WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

Washington State Toxics Release Inventory

Summary Report: 1997

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Washington State Department of Ecology
Hazardous Waste and Toxics Reduction Program
April,1999
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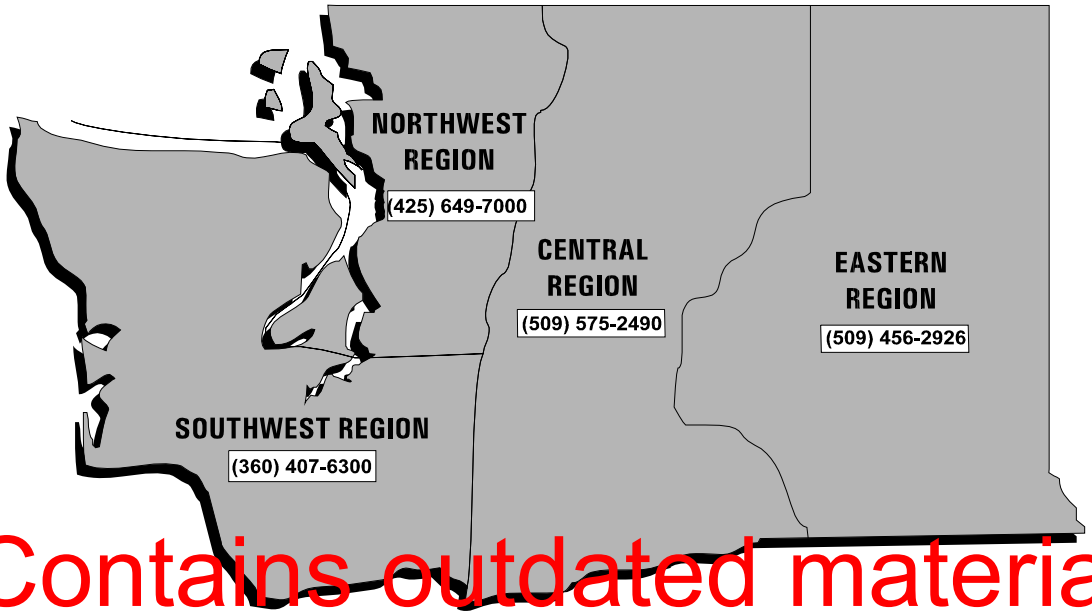

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For More Information

For additional information about the chemicals reported under the Emergency Planning and Community Right-to-Know Act (EPCRA) contact Ecology's Hazardous Substance Information Office at 800-633-7585 or EPA's EPCRA hotline at 800-535-0202.
More information about the Toxics Release Inventory Data is available both from Ecology and EPA at the above numbers. The national TRI database is available on the internet. Complete national and state data is also distributed to more than 1400 Governmental Printing Offices and Federal Depository Libraries. In addition, about 3000 county or municipal libraries are designated by each state librarian to hold TRI data for public use.

Executive Summary

This report summarizes the Toxics Release Inventory (TRI) reports submitted to the United States Environmental Protection Agency (EPA) and to Washington State under the Emergency Planning and Community Right-to-Know Act of 1986. The reports identify total chemical releases and transfers during calendar year 1997 for over 600 chemicals or chemical categories identified by Congress as "toxic."

Washington TRI Releases: 1989-1997

TRI releases decreased in 1997 by 1.6 million (6.3 percent) pounds when compared to 1996.
The best comparison over time looks at a core group of chemicals with constant reporting requirements. This core group of chemicals shows a 10 percent decrease from 1996 to 1997 and a 3 percent decrease from 1995 to 1997. Compared to 1989, the releases from this core group of chemicals have decreased 8.7 million pounds, 42 percent.

For all chemicals reported, without any adjustments for changes in reporting, TRI releases show a decrease of 20.9 million pounds, or 48 percent. From 1995 to 1997, they show a decrease of 3.1 million pounds. This includes a decrease of 1.4 million pounds from Rayonier Incorporated in Port Angeles which ceased operations midway through 1997.

From 1989 to 1997: releases to water have decreased from 15.5 million pounds to 2.4 million pounds; releases to land have remained relatively constant; and releases to air have decreased from 46 million pounds to 21 million pounds.

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Releases of known or suspected cancer causing chemicals decreased 47 percent from 1989 to 1997.

