DEERWOOD	PARKER-HANNIFIN CORP. --- 325 FRONT ST							
LEAD	2	0	0	0	9068	0	0	9070
Crow Wing County, City of DEERWOOD	TRUS JOIST - A WEYERHAEUSER BUSINESS --- CO RD 102							
LEAD COMPOUNDS	681	0	0	0	0	0	0	681
Dakota County, City of BURNSVILLE	CHART INDUSTRIES, INC. --- 3505 CTY RD 42 W							
LEAD	148	0	0	0	0	0	0	148
Dakota County, City of BURNSVILLE	ROSEMOUNT AEROSPACE INC. --- 14300 JUDICIAL RD							
LEAD	1.38	0	0	0	634	0	0	635.38
Dakota County, City of BURNSVILLE	XCEL ENERGY - BLACK DOG PLANT --- 1400 E BLACK DOG RD							
LEAD COMPOUNDS	1100	0	0	0	0	0	0	1100
Dakota County, City of EAGAN	GOPHER RESOURCE CORP. --- 3385 S HWY 149							
LEAD	190000	0	0	145000000	0	0	0	145190000
Dakota County, City of EAGAN	SAFETY-KLEEN SYSTEMS, INC. --- 3227 TERMINAL DRV							
LEAD	0	0	0	0	611	0	0	611
Dakota County, City of INVER GROVE HEIGHTS	FLINT HILLS RESOURCES, LP --- JUNCTION OF HWY 52 & 55							
LEAD COMPOUNDS	209.74	0	0	610	15.3	0	0	835.04
Dakota County, City of ROSEMOUNT	FLINT HILLS RESOURCES, LP --- 13155 COURTHOUSE BLVD							
LEAD COMPOUNDS	32.2	0	0	0	0.01	0	0	32.21
Dakota County, City of ROSEMOUNT	SPECTRO ALLOYS CORP. --- 13220 DOYLE PATH							
LEAD	3932	0	0	0	0	0	0	3932
Fillmore County, City of RUSHFORD	TRW AUTOMOTIVE --- HWY 43 N. - PO BOX 708							
LEAD COMPOUNDS	4.72	0	0	0	418.84	0	0	423.56
Freeborn County, City of ALBERT LEA	ALBERT LEA ELECTROPLATING, INC. --- 808 12TH ST BOX 89							
LEAD COMPOUNDS	94	0	0	0	0	0	0	94
Hennepin County, City of BLOOMINGTON	ADDED VALUE TECHNOLOGY LLC --- 9401 JAMES AVE S SUITE 100							
LEAD	4	0	0	0	2382	0	0	2386
Hennepin County, City of BLOOMINGTON	GENERAL DYNAMICS INFORMATION SYSTEMS --- 3101 E 80TH ST							
LEAD	46.4	0	0	0	0	0	0	46.4
Hennepin County, City of BLOOMINGTON	POLARFAB, LLC --- 2800 E OLD SHAKOPEE RD							
LEAD COMPOUNDS	231	0	0	0	35	0	0	266
Hennepin County, City of BLOOMINGTON	PRINTED CIRCUITS, INC. --- 1200 W 96TH ST							
LEAD COMPOUNDS	175	0	0	0	0	0	0	175
Hennepin County, City of CRYSTAL	TRC CIRCUITS, INC. --- 3300 WINPARK DRV							
LEAD	6	0	0	0	10	0	0	16
Hennepin County, City of EDEN PRAIRIE	EMERSON CONTROL TECHNIQUES --- 12005 TECHNOLOGY DRIVE							
LEAD	0.87	0	0	0	273	0	0	273.87
Hennepin County, City of EDEN PRAIRIE	MICRO DYNAMICS CORP. --- 6201 BURY DRIVE							
LEAD	0	0	0	0	160	0	0	160
Hennepin County, City of GOLDEN VALLEY	HONEYWELL INC. --- 1985 DOUGLAS DRV N							
LEAD	11	0	0	0	6238	0	0	6249
Hennepin County, City of HOPKINS	HONEYWELL ADVANCED CIRCUITS, INC. --- 560 16TH AVE S							
LEAD COMPOUNDS	318	0	0	0	1089	0	0	1407
Hennepin County, City of MAPLE GROVE	SILENT KNIGHT --- 7550 MERIDIAN CIRCLE							
LEAD COMPOUNDS	15.67	0	0	0	259.37	0	0	275.04
Hennepin County, City of MAPLE GROVE	UNIVERSAL CIRCUITS, INC. --- 8860 ZACHARY LANE							
LEAD	5	0	0	0	817	0	0	822

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Hennepin County, City of MINNEAPOLIS	BOKER'S, INC. --- 3104 SNELLING AVE S							
LEAD	0	0	0	0	1595	0	0	1595
Hennepin County, City of MINNEAPOLIS	G.A.F. BUILDING MATERIALS CORP. --- 50 LOWRY AVE N							
LEAD COMPOUNDS	0.2057	0	0	0	0	0	0	0.2057
Hennepin County, City of MINNEAPOLIS	HARD CHROME, INC. --- 2631 2ND ST NE							
LEAD COMPOUNDS	931	0	0	0	0	0	0	931
Hennepin County, City of MINNEAPOLIS	HONEYWELL, INC. - MSPO --- 2600 RIDGWAY PKWY							
LEAD COMPOUNDS	0	0	0	0	170	0	0	170
Hennepin County, City of MINNEAPOLIS	NICO PRODUCTS, INC. --- 2929 1ST AVE S							
LEAD COMPOUNDS	32	0	0	0	0	0	0	32
Hennepin County, City of MINNEAPOLIS	SUPERIOR PLATING, INC. --- 315 1ST AVE NE							
LEAD COMPOUNDS	272	0	0	0	0	0	0	272
Hennepin County, City of MINNEAPOLIS	THE BUREAU ELECTRONICS GROUP --- 3311 BROADWAY NE							
LEAD COMPOUNDS	454.1	0	0	0	1337.1	0	0	1791.2
Hennepin County, City of MINNEAPOLIS	XCEL ENERGY - RIVERSIDE PLANT --- 3100 MARSHALL ST NE							
LEAD COMPOUNDS	3600	0	0	0	0	0	0	3600
Hennepin County, City of MINNEAPOLIS	ZALK STEEL & SUPPLY CO. --- 446 ST. ANTHONY PKWY							
LEAD	13	0	0	0	0	0	0	13
Hennepin County, City of MINNETONKA	ADVANCED FLEX INC. --- 15115 MINNETONKA INDUSTRIAL RD							
LEAD	383	0	0	0	1277	0	0	1660
Hennepin County, City of MINNETONKA	HOLADAY CIRCUITS, INC. --- 11126 BREN RD W							
LEAD	1399	0	0	0	8069	0	0	9468
Hennepin County, City of MINNETONKA	HONEYWELL ADVANCED CIRCUITS, INC. --- 15102 MINNETONKA INDUSTRIAL RD							
LEAD COMPOUNDS	507.3	0	0	0	1922	0	0	2429.3
Hennepin County, City of MINNETONKA	SIERRA CORP. --- 11400 W 47TH ST							
LEAD COMPOUNDS	88	0	0	0	0	0	0	88
Hennepin County, City of NEW HOPE	ALPHA CERAMICS, INC. --- 5121 WINNETKA AVE							
LEAD COMPOUNDS	21.249	0	0	0	26033	0	0	26054.249
Hennepin County, City of NEW HOPE	CLARIANT --- 9101 INTERNATIONAL PKWY							
LEAD COMPOUNDS	154	0	0	0	0	0	0	154
Hennepin County, City of PLYMOUTH	BANNER ENGINEERING CORP. --- 15755 32ND AVE. N.							
LEAD COMPOUNDS	79.1	0	0	0	0	0	0	79.1
Hennepin County, City of PLYMOUTH	CIRCUIT SCIENCE, INC. --- 15831 HWY 55							
LEAD	0	0	0	0	1370	0	0	1370
Hennepin County, City of PLYMOUTH	PRECISION DIVERSIFIED INDUSTRIES, LLC. --- 14755 27TH AVE N							
LEAD COMPOUNDS	0.8	0	0	0	1141.4	0	0	1142.2
Hennepin County, City of PLYMOUTH	SPICER OFF-HIGHWAY PRODUCTS DIVISION --- 15905 HWY 55							
LEAD	0	0	0	0	32	0	0	32
Hennepin County, City of ROGERS	GRACO-KOCH CENTER --- 20500 DAVID KOCH AVE							
LEAD	2	0	0	0	2000	0	0	2002
Hennepin County, City of ST. LOUIS PARK	DOUGLAS CORP. - PLATING DIVISION --- 3520 XENWOOD AVE S							
LEAD COMPOUNDS	7	0	0	0	0	0	0	7
Hennepin County, City of ST. LOUIS PARK	NORTHLAND ALUMINUM PRODUCTS, INC. --- 5005 COUNTY ROAD 25							
LEAD COMPOUNDS	6254	0	0	0	0	0	0	6254
Lyon County, City of MINNEOTA	SCHOTT CORP. - MINNEOTA --- 218 N. JEFFERSON							
LEAD	0	0	0	0	764	0	0	764
Martin County, City of FAIRMONT	WEIGH-TRONIX INC. --- 1000 ARMSTRONG DRIVE							
LEAD	0.4	0	0	0	503.6	0	0	504
McLeod County, City of HUTCHINSON	3M - HUTCHINSON --- 915 ADAMS ST SE							
LEAD COMPOUNDS	760	0	0	0	1	0	0	761

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
McLeod County, City of HUTCHINSON — HUTCHINSON MFG. INC. --- 720 HWY. 7 WEST								
LEAD	4.79	0	0	0	287.71	0	0	292.5
McLeod County, City of HUTCHINSON — HUTCHINSON TECHNOLOGY, INC. --- 40 W HIGHLAND PARK								
LEAD	20	0	0	0	1	0	0	21
Nicollet County, City of NORTH MANKATO — CARLSON CRAFT SOCIAL (TAYLOR CORP.) --- 1750 TOWER BLVD								
LEAD	29.92	0	0	0	1453.5	0	0	1483.42
Nicollet County, City of NORTH MANKATO — KATO ENGINEERING - PLANT 3 --- 2075 HOWARD DRV								
LEAD COMPOUNDS	0.7	0	0	0	389	0	0	389.7
Nicollet County, City of ST. PETER — ONAN POWER ELECTRONICS --- 922 N SWIFT ST								
LEAD COMPOUNDS	0.1	0	0	0	1730	0	0	1730.1
Nicollet County, City of ST. PETER — TAYTRONICS --- 430 RITT ST.								
LEAD	1.6148	0	0	0	1781.35	0	0	1782.9648
Olmsted County, City of ROCHESTER — CELESTICA CORPORATION --- 3050 SUPERIOR DR NW								
LEAD	23	0	0	0	17895	0	0	17918
Olmsted County, City of ROCHESTER — ROCHESTER PUBLIC UTILITIES - SILVER LAKE --- 425 W SILVER LAKE DRV NE								
LEAD COMPOUNDS	1720	0	0	0	0	0	0	1720
Otter Tail County, City of FERGUS FALLS — BANNER ENGINEERING CORP. --- 1010 WEYRENS RD.								
LEAD COMPOUNDS	243.35	0	0	0	0	0	0	243.35
Otter Tail County, City of FERGUS FALLS — OTTER TAIL POWER CO. (HOOT LAKE) --- 1012 WATER PLANT ROAD								
LEAD COMPOUNDS	500	0	0	0	0	0	0	500
Otter Tail County, City of FERGUS FALLS — QUALITY CIRCUITS INC. --- 1102 PROGRESS DRIVE								
LEAD	2	0	0	0	2576	0	0	2578
Polk County, City of CROOKSTON — AMERICAN CRYSTAL SUGAR CO. - CROOKSTON --- HWY 75 S BOX 600								
LEAD COMPOUNDS	354.02	0	0	0	0	0	0	354.02
Polk County, City of EAST GRAND FORKS — AMERICAN CRYSTAL SUGAR CO. - EAST GRAND FORKS --- BUSINESS HWY 2 E								
LEAD COMPOUNDS	831.55	0	0	0	0	0	0	831.55
Ramsey County, City of ARDEN HILLS — ALLIANT AMMUNITIONS SYSTEMS CO. LLC --- TC ARMY AMMUNITION PLANT								
LEAD	187.6	0	0	0	286.9	0	0	474.5
Ramsey County, City of ARDEN HILLS — CARDIAC PACEMAKERS INC., DBA GUIDANT --- 4100 HAMLINE AVE N								
LEAD COMPOUNDS	1.06	0	0	0	533.32	0	0	534.38
Ramsey County, City of ARDEN HILLS — MANUFACTURERS' SERVICES --- 4300 W. ROUND LAKE RD.								
LEAD COMPOUNDS	181	0	0	0	19860	0	0	20041
Ramsey County, City of MAPLEWOOD — MODINE NORTH CENTRAL, INC. --- 2055 WHITE BEAR AVE								
LEAD	1	0	0	0	804	0	0	805
Ramsey County, City of ROSEVILLE — HONEYWELL ADVANCED CIRCUITS, INC. --- 1633 TERRACE DRV								
LEAD COMPOUNDS	195	0	0	0	7567	0	0	7762
Ramsey County, City of ROSEVILLE — MULTILAYER TECHNOLOGY, INC. --- 2520 TERMINAL RD								
LEAD COMPOUNDS	12	0	0	0	1933	0	0	1945
Ramsey County, City of ROSEVILLE — TESORO REFINING AND MARKETING CO. --- 2288 W CO RD C								
LEAD	0	0	0	0	0	0	0	0
Ramsey County, City of ROSEVILLE — US FILTER RECOVERY SERVICES INC. --- 2430 ROSE PLACE								
LEAD COMPOUNDS	21141.2	0	0	0	740	0	0	21881.2
Ramsey County, City of ST. PAUL — 3M COMPANY --- 900 BUSH AVE								
LEAD COMPOUNDS	99	0	0	0	0	0	0	99
Ramsey County, City of ST. PAUL — CENTURY CIRCUITS & ELECTRONICS, INC. --- 155 EATON ST								
LEAD	3.8	0	0	0	3376.2	0	0	3380
Ramsey County, City of ST. PAUL — FORD - TWIN CITIES ASSEMBLY PLANT --- 966 S MISSISSIPPI RIVER BLVD								
LEAD COMPOUNDS	0.54	0	0	0	0	0	0	0.54
Ramsey County, City of ST. PAUL — INTERACTIVE TECHNOLOGIES --- 2266 2ND ST. N.								
LEAD	0.59	0	0	0	794	0	0	794.59