Summary of TRI Data, 1997

For 1997, 284 facilities filed one or more Toxics Release Inventory (TRI) reports in Washington State, eight more than in 1996. The releases of toxic chemicals reported for 1997 totaled 24.4 million pounds.

Releases to environmental media included:

- ✔ air, 21.6 million pounds (88.5 percent of total),
- ✔ water, 2.5 million pounds (10.1 percent of total), and
- ✔ land, 340,715 pounds (1.4 percent).

Three industry categories contributed the largest share of chemical releases (75 percent):

- ✔ Paper and allied products manufacturing, 12.5 million pounds — about 51 percent of all releases;
- ✔ Primary metal products industries, 3.6 million pounds — 15 percent of all releases; and
- ✔ Transportation equipment manufacturing, 2.1 million pounds — 8.5 percent of all releases.

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Largest Contributors

The twenty manufacturing facilities that reported the largest quantities of TRI releases accounted for 74 percent of all chemical releases reported in the state. The four facilities with the highest amounts of releases were in the paper and allied products manufacturing sector:

Weyerhaeuser Company, Longview — 4.5 million pounds;

Fort James Camas LLC — 1.4 million pounds;

Boise Cascade Paper Division, Wallula — 1.4 million pounds, and

Georgia Pacific, Bellingham— 1.2 million pounds.

Facilities Reporting Increases and Decreases

Rayonier Inc. Port Angeles Mill reported the greatest decrease in chemical releases: 1.03 million pounds. This facility ceased operation in 1997. Five other companies reported decreases of more than 100,000 pounds.

Tompkins Industries, Inc., Yelm, reported the greatest increase in releases: 260,000 pounds. Four other facilities reported increases of more than 100,000 pounds.

Top Chemicals

Methanol was the chemical with the highest amount of reported releases in 1997. The 7.0 million pounds of methanol, primarily from the pulp and paper industry, was about the same as in 1996. Ammonia, carbonyl sulfide, and hydrogen fluoride were the second through fourth highest chemicals reported, respectively.

Largest Releases by County

The county with the greatest total release was Cowlitz (5.6 million pounds). Other counties reporting over 2 million pounds total releases were Clark, Pierce, King and Whatcom.

Summary of Transfers

Off-site transfers are those sent to another location. They may include transfers for recycling, treatment, energy recovery or disposal in a landfill. Transfers are not included in on-site release totals. Off-site transfers to publicly owned treatment works (sewers) and other off-site totaled 17.5 million pounds in 1997.

It is important to understand the following limitations when using TRI information:

- Only annual total pounds are reported. Information regarding rate of release or concentration is not included.
- The amounts reported may be based on engineering calculations or estimates rather than direct monitoring of releases.
- Many facilities releasing or transferring toxic chemicals are not required to submit a TRI report.
- The TRI does not include toxics introduced into the environment from sources other than industrial facilities, such as pesticide applications, motor vehicles and wood stoves.
- The toxicity of chemicals listed in the TRI varies dramatically.
- The TRI does not attempt to detail the risk from individual chemicals or facilities.
- A release of a TRI toxic chemical usually does not indicate a violation of federal, state or local environmental laws.
- The reporting of toxic releases does not necessarily mean that the chemicals released cause toxic effects.

Uses of TRI data

The Department of Ecology (Ecology) uses TRI data as one of several environmental indicators for the state. The data also serve as a valuable tool for monitoring the progress of pollution prevention efforts and for measuring the effectiveness of pollution prevention programs underway in Washington. Under a grant from EPA, Ecology has developed the Toxics Release Inventory Display System (TRIDS), a graphic display model for the TRI data. This display program will be available for downloading (copying) on Ecology's website in 1999 (http://www.wa.gov/ecology).

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Introduction

Congress enacted the Emergency Planning and Community Right-to-Know Act (EPCRA) into federal law on October 17, 1986. EPCRA helps communities deal safely and effectively with hazardous chemicals. The law includes a number of requirements for businesses and government. It is also intended to improve emergency planning for hazardous chemicals at the local level. The EPCRA has a number of provisions, but its primary objectives are to:

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

The Toxics Release Inventory (TRI) reporting helps meet the first two objectives.

Toxics Release Inventory (TRI)

What is the Toxics Release Inventory (TRI)?