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State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical		Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Ramsey County, City of ST. PAUL	MIXON, INC. --- 2286 CAPP RD								
LEAD COMPOUNDS		114.438	0	0	0	997280	0	0	997394.438
Ramsey County, City of ST. PAUL	NORTH STAR RECYCLING-MINNESOTA --- 1678 RED ROCK RD								
LEAD COMPOUNDS		123947	0	0	80000	0	0	0	203947
Ramsey County, City of ST. PAUL	NORTH STAR STEEL-MINNESOTA --- 1678 RED ROCK RD								
LEAD COMPOUNDS		383	0	0	2439	228388	0	0	231210
Ramsey County, City of ST. PAUL	VERSA IRON & MACHINE --- 867 FOREST ST								
LEAD		2762.2	0	0	0	0	0	0	2762.2
Ramsey County, City of ST. PAUL	WALDORF CORP. (A ROCK-TENN COMPANY) --- 2250 WABASH AVE								
LEAD		211	0	0	0	0	0	0	211
Ramsey County, City of ST. PAUL	XCEL ENERGY - HIGH BRIDGE PLANT --- 501 SHEPARD RD								
LEAD COMPOUNDS		780	0	0	0	0	0	0	780
Ramsey County, City of WHITE BEAR LAKE	TRANE --- 4833 WHITE BEAR PKWY.								
LEAD COMPOUNDS		0.1	0	0	0	920	0	0	920.1
Ramsey County, City of WHITE BEAR LAKE	WATER GREMLIN CO. --- 1610 WHITAKER AVE								
LEAD COMPOUNDS		0.5	0	0	0	1431486	0	0	1431486.5
Renville County, City of RENVILLE	SOUTHERN MN BEET SUGAR COOP --- 83550 CO RD 21								
LEAD		1000.5	0	0	0	0	0	0	1000.5
Rice County, City of NORTHFIELD	SHELDAHL, INC. - EAST FACILITY --- 805 HWY 3 N								
LEAD COMPOUNDS		995	0	0	0	4421	0	0	5416
Scott County, City of NEW PRAGUE	CHART, INC. - NEW PRAGUE FACILITY --- 407 7TH ST NW								
LEAD		18.3	0	0	0	0	0	0	18.3
Sherburne County, City of BECKER	XCEL ENERGY - BECKER RDF ASH LANDFILL --- 13700 SHERBURNE AVE. SOUTH								
LEAD COMPOUNDS		120000	0	0	0	0	0	0	120000
Sherburne County, City of BECKER	XCEL ENERGY - SHERCO PLANT --- 13999 INDUSTRIAL BLVD								
LEAD COMPOUNDS		52000	0	0	0	0	0	0	52000
Sherburne County, City of PRINCETON	CRYSTAL CABINET WORKS, INC. --- 1100 CRYSTAL DRV								
LEAD		72.22	0	0	0	0	0	0	72.22
St Louis County, City of AURORA	MINNESOTA POWER - LASKIN ENERGY CENTER --- 5699 COLBY LAKE RD								
LEAD COMPOUNDS		440	0	0	0	0	0	0	440
St Louis County, City of COOK	POTLATCH CORP. --- 9358 HWY 53 S								
LEAD		350	0	0	0	0	0	0	350
St Louis County, City of DULUTH	GEORGIA-PACIFIC CORP. --- 1220 RAILROAD STREET								
LEAD		13	0	0	0	0	0	0	13
St Louis County, City of DULUTH	ME GLOBAL INC. --- 200 E CARTERETT ST								
LEAD COMPOUNDS		300	0	0	2600	0	0	0	2900
St Louis County, City of DULUTH	STORA ENSO DULUTH MILL --- 100 N CENTRAL AVE								
LEAD COMPOUNDS		1688.7	0	0	0	0	0	0	1688.7
St Louis County, City of HIBBING	HIBBING PUC --- 1832 SIXTH AVENUE EAST								
LEAD COMPOUNDS		500	0	0	0	0	0	0	500
St Louis County, City of HIBBING	L & M RADIATOR, INC. --- 1414 E 37TH ST								
LEAD		11	0	0	0	0	0	0	11
St Louis County, City of HIBBING	NOBLE INDUSTRIES, LTD. --- 3430 E 13TH AVE								
LEAD		5.2	0	0	0	974.8	0	0	980
St Louis County, City of HIBBING	NORTHERN CASTINGS CORP. --- 555 W 25TH ST								
LEAD COMPOUNDS		1261	0	0	0	0	0	0	1261
St Louis County, City of HIBBING	REPTRON MANUFACTURING SERVICES --- 3125 14TH AVE E								
LEAD		26	0	0	0	3144	0	0	3170
Stearns County, City of ST. CLOUD	GREDE - ST. CLOUD --- 5200 FOUNDRY CIRCLE								
LEAD		7	0	0	0	7	0	0	14

Attachment 6: Statewide Listing of Amount of Releases, Transfers and Total Lead and Lead Compounds Managed for Calendar Year 2001

State of Minnesota
Department of Public Safety
Emergency Response Commission

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

(Amount in Pounds)

Sorted by County, City, Facility / Chemical	Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Managed
Stearns County, City of ST. CLOUD	VISION EASE LENS, INC. --- 700 54TH AVE N							
LEAD COMPOUNDS	5	0	0	0	6826	0	0	6831
Steele County, City of OWATONNA	BLOUNT, INC. --- CO RD 45							
LEAD COMPOUNDS	0.14	0	0	0	362	0	0	362.14
Steele County, City of OWATONNA	TRUTH HARDWARE --- 700 W BRIDGE ST							
LEAD COMPOUNDS	1	0	0	0	8	0	0	9
Swift County, City of BENSON	CNH BENSON --- 260 HIGHWAY 12 S.E.							
LEAD	3	0	0	0	790	0	0	793
Wabasha County, City of LAKE CITY	FEDERAL-MOGUL POWERTRAIN SYSTEMS --- 520 N 8TH ST							
LEAD COMPOUNDS	224.3	0	0	0	0	0	0	224.3
Washington County, City of BAYPORT	XCEL ENERGY - A.S. KING GENERATING PLANT --- 1103 KING PLANT RD							
LEAD COMPOUNDS	7400	0	0	0	0	0	0	7400
Washington County, City of COTTAGE GROVE	3M - COTTAGE GROVE CENTER --- 10746 INNOVATION RD							
LEAD COMPOUNDS	3536.8	0	0	0	2006	0	0	5542.8
Washington County, City of HUGO	AD GRAPHICS --- 2300 MAIN ST.							
LEAD COMPOUNDS	3.099	0	0	0	183.506	0	0	186.605
Washington County, City of ST. PAUL PARK	MARATHON ASHLAND PETROLEUM, LLC --- 100 W 3RD AVE							
LEAD COMPOUNDS	4894.28	0	0	1361.45	11.45	0	0	6267.18
Watonwan County, City of ST. JAMES	WESTIN AUTOMOTIVE PRODUCTS, INC. --- 240 S 15TH ST							
LEAD COMPOUNDS	0.1	0	0	0	127	0	0	127.1
Winona County, City of LEWISTON	RIVERSIDE ELECTRONICS LTD. --- 1 RIVERSIDE DRV							
LEAD	0	0	0	0	8221	0	0	8221
Winona County, City of WINONA	BADGER FOUNDRY CO. --- 1058 E MARK ST							
LEAD	64	0	0	62.8	0.3	0	0	127.1
Winona County, City of WINONA	BENCHMARK ELECTRONICS WINONA DIV. --- 4065 THEURER BLVD							
LEAD	185	0	0	0	15530	0	0	15715
Winona County, City of WINONA	HAUSER ART GLASS CO., INC. --- 1685 WILKIE DRIVE							
LEAD	0	0	0	0	2000	0	0	2000
Winona County, City of WINONA	MILLER WASTE MILLS, INC. - RTP --- 580 E FRONT ST							
LEAD COMPOUNDS	2.67	0	0	0	0	0	0	2.67
Winona County, City of WINONA	TRW AUTOMOTIVE --- 5752 INDUSTRIAL PARK RD							
LEAD COMPOUNDS	52	0	0	0	15854	0	0	15906
Winona County, City of WINONA	WATLOW WINONA, INC. --- 1241 BUNDY BLVD							
LEAD COMPOUNDS	11.444	0	0	0	3104.65	0	0	3116.094
Wright County, City of BUFFALO	HONEYWELL ADVANCED CIRCUITS, INC. --- 200 CENTENNIAL DRV							
LEAD	2	0	0	0	312	0	0	314
Wright County, City of HOWARD LAKE	DURA SUPREME, INC. --- 300 DURA DRV							
LEAD COMPOUNDS	0.08	0	0	0	0	0	0	0.08
Yellow Medicine County, City of CANBY	SCHOTT CORP. --- 104 11TH ST.							
LEAD	1	0	0	0	1490	0	0	1491
Grand Totals:	648,877	0	0	145,090,105	2,903,945	0	0	148,642,926

Attachment 7: Number of Facilities (by County)
Reporting Releases and Transfers for Calendar Year 2001

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	27	325,546	1,351,932	1,825,550
Becker	1	37	37	37
Beltrami	1	321,437	321,437	321,437
Benton	4	67,900	93,070	370,555
Blue Earth	6	743,352	1,024,355	1,053,321
Brown	3	51,439	829,329	856,957
Carlton	3	610,846	8,807,206	15,591,669
Carver	12	242,648	562,613	1,332,865
Cass	1	8,517	8,517	8,517
Chippewa	1	0	3,792	3,792
Chisago	2	17,598	17,598	39,377
Clay	2	123,975	123,975	202,404
Cottonwood	1	30,607	30,607	30,607
Crow Wing	6	107,611	173,895	178,330
Dakota	23	2,053,006	2,563,581	190,830,807
Dodge	1	59,331	473,131	479,531
Douglas	3	53,601	126,808	203,847
Faribault	1	11,562	11,562	11,562
Fillmore	2	78,500	96,154	96,154
Freeborn	7	138,811	301,792	330,852
Goodhue	9	458,435	738,837	1,341,041
Hennepin	87	1,613,500	8,257,495	10,216,628
Hubbard	2	212,854	212,854	212,854
Isanti	1	0	1,200	1,200
Itasca	3	2,135,268	2,201,842	2,401,305
Jackson	1	4,500	64,500	64,500
Kanabec	2	39,979	44,129	44,129
Koochiching	3	548,695	548,695	8,430,695
Lac Qui Parle	2	436,523	436,903	746,402
Lake	2	66,031	85,135	117,120
Lake of the Woods	1	73,955	79,766	79,766
Le Sueur	4	16,733	131,730	967,172
Lyon	4	113,845	119,227	119,227
Marshall	1	41,904	41,904	41,904
Martin	4	218,124	222,335	222,335
McLeod	6	429,859	2,528,706	20,357,011
Meeker	3	71,116	345,610	624,560
Morrison	1	365,142	365,142	365,142
Mower	2	175,255	219,625	219,625
Nicollet	4	32	5,386	5,386
Olmsted	10	607,736	1,515,100	1,805,064
Otter Tail	6	274,127	546,231	1,276,294
Pipestone	1	179,258	179,258	179,258
Polk	4	348,369	374,363	451,041
Ramsey	52	5,814,093	14,806,273	20,197,032
Redwood	1	408,000	410,500	468,500
Renville	1	204,577	204,577	217,577
Rice	7	192,511	1,641,089	2,703,426
Rock	1	33,600	33,600	33,600
Roseau	1	73,000	87,610	87,610
Scott	8	74,711	716,199	1,214,302
Sherburne	3	7,374,536	7,496,138	8,116,778
Sibley	1	0	0	29,111
St Louis	17	514,417	710,211	790,237
Stearns	13	1,106,410	2,181,198	2,779,880
Steele	11	427,841	899,529	948,475
Swift	1	108	85,398	85,398
Todd	2	449,279	457,429	524,029
Wabasha	3	115,406	126,723	126,723
Wadena	1	6,962	6,962	6,962
Waseca	3	15,229	138,409	172,056
Washington	11	2,402,976	3,640,435	16,687,773
Watonwan	1	8	19,721	19,721
Winona	11	87,012	1,629,909	1,914,853
Wright	5	47,497	205,276	227,569
Yellow Medicine	1	1	1,491	1,491
Totals	**425**	**32,825,740**	**71,686,041**	**321,410,932**

Attachment 8: Sample Statewide Listing of Amount of Releases, Transfers, and Total Chemicals Managed for Calendar Year 2001
Sections: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, of EPA Form "R"

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

Sorted by County, City, Facility

Chemical		Quantity Released (8.1)	Recovery On-site (8.2)	Recovery Off-site (8.3)	Recycled On-site (8.4)	Recycled Off-site (8.5)	Treated On-site (8.6)	Treated Off-site (8.7)	Total Chemicals Managed
Anoka County, City of ANOKA -- FEDERAL CARTRIDGE COMPANY --900 EHLEN DRV									
COPPER COMPOUNDS		31,149	0	0	0	0	0	0	31,149
LEAD COMPOUNDS		73,776.3	0	0	0	703	0	0	74,479.3
ETHYLENE GLYCOL		30	0	0	0	0	0	271,315	271,345
NITRATE COMPOUNDS (WATER DISSOCIABLE)		0	0	0	0	0	0	50,201	50,201
BARIUM COMPOUNDS		4,724	0	0	0	0	0	0	4,724
	Totals	**109,679.3**	**0**	**0**	**0**	**703**	**0**	**321,516**	**431,898.3**
Anoka County, City of ANOKA -- HOFFMAN ENCLOSURES INC. - MAIN PLANT --2100 HOFFMAN WAY									
XYLENE (MIXED ISOMERS)		12,831	1,634	155	0	0	0	0	14,620
TOLUENE		9,647	272	17,375	0	0	0	0	27,294
GLYCOL ETHERS		15,570	2,203	212	0	135	0	408	18,528
METHYL ETHYL KETONE		3,975	0	11,585	0	0	0	0	15,560
N-BUTYL ALCOHOL		10,882	1,555	0	0	0	0	0	12,437
	Totals	**52,905**	**5,664**	**29,327**	**0**	**135**	**0**	**408**	**88,439**
Anoka County, City of ANOKA -- IMI CORNELIUS INC. --ONE CORNELIUS PLACE									
NITRIC ACID		30	0	0	0	0	16,700	0	16,730
	Totals	**30**	**0**	**0**	**0**	**0**	**16,700**	**0**	**16,730**
Anoka County, City of ANOKA -- LIFE FITNESS --14150 SUNFISH LAKE BLVD									
MANGANESE		58	0	0	0	8,733	0	0	8,791
	Totals	**58**	**0**	**0**	**0**	**8,733**	**0**	**0**	**8,791**
Anoka County, City of ANOKA -- MATE PRECISION TOOLING CO. --1295 LUND BLVD.									
CHROMIUM		0	0	0	0	34,212	0	0	34,212
	Totals	**0**	**0**	**0**	**0**	**34,212**	**0**	**0**	**34,212**
Anoka County, City of ANOKA -- MENTOR CORPORATIONS --800 LUND BLVD									
TOLUENE		9,938	0	807	0	0	0	0	10,745
	Totals	**9,938**	**0**	**807**	**0**	**0**	**0**	**0**	**10,745**
Anoka County, City of ANOKA -- PROFESSIONAL PLATING --2625 9TH AVE N									
LEAD COMPOUNDS		3	0	0	0	57.95	0	0	60.95
	Totals	**3**	**0**	**0**	**0**	**57.95**	**0**	**0**	**60.95**

Attachment 9: Facilities Filing a Certification Statement (Alternate Threshold Option) instead of an EPA Form R

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

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

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

In 2001, 131 facilities filed 293 Certification Statements including 55 who filed both a Form R and Certification Statement(s), and 76 who filed only a Certification Statement(s).

The following facilities filed a Certification Statement(s) for the 2001 reporting year:

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
IMI Cornelius Inc.	02-005-0003	Nickel, Copper, Chromium
Federal-Cartridge Co.	02-005-0004	Nitroglycerin, Nitric Acid, Antimony Compounds Dibutyl Phthalate
Airgas North Central, Inc.	02-005-0029	Propylene
Hoffman Enclosures, Inc.	02-005-0053	Diisocyanates, Nickel, Manganese, Chromium
Onan Mfg.	02-055-0009	Ethylene Glycol
H.B. Fuller Co.	02-055-0018	Zinc Compounds
Land O'Lakes - Detroit Lakes	03-055-0001	Copper Compounds, Zinc Compounds, Manganese Compounds
Land O'Lakes Wood Preserving	04-215-0001	Copper Compounds, Arsenic Compounds, Chromium Compounds
Farmland Feed Mill	07-100-0049	Copper Compounds, Zinc Compounds, Manganese Compounds
Big Gain Inc.	07-160-0004	Zinc Compounds, Manganese Compounds, Copper Compounds
New Ulm Public Utilities	08-080-0033	N-hexane, 1,2,4-Trimethylbenzene
McLaughlin Gormley King	10-035-0008	Permethrin, Piperonyl Butoxide, Maleic Anhydride, Phenothrin, Tetramethrin, Dicyclopentadiene
Mammoth, Inc.	10-035-0041	Chlorodifluoromethane
Ethanol 2000	17-020-0002	Ammonia, Benzene, Cyclohexane, N-Hexane 1,2,4-Trimethylbenzene, Toluene, Xylene
Water Heater Innovations, Inc.	19-025-0027	Diisocyanates
Materials Processing Corporation	19-025-0091	Copper
W.R. Grace & Co.	19-025-0095	Nitrate Compounds

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
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, Methyl Isobutyl Ketone, 1,2,4-Trimethylbenzene, N-Hexane, Glycol Ethers, Dibutyl Phthalate, N-Butyl Alcohol
Spectro Alloys Corp.	19-145-0009	Nickel
Dole Explosives, Inc.	19-145-0014	Ammonia, Nitrate Compounds
DPC Industries, Inc.	19-145-0018	Hydrogen Fluoride
Al-Corn Clean Fuel	20-014-0016	Ammonia, Benzene, Cyclohexane, N-Hexane, 1,2,4-Trimethylbenzene, Ethylbenzene, Toluene, Xylene
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	Ammonia, Benzene, Cyclohexane, N-Hexane, Ethylbenzene, Toluene, Xylene
Pro-Corn	23-134-0019	Ammonia, Benzene, n-Hexane,1,2,4-Trimethylbenzene, Ethylbenzene, Toluene, Xylene
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
Land O'Lakes - Inver Grove Hts.	24-150-0004	Copper Compounds, Manganese Compounds, Zinc Compounds
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
Bodycote Thermal Processing	27-056-0070	Ammonia
Douglas Corp.	27-056-0076	Diisocyanates
Filmtec Corporation	27-060-0002	Diisocyanates
Honeywell, Inc.	27-070-0001	Diisocyanates
Electrochemicals, Inc.	27-120-0010	Ethylene Glycol, Glycol Ethers
Bureau of Engraving, Inc.	27-135-0011	Hydrochloric Acid (aerosol)
Hawkins, Inc.	27-135-0030	Formic Acid
Land O'Lakes – Minneapolis	27-135-0036	Copper Compounds, Manganese Compounds, Zinc Compounds
Purina Mills LLC	27-135-0062	Copper Compounds, Manganese Compounds, Zinc Compounds
Diamond Vogel – North Inc.	27-135-0079	Methyl Isobutyl Ketone
Aggregate Industries	27-135-0130	Nitrate Compounds
Kohl & Madden Printing Ink Corp	27-135-0222	Barium Compounds

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Hauenstein & Burmeister	27-135-0281	Nickel, Chromium
Hiawatha Metalcraft	27-135-0474	Chromium Compounds, Sulfuric Acid (aerosol)
Osmonics, Inc.	27-140-0006	Diisocyanates
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, Chlorodifluoromethane
Hutchinson Technology, Inc.	27-180-0078	Ammonia
Pechiney Plastic Packaging	27-215-0006	Diisocyanates
Lamb-Weston/RDO Frozen	29-120-0003	Chlorine
Trouw Nutrition USA	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
Minnesota Corn Processors	42-095-0048	Benzene, Xylene, Cyclohexane, Toluene, Chlorine
ADM Alliance Nutrition	43-030-0017	Zinc Compounds
Hutchinson Mfg., Inc.	43-055-0029	Chromium, Manganese, Nickel
Polyfoam, Inc.	43-065-0002	Sulfuric Acid (aerosol)
Great River Energy	46-130-0010	Ethylene Glycol
Larson-Glastron Boats,Inc.	49-120-0003	Diisocyanates, Dimethyl Phthalate
Crestliner, Inc.	49-120-0025	Diisocyanates
Central MN Ethanol Coop	49-120-0048	Ammonia, Benzene, n-Hexane, 1,2,4-Trimethylbenzene, Ethylbenzene, Toluene, Xylene
Land O' Lakes-Adams	50-004-0016	Manganese Compounds, Zinc Compounds, Copper Compounds
Hormel Foods Corporation	50-015-0002	Sodium Nitrite, Chlorine
Great River Energy	50-039-0013	Ethylene Glycol
Carlson Craft Social	52-065-0002	Antimony
Alumacraft Boat Co.	52-080-0001	Diisocyanates
Hubbard Feeds, Inc.	53-150-0007	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
Honeywell Advanced Circuits, Inc.	62-060-0001	Hydrochloric Acid (aerosol), Sulfuric Acid (aerosol)
Brenntag Great Lakes LLC	62-060-0003	Glycol Ethers
Buckbee-Mears St. Paul	62-070-0009	Chlorine
C&H Chemical	62-070-0010	Glycol Ethers, Sodium Nitrite

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
MBC Holding Co.	62-070-0029	Cyclohexane, N-Hexane
Harcros Chemicals, Inc.	62-070-0070	Ethylene Glycol
Ashland Distribution Company	62-070-0077	Cyclohexane, Trichloroethylene, Methyl Isobutyl Ketone, 1,2,4-Trimethylbenzene
Vopak USA, Inc.	62-070-0079	Toluene, Tetrachloroethylene, Xylene, Nitric Acid, Ammonia
Brenntag Great Lakes LLC	62-070-0082	Toluene-2,6-Diisocyanate, Glycol Ethers, N-Butyl Alcohol, Ethylene Glycol, 1,2,4-Trimethylbenzene, Ethylbenzene, N-Hexane, Dichloromethane, Trichloroethylene, Tetrachloroethylene, Diethanolamine, N-Methyl-2-Pyrrolidone, Toluene-2,4-Diisocyanate
Gross-Given Mfg. Co.	62-070-0108	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
Aspen Research Corp.	62-095-0043	Cobalt Compounds
Central Bi-products	64-110-0002	Chlorine
HBOS Mfg. LP Schult Homes	64-110-0038	Diisocyanates
Minnesota Energy	65-040-0008	Benzene, Ammonia
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
Staver Foundry Co.	69-440-0020	Chromium, Nickel
Chaska Chemical Co., Inc.	70-082-0002	Nitric Acid, Glycol Ethers
Conklin Company, Inc.	70-085-0006	Ammonia, Zinc Compounds
Fremont Industries, Inc.	70-085-0008	Sodium Nitrite, Glycol Ethers, Ethylene Glycol, N-Methyl-2-Pyrrolidone
Cargill, Inc.	71-019-0012	Zinc Compounds, Manganese Compounds
Heartland Corn Products	72-120-0010	Ammonia, Benzene, Cyclohexane, N-Hexane
Gold' N Plump Poultry, Inc.	73-040-0001	Chlorine
Wiman Corp.	73-073-0031	Di(2-ethylhexyl)Phthalate
Melrose Dairy Proteins LLC	73-150-0003	Methyl Tert-Butyl Ether, Toluene, Xylene
Grede–St. Cloud Foundry, Inc.	73-230-0084	Diisocyanates
New Flyer USA	73-230-0097	Ethylene Glycol
Standard Iron & Wire Works, Inc.	73-265-0028	Manganese
Land O' Lakes-Owatonna	74-070-0141	Manganese Compounds, Zinc Compounds, Copper Compounds
Diversified Energy Co.	75-070-0014	Ammonia, Benzene, Cyclohexane, N-Hexane, Ethylbenzene, Toluene, Xylene
Chippewa Valley Ethanol Co.	76-015-0036	Ammonia, Benzene, Methanol, N-Hexane, Toluene
Central Bi-Products	77-124-0002	Chlorine

FACILITY NAME	ERC ID NUMBER	CHEMICAL NAME
Hearth Technologies	79-067-0034	Diisocyanates
Andersen Corporation	82-015-0002	Cobalt Compounds, Diisocyanates
Oasis Systems, Inc.	82-049-0009	Methyl Methacrylate
Nor-Lakes Services Midwest	82-070-0009	Zinc Compounds
Armour Swift-Eckrich	83-090-0004	Ammonia
Badger Foundry Co.	85-145-0005	Diisocyanates
TRW Automotive	85-145-0009	Chromium, Nickel, Cobalt
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 – Howard Lake	86-085-0010	Copper Compounds, Manganese Compounds, Zinc Compounds
Standard Iron & Wire Works, Inc.	86-109-0028	Manganese

Attachment 10: Facilities which submitted an EPA Form R in 2000 but are not subject to reporting in 2001

Facility Name & Location	County	ERC ID Number
Lund Industries Inc., Anoka	Anoka	02-005-0050
Kwik-File, LLC, Fridley	Anoka	02-055-0066
Mammoth Inc., Chaska	Carver	10-035-0041
Pro-Tech, Inc., Waconia	Carver	10-100-0001
Sunrise Fiberglass, Wyoming	Chisago	13-105-0003
W.R. Grace & Co., Eagan	Dakota	19-025-0095
Valmont Applied Coating Tech., Mendota Heights	Dakota	19-105-0001
Wastequip/Rayfo, Rosemount	Dakota	19-145-0051
Dakota Premiun Foods, South St. Paul	Dakota	19-155-0019
Corn Plus, Winnebago	Faribault	22-110-0019
Ventura Foods, LLC, Albert Lea	Freeborn	24-005-0070
Red Wing Shoes Co. – Plant 2, Goodhue	Goodhue	25-110-0001
Red Wing Shoes Co. – Plant 1, Goodhue	Goodhue	25-110-0008
TWF Industries, Barrett	Grant	26-010-0004
Clore Automotive, Bloomington	Hennepin	27-005-0112
Technical Plating Inc., Brooklyn Park	Hennepin	27-015-0036
Bodycote Thermal Processing, Inc., Eden Prairie	Hennepin	27-056-0070
Kangas Enameling, Inc., Hopkins	Hennepin	27-095-0044
Universal Plating & Rustproofing, Minneapolis	Hennepin	27-135-0073
Bodycote Thermal Processing, Inc., Minneapolis	Hennepin	27-135-0107
Weather-Rite Heating & Ventilation, Minneapolis	Hennepin	27-135-0110
Hauenstein & Burmeister, Inc., Minneapolis	Hennepin	27-135-0281
Douglas Corp., Minneapolis	Hennepin	27-135-0570
Schwan's Sales Enterprises, Inc., Marshall	Lyon	42-095-0008
Plato Woodwork, Inc., Plato	McLeod	43-080-0003
Merit Enterprises, Inc., Isle	Mille Lacs	48-048-0002
Smith System Mfg. Co., Princeton	Mille Lacs	48-109-0003
Crestliner Boats, Inc., Little Falls	Morrison	49-120-0025
Mico, Inc., North Mankato	Nicollet	52-065-0001
Alumacraft Boat Co., St. Peter	Nicollet	52-080-0001
Celestica Corp., Rochester	Olmsted	55-095-0019
West Central Turkeys, Inc., Pelican Rapids	Otter Tail	56-315-0011
Electro-Plating Engineering Co. Inc., St. Paul	Ramsey	62-070-0017
Nor-Lakes Services Midwest, Inc., St. Paul	Ramsey	62-070-0189
Cortec Corp., White Bear Lake	Ramsey	62-070-0276
Schwing America, Inc., White Bear Lake	Ramsey	62-092-0001
Dairy Farmers of America, Inc., Winthrop	Sibley	72-120-0003
3M, Staples	Todd	77-155-0021
Badger Equipment Co., Winona	Winona	85-145-0037

Attachment 11: "Core" Set of Reported Chemicals (1988-2001)

The Environmental Protection Agency (EPA) has the authority to add chemicals to the Section 313 Toxic Chemical List (see Appendix A on page 72.) 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 (2001). Pages 42 to 45 include a listing of these core chemicals, and the quantity of them that was released/transferred in 1988 versus the quantity that was released/transferred in 2001. 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 1988-2001 time period.

To facilitate a full understanding of the release/transfer data provided, two basic clarifications are needed. First, if 1988 or 2001 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 1988-2001, 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 1988-2001 using data reported for off-site transfers for treatment and disposal.

4. Beginning with the 1997 reporting year, metals and metal compounds reported as being transferred off-site to a POTW or for solidification/stabilization or wastewater treatment, must be reported as a transfer for disposal. Prior to 1997, facilities were allowed to report these amounts as a transfer for treatment off-site.

5. Dramatic increases and/or decreases in releases/transfers as indicated in Figures 6-11 on pages 46-47 can often be attributed to a single facility. For example:

   a. Fugitive Air

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

   b. Stack Air

      The 3M facility in Hutchinson reduced their total stack air emissions from 15,926,247 pounds in 1988 to 309,244 pounds in 2001. Numerous other large and small facilities contributed to the remaining reductions in stack air emissions.

   c. Water

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

   d. Land

      The NSP (now Xcel Energy) 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 (now Sappi) 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 8,149,387 pounds in 2001.

   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, 414,000 pounds in 2000 and 1,635,000 pounds in 2001.

      - 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 (now Sappi) at their Cloquet facility reported 2,200,000 pounds of Methanol being transferred off-site to the POTW for treatment in 1988 and 8,149,387 pounds in 2001.

      - 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.