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The TRI is the annual summary that tracks the amounts of toxic chemicals released into the air, land and water by certain manufacturing facilities. Over 600 chemical compounds and/or chemical categories listed under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) are reported under the TRI. The Emergency Planning and Community Right-to-Know Act, also known as SARA Title III, came into law with the Superfund Amendments and Reauthorization Act (SARA) of 1986. These laws have required facilities to file reports annually since 1987. The federal Pollution Prevention Act of 1990 expanded the TRI.

Who Must Report?

Manufacturing facilities that operate under primary Standard Industrial Classification (SIC) Codes 20-39, have 10 or more full-time employees, and meet certain activity thresholds for chemical use, must comply with TRI reporting requirements. Currently, thresholds for chemical use stand at 25,000 pounds for each listed chemical that is manufactured or processed, and 10,000 pounds for each listed chemical otherwise used by the facility in the reporting year (Appendix 6). Facilities file a separate five page Form R or two page abbreviated Form A report for each TRI-listed chemical that they manufactured, processed, or otherwise used in their operation, if the quantity exceeds threshold limits.

Federal facilities must report under Executive Order 12856 if they meet the employee and use criteria, regardless of SIC code.

Facilities that had total annual reportable amounts of 500 pounds or less of releases, transfers, recycling, energy recovery and treatment of listed chemicals can use the abbreviated new form (Form A). Reporting year 1995 was the first year that this form was available. This alternate threshold for reporting only applies if a facility's total annual use of the chemical was less than one million pounds. The purpose of this form is to reduce the burden of reporting for facilities producing small quantities of waste.

When and Where are the TRI reports filed?

TRI reports are filed every year to the EPA and the Department of Ecology. Forms submitted by facilities are due on July 1 for the preceding calendar year. For 1997 reporting, the due date for filing was July 1, 1998. After completing data entry and data quality checks, EPA and Ecology compile a TRI database. Each agency publishes an annual summary report. EPA reports from a national perspective, while Ecology focuses on Washington State.

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How is TRI Data Used?

TRI information can be used in a variety of ways. This data is provided through national and state databases and publications. The TRI information can help the public identify potential concerns in their communities. This data is important to the news media, as well as to those with academic or research interests. It provides an avenue for the public to work with industry to reduce hazards associated with toxic chemicals in their communities. TRI data also works as a tool to help measure progress in reducing toxic chemical use and releases.

Industry can use the data to identify problem areas, establish reduction targets, reduce costs associated with the purchase and disposal of toxic chemicals, and monitor progress toward pollution prevention goals.

Federal, state, and local governments can use the data to compare facilities or geographic areas, to evaluate existing environmental programs and permit conditions or to target technical assistance efforts. Washington State uses TRI data to evaluate economic and social factors as they affect the environment. The TRI data is also used as one of a number of environmental indicators used in Washington State to determine the status of our environmental efforts (Washington's Environmental Health, 1997, Ecology Publication 97-702).

Under a grant from EPA, Ecology has developed the Toxic Release Inventory Display System (TRIDS), a graphic display tool for the TRI data. This TRIDS program and instructions for its use will be available on Ecology's website in 1999 (http://www.wa.gov/ecology).

Congress and state legislatures have directed pollution prevention legislation toward facilities reporting under the TRI. At the federal level, the Pollution Prevention Act of 1990 expanded the reporting requirements to include recycling, treatment, and energy recovery, both on and off-site. In addition, the law requires facilities to document source reduction methods.

In 1990, the Washington State Legislature passed a law establishing state policies and goals for pollution prevention. The Hazardous Waste Reduction Act, Chapter 70.95C RCW, encourages the reduction of hazardous substance use and hazardous waste generation. The law requires certain hazardous waste generators and hazardous substance users (defined as TRI reporters using Form R) to prepare plans for voluntary reduction of hazardous substance use and waste generation. Many facilities use the TRI list of chemicals as a starting point for identifying source reduction opportunities.

The state pollution prevention planning requirements apply to all Form R reporters and facilities that generate more than 2,640 pounds (1,000 kilograms) of regulated hazardous waste per year. These facilities pay a hazardous waste planning fee based upon the pounds of TRI chemicals released and hazardous wastes generated. Ecology uses the revenue generated from the fee to provide technical assistance to businesses. Each year, Ecology provides a summary report to state legislators describing the progress made toward pollution prevention goals. The most recent summary report, Reducing Hazardous Wastes and Substances in Washington, publication #99-401, covers the year 1997.