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	8	17,840	201,061	30	210	8	31,030
	2001	12	24,425	94,048	15	0	4	331
1,2-Butylene oxide	1988	1	1,300	0	0	0	0	0
1,2-Dibromoethane	1988	1	0	5	0	0	0	0
	2001	1	0	14	0	0	0	2
1,2-Dichlorobenzene	2001	1	0	0	0	0	0	0
1,2-Dichloroethane	1988	2	83	12,009	0	0	0	9,400
	2001	1	7	28	0	0	0	1
1,3-Butadiene	1988	1	0	13,000	30	0	0	30
	2001	1	378	4	2	0	0	0
1,4-Dioxane	1988	3	1,879	23,584	0	0	45,985	421
	2001	1	77	1,533	0	0	55,500	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
	2001	3	6,191	14,817	1	0	11	22,014
2-Methoxyethanol	1988	1	0	9,800	0	0	0	0
4,4'-Isopropylidenediphenol	2001	1	0	7	0	0	0	21,000
4,4'-Methylenedianiline	1988	2	0	0	0	0	0	8,145
Acetaldehyde	2001	9	831	316,771	620	5	9,055	1
Acetonitrile	2001	1	0	0	0	0	0	0
Acrolein	2001	2	0	47,496	0	0	0	0
Acrylic acid	1988	1	4	120	0	0	0	0
	2001	2	11	18,490	0	0	0	32,104
Acrylonitrile	1988	1	0	0	0	0	0	0
Aluminum (fume or dust)	1988	4	0	27,688	4,100	0	63	109,842
	2001	7	19,365	956	0	0	0	95,718
Anthracene	2001	1	48	5	0	0	0	21
Antimony	1988	2	130	140	0	19,098	68	0
	2001	1	13	24	0	0	229	18,600
Antimony compounds	1988	3	5	63	6	18	28	6,405
	2001	9	10	231	2,275	38,410	1	16,450
Arsenic	1988	2	65	74	160	5,981	6	0
	2001	1	6	12	0	0	34	11,000
Arsenic compounds	1988	2	0	250	0	0	0	1,350
Asbestos (friable)	2001	1	0	0	0	5	0	0
Barium	1988	4	0	21,870	1,000	84,900	0	267
	2001	2	5	103,466	5	0	0	2,105
Barium compounds	1988	3	250	250	0	0	250	2,135
	2001	23	1,405	70,394	15,179	6,991,599	6,681	1,258,644
Benzene	1988	4	14,180	300,310	30	970	0	715
	2001	5	16,622	10,916	2,929	0	0	351
Benzoyl chloride	1988	1	250	250	0	0	0	0

Note: See important explanatory information on pages 40-41

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

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Water	Land	POTW	Offsite (Disposal and Treatment)
Beryllium	1988	1	0	1	0	0	0	0
Biphenyl	1988	2	1,080	0	3	0	0	91
	2001	1	120	7	0	0	0	0
Bromomethane	2001	1	13,153	0	0	0	0	0
Butyl acrylate	2001	1	15	1,293	0	0	0	0
C.I. Basic Green 4	1988	1	0	0	0	0	0	0
Cadmium	1988	4	0	5	63	14	8	254
Cadmium compounds	1988	1	0	0	0	0	0	1,050
Carbon disulfide	1988	2	0	7,600	0	0	0	0
	2001	2	1	21	0	0	0	0
Carbon tetrachloride	1988	1	0	0	0	0	0	0
Carbonyl sulfide	2001	3	2	1,300	0	0	0	0
Catechol	1988	1	0	0	0	0	14,000	0
	2001	3	0	0	0	5	1,118	0
Chlorine	1988	40	14,906	469,794	26,804	0	42,724	62,000
	2001	11	7,647	2,841	255	0	9	0
Chlorine dioxide	1988	3	500	19,250	0	0	0	0
	2001	2	10	23,219	0	0	0	0
Chloroform	1988	2	102,000	161,000	79,000	430	17,000	0
Chloromethane	1988	1	143,000	0	0	0	0	0
	2001	1	53,560	0	0	0	0	0
Chromium	1988	11	757	1,558	1,313	12,250	1,258	25,734
	2001	30	427	958	0	32	186	227,822
Chromium compounds	1988	11	1,300	1,496	0	12,056	46,593	36,042
	2001	19	238	2,534	179	103,771	31,925	194,679
Cobalt	1988	2	250	65	200	290	0	2
	2001	2	0	5	0	0	0	0
Cobalt compounds	1988	2	3	649	0	0	0	9,686
	2001	3	29	221	0	0	0	7,666
Copper	1988	27	2,540	3,013	57	0	3,672	30,474
	2001	48	11,701	9,812	10	5	1,135	824,900
Copper compounds	1988	15	511	1,009	5	1,283	9,695	190,419
	2001	28	70	9,563	882	281,020	4,086	2,125,184
Cresol (mixed isomers)	1988	1	0	0	0	24	0	0
	2001	2	95	1,080	0	5	1,834	4
Cumene	1988	1	91	0	30	0	0	30
	2001	1	440	160	0	0	0	31
Cyanide compounds	1988	8	1,250	750	0	0	27,882	7,700
	2001	6	0	1,358	0	0	397	12,093
Cyclohexane	1988	3	5,004	67,240	150	0	0	30
	2001	7	6,207	28,107	6	0	0	4,974
Decabromodiphenyl oxide	2001	3	0	0	0	0	0	10,089
Di(2-ethylhexyl) phthalate	1988	3	0	4,100	0	3	1	4,860
	2001	6	34	242	0	0	750	4,707
Dibenzofuran	2001	1	0	0	0	0	0	0
Dibutyl phthalate	2001	1	0	309	0	0	0	749
Dichloromethane	1988	40	594,104	2,176,785	1,800	0	1,839	188,395
	2001	8	14,122	111,772	0	0	537	37,897

Note: See important explanatory information on pages 40-41

State of Minnesota
Department of Public Safety
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(Amount in Pounds)

Chemical	Year	# of Facilities	Fugitive Air	Stack Air	Water	Land	POTW	Offsite (Disposal and Treatment)
Diethanolamine	1988	3	0	250	0	0	13,362	250
Dimethyl phthalate	1988	1	25,500	0	0	0	0	0
	2001	1	0	193	0	0	0	0
Epichlorohydrin	2001	1	0	0	0	0	0	0
Ethyl acrylate	1988	1	2,400	960	0	0	0	0
	2001	1	4,737	260	40	0	0	0
Ethylbenzene	1988	11	20,790	443,063	30	1,800	500	28,143
	2001	15	14,938	80,506	14	0	0	1,095
Ethylene	1988	2	23,700	310	30	0	0	30
	2001	2	14,770	5,328	3	0	0	0
Ethylene glycol	1988	20	33,394	64,116	1,493	0	303,604	392,057
	2001	15	11,325	321	55	0	339,148	2,230
Ethylene oxide	2001	2	195	282	0	0	0	0
Formaldehyde	1988	18	4,700	749,359	3,900	0	8,197	8,385
	2001	17	3,184	232,725	5	5	21,458	2,142
Freon 113	1988	50	2,446,227	953,886	0	0	4,295	55,796
	2001	1	14,490	0	0	0	0	0
Glycol ethers	1988	31	322,763	837,357	0	0	306,809	59,832
	2001	27	135,640	504,805	1	0	99,759	9,668
Hexachlorobenzene	2001	1	0	0	0	0	0	0
Hydrogen cyanide	1988	1	0	95	800	0	0	0
Hydrogen fluoride	1988	3	1,550	96,500	0	0	0	0
	2001	14	126	217,406	0	0	134	16,796
Lead	1988	6	6,760	7,530	1,510	142,955	493	69,388
	2001	72	2,384	4,279	0	8	566	194,445
Lead compounds	1988	8	12,250	5,043	0	370,747	1,505	18,291
	2001	84	193	8,623	806	183,029	519	284,530
Maleic anhydride	1988	5	317	663	0	0	0	42
	2001	3	114	2,299	0	0	0	0
Manganese	1988	9	510	1,330	360	0	250	16,694
	2001	23	706	1,959	0	0	299	47,579
Manganese compounds	1988	10	13,000	2,910	5	130,000	4,810	1,050
	2001	16	3,085	11,732	25,765	1,272,551	102,649	187,145
Mercury	1988	1	2	130	0	18	0	0
	2001	4	37	13	0	0	0	9
Mercury compounds	2001	23	12	1,764	2	855	8	371
Methanol	1988	32	128,628	2,199,194	0	280,000	2,245,700	289,959
	2001	34	142,523	1,464,988	103	0	8,274,726	133,935
Methyl acrylate	1988	1	70	1,300	0	0	0	0
	2001	1	3,166	560	0	0	0	0
Methyl ethyl ketone	1988	44	450,882	12,859,36	240	730	1,250	668,447
	2001	33	129,470	353,264	69	5	8,619	1,491,409
Methyl isobutyl ketone	1988	23	31,057	572,202	0	0	500	57,660
	2001	9	13,395	124,499	1	0	0	3,497
Methyl methacrylate	1988	1	1,500	660	73	0	0	0
	2001	3	35,175	585	67	0	0	0
Molybdenum trioxide	1988	2	250	0	0	0	0	0
	2001	7	15	285	17	23,410	0	41,904
n-Butyl alcohol	1988	20	48,999	807,983	0	0	100	85,270
	2001	12	122,682	514,761	0	0	0	45

Note: See important explanatory information on pages 40-41

"Core" Set of Reported Chemicals (1988 - 2001)

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)
Naphthalene	1988	3	13,704	2,094	3	1,500	0	51
	2001	3	2,655	705	0	0	0	165
Nickel	1988	13	788	760	1,260	2,500	919	45,295
	2001	36	443	860	5	31	429	108,266
Nickel compounds	1988	4	1,355	750	0	86,040	831	1,019
	2001	23	196	14,011	330	79,485	2,615	211,957
Nitric acid	1988	52	3,156	44,371	250	0	140,957	60,501
	2001	59	4,247	26,048	0	0	72,631	206,061
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
	2001	1	5	2	0	0	0	74
Peracetic acid	1988	1	15	8	0	0	0	0
	2001	1	21	551	0	0	0	0
Phenol	1988	10	2,780	231,949	1,200	289,310	500	21,218
	2001	10	8,049	37,037	87	0	2,122	2,364
Phthalic anhydride	1988	2	0	10,750	0	0	0	0
	2001	2	47	610	0	0	0	0
Polychlorinated biphenyls	2001	2	0	0	0	0	0	1,295
Propylene	1988	3	153,000	67,250	30	0	0	30
	2001	2	32,236	14,254	3	0	0	0
Propylene oxide	1988	1	750	750	0	0	0	0
	2001	1	5	495	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
	2001	1	11	31	2,800	0	0	45
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
	2001	32	480,098	752,355	0	0	0	1,097
tert-Butyl alcohol	1988	1	0	17,799	0	0	0	0
	2001	2	0	699	0	0	0	218
Tetrachloroethylene	1988	8	51,086	107,564	0	0	603	14,000
	2001	3	9,079	103,231	0	0	0	3
Toluene	1988	72	750,321	10,673,90	30	750	846	1,693,032
	2001	48	246,918	1,028,836	13	0	5	303,299
Toluene-2,4-diisocyanate	1988	7	870	575	0	0	0	2,250
Toluene-2,6-diisocyanate	1988	4	348	39	0	0	0	170
Trichloroethylene	1988	27	466,036	396,587	0	0	1,500	53,123
	2001	13	27,416	226,357	0	0	53	310
Vanadium (fume or dust)	1988	1	0	150	0	630	0	0
Vinyl acetate	2001	1	5	5	0	0	0	1,540
Xylene (mixed isomers)	1988	62	561,448	4,602,829	30	2,000	800	291,947
	2001	51	171,006	882,054	39	0	6	22,001
Zinc compounds	1988	19	84,755	22,575	14,410	1,501,773	7,423	118,118
	2001	36	6,496	49,474	4,631	436,020	3,892	1,342,531
	1988 Totals	365	8,456,206	42,057,890	141,315	2,948,711	3,272,481	5,120,902
	2001 Totals	363	1,818,560	7,543,066	57,214	9,410,256	9,043,130	9,547,163

Note: See important explanatory information on pages 40-41

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

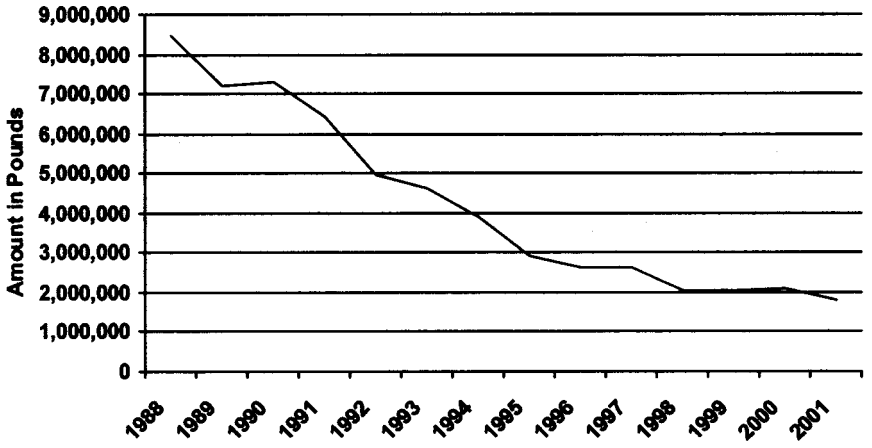


Figure 7: "Core" Set of Chemicals - Stack Air

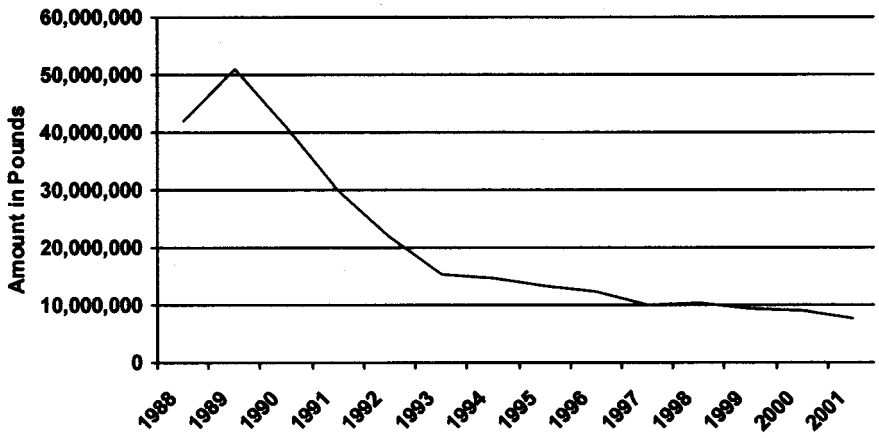
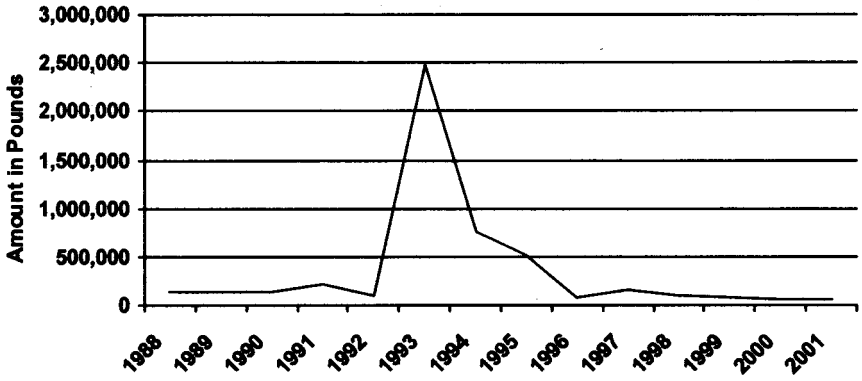


Figure 8: "Core" Set of Chemicals - Water



Note: See important explanatory information on pages 40-41

Figure 9: "Core" Set of Chemicals - Land

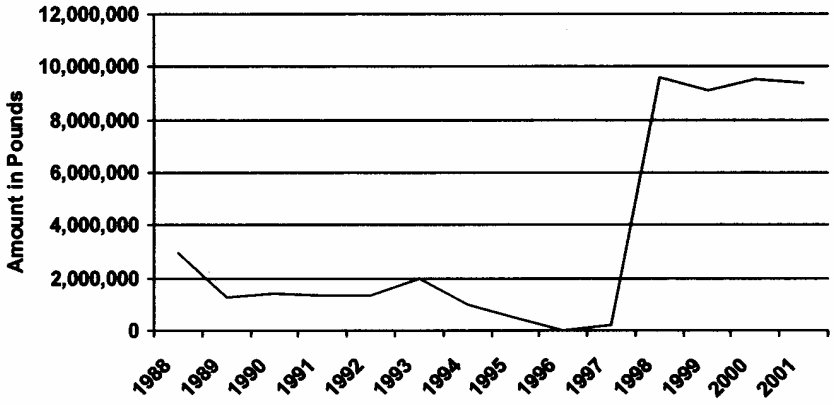


Figure 10: "Core" Set of Chemicals - POTW

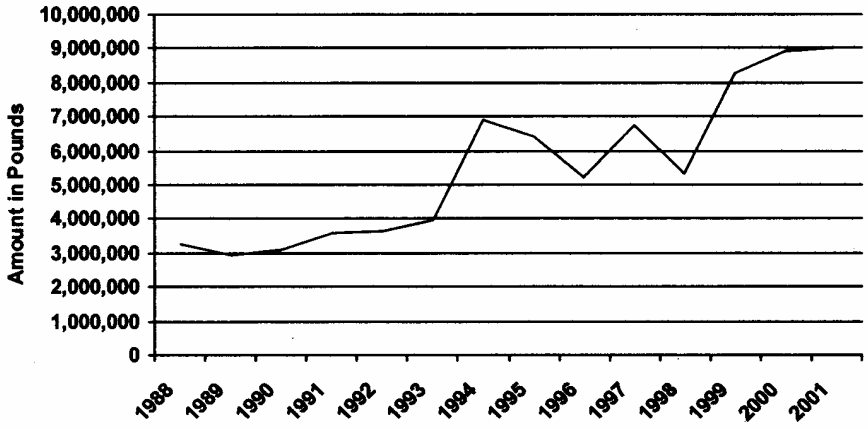
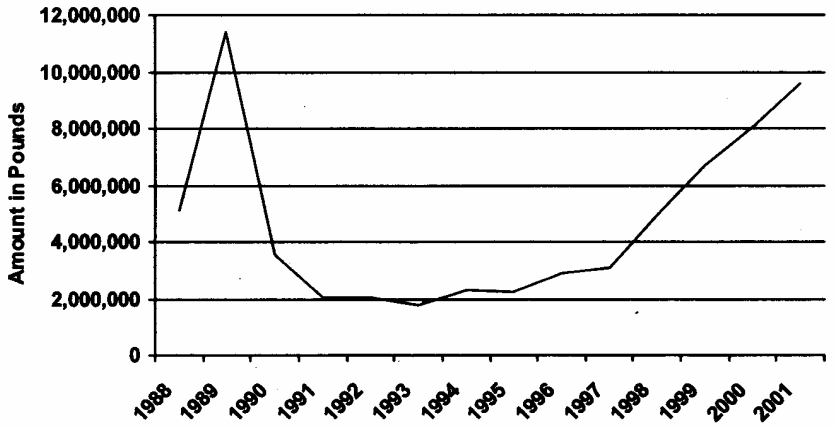


Figure 11: "Core" Set of Chemicals - Offsite Transfers (Disposal and Treatment Only)



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 2001 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-two percent of the reporting facilities have chosen to define non-numeric pollution prevention objectives. Discussions between the ERC, OEA, MPCA, MNTAP, and regulated facilities have defined a number of factors which make it difficult for a facility to state numeric goals including:

- Rapid changes in the production processes and/or market demand makes quantitative prediction of future production difficult if not impossible.

- Some facilities have established facility-wide pollution prevention goals that do not lend themselves to the process by process reporting requirements of the TPPA.

- Some facilities have made significant reductions in the amounts of toxic chemicals generated or released in years prior to the TPPA requiring reporting. These efforts are not reflected in the current Progress Reports and further reductions are extremely difficult and expensive.

- Some chemicals are double counted because they are shipped from site to site for treatment, recovery, or recycling. This double counting reduces the ability of a facility to select a numeric goal because, if they receive chemicals for treatment, recovery or recycling from other facilities, then any reductions in releases at the other facilities appear as increased chemical management activities at the receiving facility.

- A number of facilities have upgraded their process technology to minimize releases of chemicals. This leaves accidental or unintentional releases as the primary chemical releases of concern; such releases are not predictable.

- Minnesota requires pollution prevention planning for the chemicals reported under Section 313 of SARA Title III. A number of facilities have found pollution prevention opportunities for non-Section 313 reported chemicals. This activity is not reflected in the Progress Reports.

Definitions

A sample of a statewide listing found on page 55 summarizes 2001 Progress Report information. A complete listing is available from the Emergency Response Commission (651-297-7372). The following definitions will help to explain the information in the list:

Barriers to Pollution Prevention - the facility's pollution prevention efforts were hindered by certain factors (see page 54 for F code descriptions)

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

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

Chemical - target chemicals for pollution prevention

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

Facility Name - provided by the facility

Met Objective - pollution prevention success as reported by the facility

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

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

Process - process code(s) that generate the releases and/or transfers of this chemical (see page 52 for process (P) code descriptions)

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

Quantity Reported in 2000 & 2001 - actual quantity of this chemical reported on the EPA Form R (Sections 8.1 - 8.7) in 2000 and 2001

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

P CODES PROCESS DESCRIPTIONS

P01	Casting any material
P02	Chemical mixing (denaturing, formulating, blending, etc.)
P03	Chemical transferring (packaging, metering, etc.)
P04	Chemical milling (etching)
P05	Cleaning any material (degreasing, washing, etc.)
P06	Combustion
P07	De-icing
P08	Developing (non-photographic)
P09	Drying
P10	Electroless/Immersion coating
P11	Electroplating
P12	Extruding any material
P13	Fiberglass product manufacturing
P14	Foam blowing
P15	Food processing (human and animal)
P16	Heat treating
P17	Laminating/Pressing any material
P18	Lens grinding
P19	Machining any material (polishing, routing, drilling, etc.)
P20	Metal melting
P21	Metal shredding
P22	Metal treating (anodizing, phosphating, pickling, etc.)
P23	Molding any material (bending, forming, shaping, etc.)
P24	Organic coating (painting, varnishing, adhesive, etc.)
P25	Paper manufacturing
P26	Photographic processing
P27	Printing
P28	Refining
P29	Refrigerating/Freezing
P30	Regenerating resin
P31	Smelting
P32	Sterilizing (fumigating, disinfecting, etc.)
P33	Stripping any coating
P34	Tanning
P35	Vacuum depositing (vapor, ion, epitaxy, etc.)
P36	Water treating (neutralizing, evaporating, etc.)
P37	Weatherizing (wood treating, corrosion inhibiting, etc.)
P38	Welding any material (soldering, brazing, joining, etc.)
P39	Other

W CODES SOURCE REDUCTION ACTIVITIES

Cleaning and Degreasing

W59	Modified stripping / cleaning equipment
W60	Changed to mechanical stripping / cleaning devices (from solvents or other materials)
W61	Changed to aqueous cleaners (from solvents or other materials)
W63	Modified containment procedures for cleaning units
W64	Improved draining procedures
W65	Redesigned parts racks to reduce dragout
W66	Modified or installed rinse systems
W67	Improved rinse equipment design
W68	Improved rinse equipment operation
W71	Other cleaning and degreasing modifications (Please explain)

Good Operating Practices

W13	Improved maintenance scheduling, recordkeeping, or procedures
W14	Change production schedule to maximize equipment and feedstock changeovers
W19	Other changes in operating practices (Please explain)

Inventory Control

W21	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
W22	Began to test outdated material - continue to use if still effective
W23	Eliminated shelf-life requirements for stable materials
W24	Instituted better labeling procedures
W25	Instituted clearinghouse to exchange materials that would otherwise be discarded
W29	Other changes in inventory control (Please explain)

Process Modifications

W51	Instituted recirculation within a process
W52	Modified equipment, layout, or piping
W53	Use of a different process catalyst
W54	Instituted better controls on operating bulk containers to minimize discarding of empty containers
W55	Changed from small volume containers to bulk containers to minimize discarding of empty containers
W58	Other process modifications (Please explain)

Product Modifications

W81	Changed product specifications
W82	Modified design or composition
W83	Modified packaging
W89	Other product modifications (Please explain)

W CODES SOURCE REDUCTION ACTIVITIES (CONTINUED)

Raw Material Modifications

W41	Increased purity of raw materials
W42	Substituted raw materials
W49	Other raw material modifications (Please explain)

Spill and Leak Prevention

W31	Improved storage or stacking procedures
W32	Improved procedures for loading, unloading, and transfer operations
W33	Installed overflow alarms or automatic shutoff valves
W35	Installed vapor recovery systems
W36	Implemented inspection or monitoring program of potential spill or leak sources
W39	Other spill and leak prevention (Please explain)

Surface Preparation and Finishing

W72	Modified spray systems or equipment
W73	Substituted coating materials used
W74	Improved application techniques
W75	Changed from spray to other system
W78	Other surface preparation and finishing modifications (Please explain)

F CODES BARRIERS TO POLLUTION PREVENTION

F01	Insufficient capital to install new source reduction equipment or implement new source reduction activities/initiatives
F02	Lack of technical information on pollution prevention techniques applicable to the specific production process
F03	Pollution prevention / source reduction is not economically feasible
F04	Concern that product quality may decline as a result of source reduction
F05	Technical limitations of the production process
F06	Specific regulatory / permit burdens
F07	Pollution prevention previously implemented - additional reduction does not appear to be technically feasible
F08	Pollution prevention previously implemented - additional reduction does not appear to be economically feasible
F09	Pollution prevention previously implemented - additional reduction does not appear to be feasible due to permitting requirements
F10	Other

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

Chemical Name	Baseline Year	Baseline Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 2000	2001	2002	2003	Reported		P.R.	Met Objective
Barium Compounds	1991	100					2000	1,625	2001 / 2000 = 0.91	No
							2001	4,724		

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

Intended Activity
- W42 SUBSTITUTED RAW MATERIALS

Employed Activity
- W42 SUBSTITUTED RAW MATERIALS

Non Numeric Objective: EVALUATE NEW PRIMING 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 FORMULATIONS. CONTINUE LONG TERM TESTING OF PRIMER MIX MANUFACTURED WITH BARIUM FREE COMPOUNDS. CONTINUE TO MARKET PRIMING MIX WITH LOW BARIUM CONTENT.

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

Chemical Name	Baseline Year	Baseline Quantity	Numeric Objective, If Applicable / Releases and Transfers (#) 2000	2001	2002	2003	Reported		P.R.	Met Objective
Copper Compounds	1991	8900					2000	6,242	2001 / 2000 = 0.75	No
							2001	31,149		

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
- W42 SUBSTITUTED RAW MATERIALS

Process P09 DRYING

Intended Activity
- W81 CHANGED PRODUCT SPECIFICATIONS
- W68 IMPROVED RINSE EQUIPMENT OPERATION

Employed Activity
- W82 MODIFIED DESIGN OR COMPOSITION

Non Numeric Objective: EVALUATE NEW CLEANERS, CONTROLLED ATMOSPHERE ANNEALING TO REDUCE/ ELIMINATE THE QUANTITY OF COPPER OXIDE REMOVAL REQUIRED AFTER ANNEALING AND ALTERNATE METALS AND COATING COMPOSITION. REDUCE THE QUANTITY OF SHOT THAT IS COPPER COATED.

Non Numeric Progress: PRODUCED NON-COPPER BASED COMPONENTS. EVALUATED NEW CLEANERS TO PRODUCE LESS COPPER IN RINSE WATER AND NEW WASTE HANDLING PROCEDURE TO RECYCLE COPPER IN ACID PICKLE WASTE SOLUTION. PRODUCED AND SOLD MORE NON-COPPER COATED SHOT.

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

Attachment 13: Facilities not subject to Pollution Prevention Progress reporting in 2001

Facility Name and Location	County	ERC ID #
H.B. Fuller Co., Fridley	Anoka	02-055-0018
Honeywell, Inc. - Cap, Coon Rapids	Anoka	02-050-0023
Life Fitness, Anoka	Anoka	02-095-0023
Mate Precision Tooling Co., Anoka	Anoka	02-005-0058
Micro Control Co., Fridley	Anoka	02-055-0078
Plasti Dip International, Circle Pines	Anoka	02-020-0005
Plasti Dip International, Blaine	Anoka	02-020-0075
Plexus Corp. - BMN, Blaine	Anoka	02-020-0076
Professional Plating, Anoka	Anoka	02-005-0005
Winland Electronics, Inc., Mankato	Blue Earth	07-100-0099
Parker Hannifan Corp., Chanhassen	Carver	10-030-0021
Pro-Tech, Inc., Chaska	Carver	10-035-0012
Micro Dynamics Corp., Montevideo	Chippewa	12-075-0033
Busch Agricultural Resources, Inc., Moorhead	Clay	14-145-0010
Rosemount Aerospace Inc., Burnsville	Dakota	19-006-0007
Safety-Kleen Systems, Inc., Eagan	Dakota	19-025-0006
TRW Automotive, Rushford	Fillmore	23-145-0012
Agra Resources Coop dba Exol, Albert Lea	Freeborn	24-005-0081
Farmland Foods Inc, Albert Lea	Freeborn	24-005-0050
Schweigert Foods, Albert Lea	Freeborn	24-005-0001
Gemini, Inc., Cannon Falls	Goodhue	25-025-0021
Added Value Technology LLC, Bloomington	Hennepin	27-005-0135
Applied Coating Technology, Inc., Eden Prairie	Hennepin	27-056-0004
Banner Engineering Corp., Plymouth	Hennepin	27-180-0101
Caterpillar Paving Products, Inc., Brooklyn Park	Hennepin	27-015-0053
Emerson Control Techniques, Eden Prairie	Hennepin	27-056-0093
Foam Enterprises, Inc., Plymouth	Hennepin	27-180-0069
General Dynamics Information Systems, Bloomington	Hennepin	27-005-0003
General Mills Operations Inc./Purity Oats, Minneapolis	Hennepin	27-135-0249
General Mills, Inc., Eden Prairie	Hennepin	27-056-0054
Hanson Spancrete Midwest Inc., Maple Grove	Hennepin	27-115-0036
James Ford Bell Research (General Mills), Golden Valley	Hennepin	27-070-0003
Micro Dynamics Corp., Eden Prairie	Hennepin	27-056-0094
Oldcastle Glass, Minneapolis	Hennepin	27-135-0620
Silent Knight, Maple Grove	Hennepin	27-115-0065
TRC Circuits, Inc., Crystal	Hennepin	27-035-0017
Cambridge Metals & Plastics, Cambridge	Isanti	30-019-0038
Koch Materials Co., Marshall	Lyon	42-095-0003
Schott Corp. - Minneota, Minneota	Lyon	42-100-0014
Haugen Furniture Company, Hutchinson	Mcleod	43-055-0037
Hutchinson Mfg. Inc., Hutchinson	Mcleod	43-055-0029
Anderson Chemical Co., Litchfield	Meeker	47-100-0005
Carlson Craft Social (Taylor Corp.), North Mankato	Nicollet	52-065-0002
Kato Engineering - Plant 3, North Mankato	Nicollet	52-065-0011
Onan Power Electronics, St. Peter	Nicollet	52-080-0003
Taytronics, St. Peter	Nicollet	52-080-0026
Celestica Corporation, Rochester	Olmsted	55-095-0217