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Table 1. Changes to Toxic Release Inventory Reporting Requirements: 1987-1998

YEAR	INDUSTRY CATEGORIES	CHEMICALS	OTHER
1987-1989	Manufacturing.	Initially 308 chemicals. Deleted: titanium oxide (87), CI acid blue # 9, melamine crystal, and sodium sulfate solution (88) and sodium hydroxide solution (89). Modified: aluminum oxide, only fibrous forms reportable (89).	Threshold: Manufacture & process: 75,000 lbs. (87), 50,000, (88) & 25,000 (89 and after) for. Otherwise use: 10,000 lbs. all years.
1990	Manufacturing.	Added: allyl alcohol, cresote, 2,3-dichloropropene, dinitrobenzene, dinitrotoluene, isafrole, toluene diisocyanate. Deleted: Terephthalic acid, CI Pigment green 7 & 36, CI pigment blue 15.	Pollution Prevention data elements added.
1991-1993	Manufacturing.	Added 7 CFC's and halons (91) Deleted: CI Acid Blue 9, barium sulfate, di-N-octyl phthalate (93).	
1994	Manufacturing, federal facilities.	Added 11 HCFC's and 21 RCRA chemicals and 2 chemical categories. Deleted acetone, copper monochloro-phthalocyanine pigment, butyl benzyl phthalate, ammonium sulfate solution. Modified: ammonia, sulfuric acid, glycol ethers.	
1995	Manufacturing, federal facilities.	Added: 286 chemicals/chemical categories. Deferred addition: 41 chemicals. Deleted DEP, DEHA. Modified: Hydrochloric acid.	Alternate Threshold established.
1996-1997	Manufacturing, federal facilities.	List contains 576 individual chemicals and 28 chemical categories.	
1998	Added: metal mining, coal mining, electric utilities, commercial hazardous waste treatment, chemical wholesale distributors, solvent recyclers, wholesale bulk petroleum distributors.	List contains 579 individual chemicals and 28 chemical categories. Included but on administrative stay: Methyl mercaptan, hydrogen sulfide & 2,2-dibromo-3-propionamide.	
PROPOSED	Petition to add: Transportation by air.	Proposed rule to add certain dioxin like chemicals. On-going petitions to delist chemicals.	Proposed rule: Lower threshold for dioxin and PBTs, Advanced notice of proposed rule: Addition of chemical use data.

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What are the Limitations of TRI Data?

The Changing TRI Databases

Facilities must file their TRI Reports with both EPA and their respective state. In some cases, one agency and not the other may receive reports. Facilities that report under the TRI may file revised Form Rs if they discover or decide that a previously submitted form needs correction. This may occur multiple times for one facility's forms for one chemical. While Ecology has made every effort to process all forms filed, the state data may differ from EPA's because of differences in the submittals and revisions. These revisions also may change state release values for a previous year. For example, if a revision for 1995 increased one facility's releases by 500,000 pounds, the state total would also increase by 500,000 pounds.

Under the TRI regulations, facilities may report data based upon estimates and calculations rather than actual, measured pounds of toxic chemicals. Therefore, the information collected may reflect only general trends. Facilities may submit voluntary revisions of the report forms for any prior year. Sometimes the standards and methods for estimating releases change. Thus, the TRI data is somewhat variable and can change after this report is published. However, the revisions and changes should result in a more accurate database over time.

Each year, the list of chemicals reportable under the TRI can change, reflecting additions, deletions or modifications made by EPA. Table 1 shows the changes in the TRI reporting requirements over time. In the 1993 through 1995 reporting years, there were major changes to the list, including the addition of about 300 chemicals. For 1996 and 1997 reporting, there have been relatively few changes to the chemical list. For this reason, 1997 data can be compared directly with 1995 and 1996 data.

The process of trying to ensure that the year-to-year comparisons do not include changes that cause inconsistencies is called "normalization". In order to compare 1997 data with years prior to 1995, it is necessary to normalize the data. In order to make such comparisons and to compare 1996 and 1995 data with prior years' data, it was necessary to remove from the yearly totals:

- ✔ all chemicals added since 1988;
- ✔ all chemicals deleted from the list for all years; and
- ✔ hydrochloric acid, sulfuric acid, and ammonia.