Facility Name and Location	County	ERC ID #
Banner Engineering Corp., Fergus Falls	Otter Tail	56-165-0071
Aspen Research Corporation, White Bear Lake	Ramsey	62-095-0043
Cardiac Pacemakers Inc., dba Guidant, Arden Hills	Ramsey	62-005-0004
Interactive Technologies, St. Paul	Ramsey	62-070-0417
Koch Materials Co., St. Paul	Ramsey	62-070-0034
Manufacturers' Services, Arden Hills	Ramsey	62-005-0024
Minnesota Brewing Co., St. Paul	Ramsey	62-070-0029
North Star Recycling-Minnesota, St. Paul	Ramsey	62-070-0334
Schroeder Milk Co., Inc., Maplewood	Ramsey	62-035-0013
SCI Enclosures, St. Paul	Ramsey	62-070-0105
Trane, White Bear Lake	Ramsey	62-095-0046
Versa Iron & Machine, St. Paul	Ramsey	62-070-0230
Central Bi-Products, Redwood Falls	Redwood	64-110-0002
Telamco, Inc., Lonsdale	Rice	66-040-0007
Agri-Energy, LLC, Luverne	Rock	67-055-0022
ADC Telecommunications, Shakopee	Scott	70-085-0065
Koch Materials Company, Savage	Scott	70-082-0006
Xcel Energy - Becker RDF Ash Landfill, Becker	Sherburne	71-009-0018
Irathane Systems, Inc., Hibbing	St Louis	69-235-0007
Northern Castings Corp., Hibbing	St Louis	69-235-0004
Reptron Manufacturing Services, Hibbing	St Louis	69-235-0039
U.S. DOD USAF Duluth ANG AFB, Minnesota, Duluth	St Louis	69-125-0230
Lakeside Foods, Inc., Brooten	Stearns	73-035-0008
McQuay International, Owatonna	Steele	74-070-0129
Truth Hardware, Owatonna	Steele	74-070-0002
Central Bi-Products, Long Prairie	Todd	77-124-0002
Ad Graphics, Hugo	Washington	82-070-0010
Oasis Systems, Inc., Forest Lake	Washington	82-049-0009
Benchmark Electronics Winona Div., Winona	Winona	85-145-0086
Hauser Art Glass Co., Inc., Winona	Winona	85-145-0106
TRW Automotive, Winona	Winona	85-145-0009
Watlow Winona, Inc., Winona	Winona	85-145-0044
Sunny Fresh Foods, Monticello	Wright	86-109-0004
Schott Corp., Canby	Yellow Medicine	87-010-0019

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.

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

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 2001 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 2001 Form R(s)
- Index Value: Index of hazard potential; the larger the index value, the greater the hazard potential
- Index Weighted Emissions: Product of application of index value to total air emissions
- Basis for the Index: Primary environmental area of concern (including human exposure)

Attachment 14: Chemicals released for the year 2001 in order from the largest to the smallest total air releases

Sections: 5.1, 5.2 of EPA Form "R"

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

Chemical	Fugitive Air	Stack Air	Total Air Releases
Ammonia	966,886	804,492	1,771,378
Methanol	142,523	1,464,988	1,607,511
N-Hexane	599,511	857,389	1,456,900
Toluene	246,918	1,028,836	1,275,754
Styrene	480,098	752,355	1,232,453
Xylene (Mixed Isomers)	171,006	882,054	1,053,060
Glycol Ethers	135,640	504,805	640,445
N-Butyl Alcohol	122,682	514,761	637,443
Hydrochloric Acid (Aerosol Forms Only)	1,229	630,270	631,499
1,1-Dichloro-1-Fluoroethane	69,166	556,000	625,166
Methyl Ethyl Ketone	129,470	353,264	482,734
Acetaldehyde	831	316,771	317,602
Trichloroethylene	27,416	226,357	253,773
Formaldehyde	3,184	232,725	235,909
Sulfuric Acid (Aerosol Forms Only)	270	224,248	224,518
Hydrogen Fluoride	126	217,406	217,532
Methyl Isobutyl Ketone	13,395	124,499	137,894
Dichloromethane	14,122	111,772	125,894
1,2,4-Trimethylbenzene	24,425	94,048	118,473
Tetrachloroethylene	9,079	103,231	112,310
Barium	5	103,466	103,471
Ethylbenzene	14,938	80,506	95,444
Barium Compounds	1,405	70,394	71,799
Zinc Compounds	6,496	49,474	55,970
Chloromethane	53,560	0	53,560
Acrolein	0	47,496	47,496
Propylene	32,236	14,254	46,490
Phenol	8,049	37,037	45,086
N-Methyl-2-Pyrrolidone	455	35,569	36,024
Methyl Methacrylate	35,175	585	35,760
1-Chloro-1,1-Difluoroethane	34,548	0	34,548
Cyclohexane	6,207	28,107	34,314
2-Chloro-1,1,1,2-Tetrafluoroethane	0	33,207	33,207
Nitric Acid	4,247	26,048	30,295
Polycyclic Aromatic Compounds	689	27,565	28,254
Benzene	16,622	10,916	27,538
Chlorine Dioxide	10	23,219	23,229
Copper	11,701	9,812	21,513
2-Ethoxyethanol	6,191	14,817	21,008
Aluminum (Fume Or Dust)	19,365	956	20,321
Ethylene	14,770	5,328	20,098
Acrylic Acid	11	18,490	18,501
Manganese Compounds	3,085	11,732	14,812
Freon 113	14,490	0	14,490
Nickel Compounds	196	14,011	14,207
Formic Acid	6,708	6,653	13,361
Bromomethane	13,153	0	13,153
N,N-Dimethylformamide	50	12,138	12,188
Ethylene Glycol	11,325	321	11,646
1,3-Dichloro-1,1,2,2,3-Pentafluoropropan	579	10,999	11,578
2,2-Dichloro-1,1,1-Trifluoroethane	12	10,633	10,645
Chlorine	7,647	2,841	10,488
Copper Compounds	70	9,563	9,633
Lead Compounds	193	8,623	8,816

Attachment 14: Chemicals released for the year 2001 in order from the largest to the smallest total air releases

Sections: 5.1, 5.2 of EPA Form "R"

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

Chemical	Fugitive Air	Stack Air	Total Air Releases
Vanadium Compounds	25	6,750	6,775
Lead	2,384	4,279	6,664
Ethyl Acrylate	4,737	260	4,997
Methyl Acrylate	3,166	560	3,726
Naphthalene	2,655	705	3,360
Chromium Compounds	238	2,534	2,772
Manganese	706	1,959	2,665
Dicyclopentadiene	240	2,388	2,628
Diisocyanates	1,311	1,267	2,578
Maleic Anhydride	114	2,299	2,413
Mercury Compounds	12	1,764	1,775
1,4-Dioxane	77	1,533	1,610
Chromium	427	958	1,385
Cyanide Compounds	0	1,358	1,358
Butyl Acrylate	15	1,293	1,308
Nickel	443	860	1,303
Carbonyl Sulfide	2	1,300	1,302
Cresol (Mixed Isomers)	95	1,080	1,175
Toluene Diisocyanate (Mixed Isomers)	210	543	753
Benzo(g,h,i)Perylene	383	342	725
Tert-Butyl Alcohol	0	699	699
Phthalic Anhydride	47	610	657
Cumene	440	160	600
Peracetic Acid	21	551	572
Sodium Dimethyldithiocarbamate	255	255	510
Propylene Oxide	5	495	500
Ethylene Oxide	195	282	477
Chlorotrifluoromethane	401	0	401
1,3-Butadiene	378	4	382
Dibutyl Phthalate	0	309	309
Molybdenum Trioxide	15	285	300
Zinc (Fume Or Dust)	56	222	278
Di(2-Ethylhexyl) Phthalate	34	242	276
Cobalt Compounds	29	221	250
Antimony Compounds	10	231	241
Dimethyl Phthalate	0	193	193
Aluminum Oxide (Fibrous Forms)	0	160	160
Biphenyl	120	7	127
Phenanthrene	2	51	53
Anthracene	48	5	53
Mercury	37	13	50
Selenium Compounds	11	31	42
Antimony	13	24	37
1,2-Dichloroethane	7	28	35
Carbon Disulfide	1	21	22
Arsenic	6	12	18
1,2-Dibromoethane	0	14	14
Vinyl Acetate	5	5	10
4,4'-Isopropylidenediphenol	0	7	7
Pentachlorophenol	5	2	7
Cobalt	0	5	5
Triethylamine	0	3	3
Nitrate Compounds (Water Dissociable)	0	2	2
Totals	**3,501,546**	**10,764,212**	**14,265,757**

Attachment 15: Air Toxics Indexing System

Substance	Rank	Total Amount (pounds/yr) of Air Emissions	Index Value (log units)	Index (pounds/yr) Weighted Emissions	Basis for the Index
mercury	1	1825	19.80	23.06	water
lead (Pb)	2	15480	15.55	19.74	water
copper	3	31146	15.06	19.56	water
dioxins (total 2,3,7,8 congeners)	4	0.020138	21.09	19.39	terr flora
chromium (VI)*	5	4157	15.63	19.25	water
nickel	6	15510	14.96	19.15	aq biota
zinc	7	56248	14.03	18.78	water
aluminum	8	20321	13.96	18.26	water
antimony	9	278	15.53	17.97	aq biota
barium	10	175270	12.69	17.93	water
acrolein	11	47496	13.24	17.92	air
manganese	12	17477	13.38	17.62	water
bromomethane (methybromide)	13	13153	13.50	17.62	air
dichloromethane (methylene chloride)	14	125894	12.32	17.42	air
tetrachloroethylene	15	112310	12.30	17.35	air
selenium	16	42	15.35	16.97	water
trichloroethylene	17	253773	11.09	16.50	air
acetaldehyde	18	317602	10.96	16.46	air
arsenic	19	18	15.08	16.33	aq biota
formaldehyde	20	235909	10.91	16.28	air
acrylic acid	21	18501	11.74	16.01	air
1,2-dibromoethane	22	14	14.75	15.90	air/UR
chromium (III)*	23	4157	12.12	15.74	water
hexane (n-)	24	1456900	9.57	15.74	air
styrene	25	1232453	9.63	15.73	air
ammonia	26	1771378	9.39	15.64	air
benzene	27	27538	11.16	15.60	air
1,2-dichloroethane	28	35	13.89	15.43	air/UR
methyl ethyl ketone (MEK)	29	482734	9.70	15.39	air
hydrogen chloride	30	631499	9.40	15.20	air
chlorine dioxide	31	23229	10.71	15.08	air
pentachlorophenol	32	7	14.20	15.05	terr flora/SF
butadiene (1,3-)	33	382	12.35	14.94	air
methyl isobutyl ketone (MIBK)	34	137894	9.76	14.90	air
propylene oxide	35	500	12.19	14.89	air
diethylhexylphthalate (2-)	36	276	12.42	14.86	water
xylenes	37	1053060	8.77	14.79	air
toluene	38	1275754	8.64	14.75	air
dioxane (1,4-)	39	1610	11.35	14.56	water
ethylene oxide	40	477	11.67	14.34	air
chlorine	41	10488	10.22	14.24	air
ethylbenzene	42	95444	8.95	13.93	air
ethoxyethanol (2-, = "cellosolve")	43	21008	9.44	13.76	air
toluene 2,4-diisocyanate	44	753	10.88	13.76	air/TLV
methanol	45	1607511	7.50	13.71	water
n-butyl alcohol	46	637443	7.50	13.30	water

trimethylbenzene	47	118473	8.16	13.23	air/TLV
cumene (isopropyl benzene)	48	600	10.44	13.22	air
phenol	49	45086	8.45	13.11	water
ethyl acrylate	50	4997	9.18	12.88	water
dimethylformamide (n,n-)	51	12188	8.74	12.82	air
carbon disulfide	52	22	11.39	12.73	air
cyclohexane	53	34314	7.94	12.48	air
sulfuric acid	54	224518	7.10	12.45	air
aluminum oxide	55	160	10.16	12.37	air
tert-butyl alcohol	56	699	9.30	12.14	air
naphthalene	57	3360	8.48	12.01	water
cresol/cresylic acid	58	1175	8.82	11.89	air/TLV
ethylene glycol	59	11646	7.26	11.32	water
trichlorotrifluoroethane (1,1,2-,1,2,2-, = freon 113)	60	14490	6.93	11.09	air
maleic anhydride	61	2413	7.63	11.01	water
methyl acrylate	62	3726	7.21	10.78	water
triethylamine	63	3	9.82	10.30	air/Rfc
dimethyl phthalate	64	193	7.67	9.96	water
vinyl acetate	65	10	8.79	9.79	air
phthalic anhydride	66	657	6.03	8.85	terr flora
methyl methacrylate	67	35760	3.79	8.34	water
biphenyl (diphenyl)	68	127	3.97	6.07	aq biota
anthracene	69	53	4.05	5.77	water
chromium (total)*	70	4157	0.00	3.62	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)	1344-28-1	**Only** if it is a fibrous form.
Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	7664-41-7	**Only** 10 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 including mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	**Only** if it is an aerosol form as defined.
Phosphorus (yellow or white)	7723-14-0	**Only** if it is a yellow or white form.
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	**Only** if it is an aerosol form as defined.
Vanadium (except when contained in an alloy)	7440-62-2	**Except** if it is contained in an alloy
Zinc (fume or dust)	7440-66-6	**Only** if it is in a fume or dust form.

The qualifier for the following 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 (IARC) 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 IARC 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-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-]	NA
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrone]	1.0
107-18-6	Allyl alcohol	1.0
107-11-9	Allylamine	1.0
107-05-1	Allyl chloride	1.0
7429-90-5	Aluminum (fume or dust)	1.0
20859-73-8	Aluminum phosphide	1.0
1344-28-1	Aluminum oxide (fibrous forms)	1.0
834-12-8	Ametryn (N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5-triazine-2,4-diamine)	1.0
117-79-3	2-Aminoanthraquinone	0.1
60-09-3	4-Aminoazobenzene	0.1
92-67-1	4-Aminobiphenyl	0.1

CAS Number	Chemical Name	De Minimis Concentration
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-4-(trifluoromethyl) benzenamine)	1.0
17804-35-2	Benomyl	1.0
98-87-3	Benzal chloride	1.0
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
191-24-2	Benzo(g,h,i)perylene	NA
92-87-5	Benzidine	0.1
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
82657-04-3	Bifenthrin	1.0
92-52-4	Biphenyl	1.0
111-91-1	Bis(2-chloroethoxy) methane	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
542-88-1	Bis(chloromethyl) ether	0.1
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
56-35-9	Bis(tributyltin) oxide	1.0
10294-34-5	Boron trichloride	1.0
7637-07-2	Boron trifluoride	1.0
314-40-9	Bromacil (5-Bromo-6-methyl-3-(1-methylpropyl)-2,4-(1H,3H)-pyrimidinedione)	1.0
53404-19-6	Bromacil, lithium salt [2,4(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methylpropyl), lithium salt]	1.0
7726-95-6	Bromine	1.0
35691-65-7	1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
75-25-2	Bromoform (Tribromomethane)	1.0
74-83-9	Bromomethane (Methyl bromide)	1.0
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
1689-84-5	Bromoxynil (3,5-Dibromo-4-hydroxybenzonitrile)	1.0
1689-99-2	Bromoxynil octanoate (Octanoic acid, 2,6-dibromo-4-cyanophenylester)	1.0
357-57-3	Brucine	1.0
106-99-0	1,3-Butadiene	0.1
141-32-2	Butyl acrylate	1.0
71-36-3	n-Butyl alcohol	1.0
78-92-2	sec-Butyl alcohol	1.0
75-65-0	tert-Butyl alcohol	1.0

CAS Number	Chemical Name	De Minimis Concentration
106-88-7	1,2-Butylene oxide	0.1
123-72-8	Butyraldehyde	1.0
7440-43-9	Cadmium	0.1
156-62-7	Calcium cyanamide	1.0
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-]	1.0
63-25-2	Carbaryl [1-Naphthalenol, methylcarbamate]	1.0
1563-66-2	Carbofuran	1.0
75-15-0	Carbon disulfide	1.0
56-23-5	Carbon tetrachloride	0.1
463-58-1	Carbonyl sulfide	1.0
5234-68-4	Carboxin (5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiin-3-carboxamide)	1.0
120-80-9	Catechol	0.1
2439-01-2	Chinomethionat [6-Methyl-1,3-dithiolo[4,5-b]quinoxalin-2-one]	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	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-1-azoniaadamantane chloride	1.0
106-47-8	p-Chloroaniline	0.1
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)- .alpha.-hydroxy-, ethyl ester]	1.0
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	1.0
75-45-6	Chlorodifluoromethane (HCFC-22)	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
67-66-3	Chloroform	0.1
74-87-3	Chloromethane (Methyl chloride)	1.0
107-30-2	Chloromethyl methyl ether	0.1
563-47-3	3-Chloro-2-methyl-1-propene	0.1
104-12-1	p-Chlorophenyl isocyanate	1.0
76-06-2	Chloropicrin	1.0
126-99-8	Chloroprene	0.1
542-76-7	3-Chloropropionitrile	1.0
63938-10-3	Chlorotetrafluoroethane	1.0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	1.0
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	1.0
1897-45-6	Chlorothalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	0.1
95-69-2	p-Chloro-o-toluidine	0.1
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	1.0
75-72-9	Chlorotrifluoromethane (CFC-13)	1.0
460-35-5	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	1.0
5598-13-0	Chlorpyrifos methyl [O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate]	1.0
64902-72-3	Chlorsulfuron [2-Chloro-N-[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino] carbonyl]benzenesulfonamide]	1.0
7440-47-3	Chromium	1.0
4680-78-8	C.I. Acid Green 3	1.0
6459-94-5	C.I. Acid Red 114	0.1
569-64-2	C.I. Basic Green 4	1.0
989-38-8	C.I. Basic Red 1	1.0
1937-37-7	C.I. Direct Black 38	0.1
2602-46-2	C.I. Direct Blue 6	0.1

CAS Number	Chemical Name	De Minimis Concentration
28407-37-6	C.I. Direct Blue 218	1.0
16071-86-6	C.I. Direct Brown 95	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
3761-53-3	C.I. Food Red 5	0.1
81-88-9	C.I. Food Red 15	1.0
3118-97-6	C.I. Solvent Orange 7	1.0
97-56-3	C.I. Solvent Yellow 3	0.1
842-07-9	C.I. Solvent Yellow 14	1.0
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
128-66-5	C.I. Vat Yellow 4	1.0
7440-48-4	Cobalt	0.1
7440-50-8	Copper	1.0
8001-58-9	Creosote	0.1
120-71-8	p-Cresidine	0.1
108-39-4	m-Cresol	1.0
95-48-7	o-Cresol	1.0
106-44-5	p-Cresol	1.0
1319-77-3	Cresol (mixed isomers)	1.0
4170-30-3	Crotonaldehyde	1.0
98-82-8	Cumene	1.0
80-15-9	Cumene hydroperoxide	1.0
135-20-6	Cupferron [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	0.1
21725-46-2	Cyanazine	1.0
1134-23-2	Cycloate	1.0
110-82-7	Cyclohexane	1.0
108-93-0	Cyclohexanol	1.0
68359-37-5	Cyfluthrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropane carboxylic acid, cyano(4-fluoro-3-phenoxyphenyl) methyl ester]	1.0
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-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	Dibenzofuran	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
10222-01-2	2,2-Dibromo-3-nitrilopropionamide[1]	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
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
84-74-2	Dibutyl phthalate	1.0
1918-00-9	Dicamba (3,6-Dichloro-2-methoxybenzoic acid)	1.0
99-30-9	Dichloran [2,6-Dichloro-4-nitroaniline]	1.0
95-50-1	1,2-Dichlorobenzene	1.0
541-73-1	1,3-Dichlorobenzene	1.0
106-46-7	1,4-Dichlorobenzene	0.1
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	0.1
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
75-27-4	Dichlorobromomethane	0.1
764-41-0	1,4-Dichloro-2-butene	1.0
110-57-6	trans-1,4-Dichloro-2-butene	1.0
1649-08-7	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1.0
75-71-8	Dichlorodifluoromethane (CFC-12)	1.0
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.1
540-59-0	1,2-Dichloroethylene	1.0
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1.0
75-43-4	Dichlorofluoromethane (HCFC-21)	1.0
75-09-2	Dichloromethane (Methylene chloride)	0.1
127564-92-5	Dichloropentafluoropropane	1.0
13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	1.0
111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	1.0
422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	1.0
431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	1.0
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	1.0
136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	1.0
128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	1.0
422-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	1.0
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	1.0
97-23-4	Dichlorophene [2,2'-Methylenebis(4-chlorophenol)]	1.0
120-83-2	2,4-Dichlorophenol	1.0
78-87-5	1,2-Dichloropropane	1.0
10061-02-6	trans-1,3-Dichloropropene	0.1
78-88-6	2,3-Dichloropropene	1.0
542-75-6	1,3-Dichloropropylene	0.1
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
34077-87-7	Dichlorotrifluoroethane	1.0
90454-18-5	Dichloro-1,1,2-trifluoroethane	1.0
812-04-4	1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	1.0
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	1.0
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	1.0
62-73-7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	0.1
51338-27-3	Diclofop methyl [2-[4-(2,4-Dichlorophenoxy)phenoxy] propanoic acid, methyl ester]	1.0
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-4-(chlorophenyl)- .alpha.-(trichloromethyl)-]	1.0
77-73-6	Dicyclopentadiene	1.0
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

CAS Number	Chemical Name	De Minimis Concentration
60-51-5	Dimethoate	1.0
119-90-4	3,3'-Dimethoxybenzidine	0.1
20325-40-0	3,3'-Dimethoxybenzidine dihydrochloride (o-Dianisidine dihydrochloride)	0.1
111984-09-9	3,3'-Dimethoxybenzidine hydrochloride (o-Dianisidine hydrochloride)	0.1
124-40-3	Dimethylamine	1.0
2300-66-5	Dimethylamine dicamba	1.0
60-11-7	4-Dimethylaminoazobenzene	0.1
121-69-7	N,N-Dimethylaniline	1.0
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1
612-82-8	3,3'-Dimethylbenzidine dihydrochloride (o-Tolidine dihydrochloride)	0.1
41766-75-0	,3'-Dimethylbenzidine dihydrofluoride (o-Tolidine dihydrofluoride)	0.1
79-44-7	Dimethylcarbamyl chloride	0.1
2524-03-0	Dimethyl chlorothiophosphate	1.0
68-12-2	N,N-Dimethylformamide	1.0
57-14-7	1,1-Dimethyl hydrazine	0.1
105-67-9	2,4-Dimethylphenol	1.0
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	0.1
99-65-0	m-Dinitrobenzene	1.0
528-29-0	o-Dinitrobenzene	1.0
100-25-4	p-Dinitrobenzene	1.0
88-85-7	Dinitrobutyl phenol (Dinoseb)	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
51-28-5	2,4-Dinitrophenol	1.0
121-14-2	2,4-Dinitrotoluene	0.1
606-20-2	2,6-Dinitrotoluene	0.1
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
39300-45-3	Dinocap	1.0
123-91-1	1,4-Dioxane	0.1
957-51-7	Diphenamid	1.0
122-39-4	Diphenylamine	1.0
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
2164-07-0	Dipotassium endothall [7-Oxabicyclo(2.2.1)heptane-2,3- dicarboxylic acid, dipotassium salt]	1.0
136-45-8	Dipropyl isocinchomeronate	1.0
138-93-2	Disodium cyanodithioimidocarbonate	1.0
94-11-1	2,4-D isopropyl ester	0.1
541-53-7	2,4-Dithiobiuret	1.0
330-54-1	Diuron	1.0
2439-10-3	Dodine [Dodecylguanidine monoacetate]	1.0
120-36-5	2,4-DP	0.1
1320-18-9	2,4-D propylene glycol butyl ether ester	0.1
2702-72-9	2,4-D sodium salt	0.1
106-89-8	Epichlorohydrin	0.1
13194-48-4	Ethoprop [Phosphorodithioic acid O-ethyl S,S-dipropyl ester]	1.0
110-80-5	2-Ethoxyethanol	1.0
140-88-5	Ethyl acrylate	0.1
100-41-4	Ethylbenzene	0.1
541-41-3	Ethyl chloroformate	1.0
759-94-4	Ethyl dipropylthiocarbamate (EPTC)	1.0
74-85-1	Ethylene	1.0
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
75-21-8	Ethylene oxide	0.1
96-45-7	Ethylene thiourea	0.1
75-34-3	Ethylidene dichloride	1.0

CAS Number	Chemical Name	De Minimis Concentration
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, N,N-dimethyl-N'-[3-(trifluoromethyl) phenyl]-]	1.0
7782-41-4	Fluorine	1.0
51-21-8	Fluorouracil (5-Fluorouracil)	1.0
69409-94-5	Fluvalinate [N-[2-Chloro-4-(trifluoromethyl)phenyl]-DL-valine(+)- cyano(3-phenoxyphenyl)methyl ester]	1.0
133-07-3	Folpet	1.0
72178-02-0	Fomesafen [5-(2-Chloro-4-(trifluoromethyl)phenoxy)- N-methylsulfonyl-2-nitrobenzamide]	1.0
50-00-0	Formaldehyde	0.1
64-18-6	Formic acid	1.0
76-13-1	Freon 113 [Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-]	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]	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
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

[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
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
96-33-3	Methyl acrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
79-22-1	Methyl chlorocarbonate	1.0
101-14-4	4,4'-Methylenebis(2-chloroaniline) (MBOCA)	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	0.1
74-95-3	Methylene bromide	1.0
101-77-9	4,4'-Methylenedianiline	0.1
78-93-3	Methyl ethyl ketone	1.0
60-34-4	Methyl hydrazine	1.0
74-88-4	Methyl iodide	1.0
108-10-1	Methyl isobutyl ketone	1.0
624-83-9	Methyl isocyanate	1.0
556-61-6	Methyl isothiocyanate [Isothiocyanatomethane]	1.0
75-86-5	2-Methyllactonitrile	1.0
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

[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
150-68-5	Monuron	1.0
505-60-2	Mustard gas [Ethane, 1,1'-thiobis[2-chloro-]]	0.1
88671-89-0	Myclobutanil [.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile]	1.0
142-59-6	Nabam	1.0
300-76-5	Naled	1.0
91-20-3	Naphthalene	1.0
134-32-7	alpha-Naphthylamine	0.1
91-59-8	beta-Naphthylamine	0.1
7440-02-0	Nickel	0.1
1929-82-4	Nitrapyrin (2-Chloro-6-(trichloromethyl)pyridine)	1.0
7697-37-2	Nitric acid	1.0
139-13-9	Nitrilotriacetic acid	0.1
100-01-6	p-Nitroaniline	1.0
99-59-2	5-Nitro-o-anisidine	1.0
98-95-3	Nitrobenzene	0.1
92-93-3	4-Nitrobiphenyl	0.1
1836-75-5	Nitrofen [Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-]	0.1
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl)- N-methylethanamine]	0.1
55-63-0	Nitroglycerin	1.0
88-75-5	2-Nitrophenol	1.0
100-02-7	4-Nitrophenol	1.0
79-46-9	2-Nitropropane	0.1
924-16-3	N-Nitrosodi-n-butylamine	0.1
55-18-5	N-Nitrosodiethylamine	0.1
62-75-9	N-Nitrosodimethylamine	0.1
86-30-6	N-Nitrosodiphenylamine	1.0
156-10-5	p-Nitrosodiphenylamine	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
4549-40-0	N-Nitrosomethylvinylamine	0.1
59-89-2	N-Nitrosomorpholine	0.1
16543-55-8	N-Nitrosonornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
99-55-8	5-Nitro-o-toluidine	1.0
27314-13-2	Norflurazon [4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl) phenyl]-3(2H)-pyridazinone]	1.0
2234-13-1	Octachloronaphthalene	1.0
29082-74-4	Octachlorostyrene	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) O,O-dimethyl ester phosphorothioic acid]	1.0
19666-30-9	Oxydiazon [3-[2,4-Dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one]	1.0
42874-03-3	Oxyfluorfen	1.0
10028-15-6	Ozone	1.0
123-63-7	Paraldehyde	1.0
1910-42-5	Paraquat dichloride	1.0
56-38-2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4- nitrophenyl)ester]	1.0
1114-71-2	Pebulate [Butylethylcarbamothioic acid S-propyl ester]	1.0
40487-42-1	Pendimethalin [N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	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

CAS Number	Chemical Name	De Minimis Concentration
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-1-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
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 [N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	1.0
23950-58-5	Pronamide	1.0
1918-16-7	Propachlor [2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	1.0
1120-71-4	Propane sultone	0.1
709-98-8	Propanil [N-(3,4-Dichlorophenyl)propanamide]	1.0
2312-35-8	Propargite	1.0
107-19-7	Propargyl alcohol	1.0
31218-83-4	Propetamphos [3-[(Ethylamino)methoxyphosphinothioyl]oxy]-2-butenoic acid, 1-methylethyl ester]	1.0
60207-90-1	Propiconazole [1-[2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl] methyl-1H-1,2,4-triazole]	1.0
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0
114-26-1	Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
110-86-1	Pyridine	1.0
91-22-5	Quinoline	1.0
106-51-4	Quinone	1.0
82-68-8	Quintozene [Pentachloronitrobenzene]	1.0
76578-14-8	Quizalofop-ethyl [2-[4-[(6-Chloro-2-quinoxalinyl)oxy]phenoxy] propanoic acid ethyl ester]	1.0
10453-86-8	Resmethrin [[5-(Phenylmethyl)-3-furanyl]methyl-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate]	1.0
81-07-2	Saccharin (manufacturing, no supplier notification)	1.0
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
74051-80-2	Sethoxydim [2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	1.0

CAS Number	Chemical Name	De Minimis Concentration
7440-22-4	Silver	1.0
122-34-9	Simazine	1.0
26628-22-8	Sodium azide	1.0
1982-69-0	Sodium dicamba [3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	1.0
128-04-1	Sodium dimethyldithiocarbamate	1.0
62-74-8	Sodium fluoroacetate	1.0
7632-00-0	Sodium nitrite	1.0
131-52-2	Sodium pentachlorophenate	1.0
132-27-4	Sodium o-phenylphenoxide	0.1
100-42-5	Styrene	0.1
96-09-3	Styrene oxide	0.1
7664-93-9	Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
35400-43-2	Sulprofos [O-Ethyl O-[4-(methylthio)phenyl]phosphorodithioic acid S-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-121a)	1.0
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,4,5- trichlorophenyl) ethenyl dimethyl ester]	1.0
64-75-5	Tetracycline hydrochloride	1.0
7696-12-0	Tetramethrin [2,2-Dimethyl-3-(2-methyl-1-propenyl) cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester]	1.0
7440-28-0	Thallium	1.0
148-79-8	Thiabendazole [2-(4-Thiazolyl)-1H-benzimidazole]	1.0
62-55-5	Thioacetamide	0.1
28249-77-6	Thiobencarb [Carbamic acid, diethylthio-, S-(p-chlorobenzyl)ester]	1.0
139-65-1	4,4'-Thiodianiline	0.1
59669-26-0	Thiodicarb	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis(iminocarbonothioyl)] biscarbamic acid 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-diisocyanate	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
26471-62-5	Toluene diisocyanate (mixed isomers)	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1
8001-35-2	Toxaphene	NA
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4- triazol-1-yl)- 2-butanone	1.0
2303-17-5	Triallate	1.0
68-76-8	Triaziquone [2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	1.0
101200-48-0	Tribenuron methyl [2-[[[[(4-Methoxy-6-methyl-1,3,5-triazin-2-yl) methylamino]carbonyl]amino]sulfonyl]benzoic acid, methyl ester]	1.0
1983-10-4	Tributyltin fluoride	1.0
2155-70-6	Tributyltin methacrylate	1.0

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-1-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	Triclopyr triethylammonium salt	1.0
121-44-8	Triethylamine	1.0
1582-09-8	Trifluralin [Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	NA
26644-46-2	Triforine [N,N'-[1,4-Piperazinediylbis(2,2,2-trichloroethylidene)] bisformamide]	1.0
95-63-6	1,2,4-Trimethylbenzene	1.0
2655-15-4	2,3,5-Trimethylphenyl methylcarbamate	1.0
639-58-7	Triphenyltin chloride	1.0
76-87-9	Triphenyltin hydroxide	1.0
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
72-57-1	Trypan blue	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
7440-62-2	Vanadium (except when contained in an alloy)	1.0
50471-44-8	Vinclozolin [3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione]	1.0
108-05-4	Vinyl acetate	0.1
593-60-2	Vinyl bromide	0.1
75-01-4	Vinyl chloride	0.1
75-35-4	Vinylidene chloride	1.0
108-38-3	m-Xylene	1.0
95-47-6	o-Xylene	1.0
106-42-3	p-Xylene	1.0
1330-20-7	Xylene (mixed isomers)	1.0
87-62-7	2,6-Xylidine	0.1
7440-66-6	Zinc (fume or dust)	1.0
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

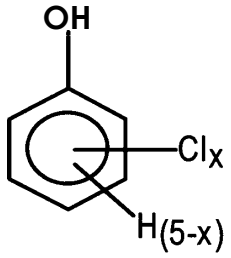
Beryllium Compounds (0.1)

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 to 5

Chromium Compounds (chromium VI compounds: 0.1; chromium III compounds: 1.0)

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

Cobalt Compounds (0.1)

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

Copper Compounds (1.0)

Includes any unique chemical substance that contains copper as part of that chemical's infrastructure. This category does not include copper phthalocyanine compounds that are substituted with only hydrogen, and/or chlorine, and/or bromine.

Cyanide Compounds (1.0)

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

Diisocyanates (1.0)

This category includes only those chemicals listed below.

38661-72-2	1,3-Bis(methylisocyanate)cyclohexane
10347-54-3	1,4-Bis(methylisocyanate)cyclohexane
2556-36-7	1,4-Cyclohexane diisocyanate
134190-37-7	Diethyldiisocyanatobenzene
4128-73-8	4,4'-Diisocyanatodiphenyl ether
75790-87-3	2,4'-Diisocyanatodiphenyl sulfide
91-93-0	3,3'-Dimethoxybenzidine-4,4'-diisocyanate
91-97-4	3,3'-Dimethyl-4,4'-diphenylene diisocyanate
139-25-3	3,3'-Dimethyldiphenylmethane-4,4'-diisocyanate
822-06-0	Hexamethylene-1,6-diisocyanate
4098-71-9	Isophorone diisocyanate
75790-84-0	4-Methyldiphenylmethane-3,4-diisocyanate
5124-30-1	1,1-Methylenebis(4-isocyanatocyclohexane)
101-68-8	Methylenebis(phenylisocyanate) (MDI)
3173-72-6	1,5-Naphthalene diisocyanate
123-61-5	1,3-Phenylene diisocyanate
104-49-4	1,4-Phenylene diisocyanate
9016-87-9	Polymeric diphenylmethane diisocyanate
16938-22-0	2,2,4-Trimethylhexamethylene diisocyanate
15646-96-5	2,4,4-Trimethylhexamethylene diisocyanate

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

This category includes only those chemicals listed below.

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

Ethylenebisdithiocarbamic acid, salts and esters (EBDCs) (1.0)

Includes any unique chemical substance that is or that contains EBDC or an EBDC salt or ester as part of that chemical's infrastructure.

Certain Glycol Ethers (1.0)

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

Where n = 1, 2, or 3

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

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

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

Lead Compounds (NA)

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

Manganese Compounds (1.0)

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

Mercury Compounds (NA)

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

Nickel Compounds (0.1)

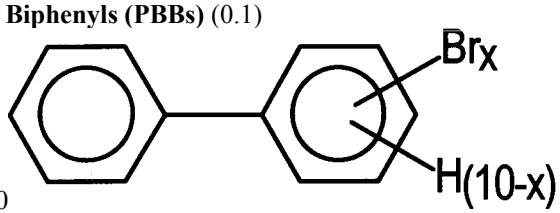
Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.

Nicotine and salts (1.0)

Includes any unique chemical substance that contains nicotine or a nicotine salt as part of that chemical's infrastructure.

Nitrate compounds (water dissociable; reportable only when in aqueous solution) (1.0)

Polybrominated Biphenyls (PBBs) (0.1)



Where x = 1 to 10

Polychlorinated alkanes (C_{10} to C_{13}) (1.0, except for those members of the category that have an average chain length of 12 carbons and contain an average chlorine content of 60 percent by weight which are subject to the 0.1 percent *de minimis*)

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

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

Polycyclic aromatic compounds (PACs) (NA)

This category includes only those chemicals listed below.

56-55-3	Benz(a)anthracene
205-99-2	Benzo(b)fluoranthene
205-82-3	Benzo(j)fluoranthene
206-44-0	Benzo(j,k)fluorene
207-08-9	Benzo(k)fluoranthene
189-55-9	Benzo(rst)pentaphene
218-01-9	Benzo(a)phenanthrene
50-32-8	Benzo(a)pyrene
226-36-8	Dibenz(a,h)acridine
224-42-0	Dibenz(a,j)acridine
53-70-3	Dibenzo(a,h)anthracene
194-59-2	7H-Dibenzo(c,g)carbazole
5385-75-1	Dibenzo(a,e)fluoranthene
192-65-4	Dibenzo(a,e)pyrene
189-64-0	Dibenzo(a,h)pyrene
191-30-0	Dibenzo(a,l)pyrene
57-97-6	7,12-Dimethylbenz(a)anthracene
193-39-5	Indeno[1,2,3-cd]pyrene
56-49-5	3-Methylcholanthrene
3697-24-3	5-Methylchrysene
5522-43-0	1-Nitropyrene

Selenium Compounds (1.0)

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

Silver Compounds (1.0)

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

Strychnine and salts (1.0)

Includes any unique chemical substance that contains strychnine or a strychnine salt as part of that chemical's infrastructure.

Thallium Compounds (1.0)

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

Vanadium Compounds (1.0)

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

Warfarin and salts (1.0)

Includes any unique chemical substance that contains warfarin or a warfarin salt as part of that chemical's infrastructure.

Zinc Compounds (1.0)

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

Appendix B: Glossary

The following terms will be useful when reviewing information found in this report and when requesting other specific reports from the Emergency Response Commission:

Accidental Release: The quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes.

Chemical Abstracts Service Registry Number (CAS #): A numeric designation assigned by the American Chemical Society's Chemical Abstracts Service which uniquely identifies a chemical.

Chemical Name: Chemicals and chemical categories as they appear on the Section 313 Toxic Chemical List.

De Minimis Concentration: A level below which a listed chemical does not need to be considered when it is present in mixtures. In general, the de minimis concentration is 1.0%, or 0.1% if the chemical meets the OSHA carcinogen standard.

Energy Recovery Off-Site: The quantity of the toxic chemical that is sent off-site for energy recovery.

Energy Recovery On-Site: The quantity of the toxic chemical that is used for energy recovery on-site.

ERC ID: Emergency Response Commission Identification Number assigned to each facility in the state reporting under the "Emergency Planning and Community Right-to-Know Act" (SARA Title III). The first two digits represent the county in which the facility is located, the next three digits represent the city within that county, and the final four digits are assigned in sequential order. All toxic release reporting by a facility is tracked through its ERC ID Number.

Facility: All buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person.

Follow Year: The year following the reporting year.

Fugitive Air: Fugitive or non-point air emissions are the total releases to the air that are not released through stacks, vents, dusts, pipes, or any other confined air stream. Includes fugitive equipment leaks from: (1) valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.; (2) evaporative losses from surface impoundments and spills: (3) releases from building ventilation systems; and (4) any other fugitive or non-point air emissions.

Manufacture: To produce, prepare, import or compound one of the chemicals on the list. For example, if a facility makes a dye for clothing by taking raw materials and reacting them, the facility is manufacturing the dye. A facility would also be covered if it was a textile manufacturer who imported a dye on the list for purposes of applying it to a fabric produced at the plant.

Methods To Identify Activity: Internal and external methods or information sources used to identify the possibility for a source reduction activity implemented at the facility.

Methods Used: Identifies the type of waste treatment, disposal, recycling, or energy recovery method used by the off-site location for the chemical being reported.

Off-Site Locations: Locations outside the boundaries of a facility to which wastes are transported for treatment, recycling, energy recovery, or disposal.

Off-Site Transfers: Transfers of the chemical in waste to off-site locations. Includes the total quantity of the chemical sent to any of the off-site waste treatment, disposal, recycling, or energy recovery facilities.

On-Site Land: Releases to the land on-site within the boundaries of the facility. Includes landfill, land treatment, surface impoundment, etc.

Otherwise Use: Any use of a toxic chemical at a facility that is not covered by the terms "manufacture" or "process" and includes use of a toxic chemical contained in a mixture or trade name product.

Process: Process, in general, includes making mixtures, repackaging, or using a chemical as a feedstock, raw material, or starting materials for making another chemical. Processing also includes incorporating a chemical into an article (e.g., using dyes to color fabric [the fabric is the article that the dye is being incorporated into]).

Production Ratio/Activity Index: The production ratio or activity index which is determined by dividing the current year's production (or activity) by the prior year's production (or activity). This ratio should reflect production or activities most closely associated with the manufacture, process, or use of the reported toxic chemical.

Public Sewage: Publicly Owned Treatment Works (POTW) responsible for wastewater treatment.

Recycled Off-Site: The quantity of the toxic chemical that is sent off-site for recycling.

Recycled On-Site: The quantity of the toxic chemical that is recycled (i.e., the quantity of the chemical exiting or resulting from the recycling operation) on-site.

Releases: Releases to the environment including air, surface water, on-site land, and off-site landfill.

2nd Year: The year two years following the reporting year.

SIC Code: Standard Industrial Classification Code used to segregate industry by economic activity.

Source Reduction Activities: Types of source reduction activities implemented in the reporting year.

Stack Air: Stack or point air emissions are the total of all releases to air that occur through stacks, vents, ducts, pipes, or other confined air streams. This includes storage tank emissions. Air releases from air pollution control equipment would generally fall in this category.

Surface Water: Discharges to receiving streams or water bodies includes the total annual amount of the chemical released from all discharge points at the facility to each receiving stream or water body. It also includes process outfalls such as pipes and open trenches, releases from on-site wastewater treatment systems, and the contribution from stormwater runoff, if applicable. This does not include discharges to a Publicly Owned Treatment Works (POTW) or other off-site wastewater treatment facilities. Discharges of listed acids may be reported as zero if the discharges have been neutralized to pH 6 or above.

Thresholds: Volumes of chemicals that trigger reporting requirements. If a facility manufactures or processes any of the listed toxic chemicals, the threshold quantity is:

- 75,000 pounds during calendar year 1987;
- 50,000 pounds in 1988; and
- 25,000 pounds in 1989 and subsequent years.

If a facility uses any listed chemical in any other way (without incorporating it into any product or producing it at the facility), the threshold quantity is:

- 10,000 pounds in calendar year 1987 and in subsequent years.

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

Total Releases and Transfers: Releases to the environment including air, surface water, and on-site land; in addition to transfers off-site to a Publicly Owned Treatment Works (POTW) and/or any off-site treatment, disposal, recycling, or energy recovery facility.

Treated Off-site: The quantity of the toxic chemical that was sent off-site for the purpose of waste treatment.

Treated On-site: The quantity of the toxic chemical entering treatment on-site.

TRI Chemical List: A list of chemicals or chemical categories on which facilities must file release reports under Section 313 of Title III. A chemical may be added to the list if it is known to cause or can reasonably be anticipated to cause significant adverse acute health effects outside a facility as a result of continuous or frequently recurring releases. In addition, chemicals may be added if they cause or may reasonably be anticipated to cause cancer or birth defects or serious or irreversible reproductive dysfunctions, neurological disorders, heritable genetic mutations or other chronic health effects. A chemical that causes or may cause a significant adverse effect on the environment may be included. The U.S. Environmental Protection Agency may delete chemicals from the list if there is not sufficient evidence to establish any of the criteria described above. The TRI Chemical List is included in Appendix A on page 72.

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.