These problems of reconciling the year-to-year comparisons limit their use in this report. Where year-to-year comparisons are made, they are either for the adjusted or normalized chemicals, or for a single chemical or group of chemicals.

The TRI in Perspective

The TRI is most useful when seen as one of several indicators of environmental performance. Toxic chemicals are generated from many sources, including manufacturing and non-manufacturing processes, agricultural chemical use, use and disposal of consumer products, transportation, indoor and outdoor burning, and other sources. The TRI reporting requirements cover only one sector, manufacturing. Other businesses and organizations, as well as individual and personal use, may also contribute substantial amounts of toxic chemicals to the environment.

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A recent Department of Ecology publication looked at many indicators of environmental progress. Washington's Environmental Health, 1997, Ecology Publication 97-702 addressed the question, "Is the health of our environment getting better, staying the same or getting worse?" The TRI is one of those indicators of environmental progress. Air quality counted as another significant indicator of environmental health. Figure 1 shows the sources of air pollution in Washington State. Industrial sources, including the TRI, contributed only 17 percent of the state's air pollutants. About 89 percent of TRI releases are to the air. Other major sources of air pollution include motor vehicles, outdoor burning, and wood-stoves and fireplaces.

It is important to remember that a release of a TRI toxic chemical does not indicate a violation of federal, state or local environmental laws. Manufacturing facilities operate under environmental regulatory permits. TRI information includes data on permitted releases and transfers of certain chemicals. It does not indicate the rate or concentration of chemicals released, nor can it demonstrate the geographic boundaries of the chemical release. Therefore, exposures or risks to the public cannot be determined by using TRI data alone.

The EPA continues to develop tools that will aid communities in using the TRI information in risk screening efforts. EPA is working to establish numeric, relative ranking values based on reported TRI releases and transfers and to provide tools that will use weighting factors to make relative hazard rankings. These factors represent toxicity, exposure characteristics and potentially impacted populations based upon EPA models and databases. The risk screening and ranking efforts will help answer the complex and difficult questions of what the TRI releases mean in terms of risk and exposure. In spite of these limitations, the TRI data continues to be useful for addressing potential risks to a community when evaluated together with other information.

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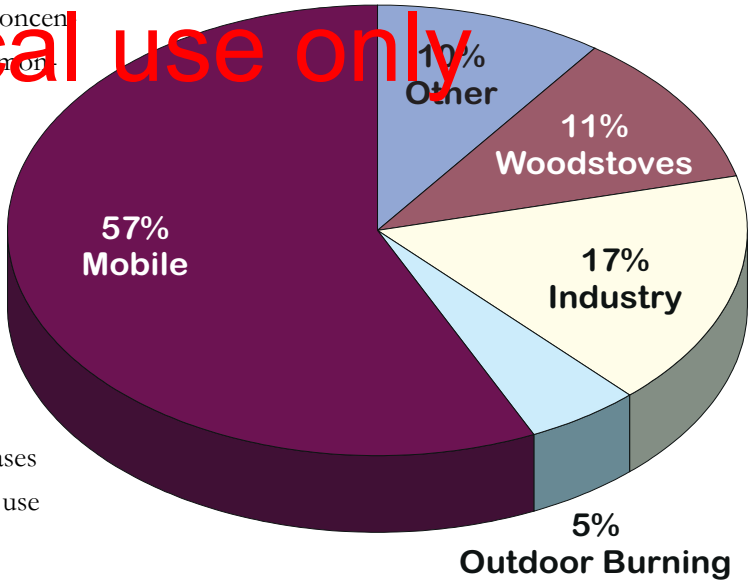

Figure 1
Air Pollution Sources in Washington

TRI Developments

1. Industry Expansion

A major criticism of the TRI has been that it includes only the manufacturing industries. While federal facilities were added to the list in 1993 by presidential proclamation, EPA has addressed the issue of including other industry categories. After completing the rule-making process, EPA has provided industry guidance and training for the newly added industries.

Beginning with reporting year 1998, the following industry categories will be required to report under the TRI (if they meet use and employee thresholds):

- ✘ Metal and coal mining (SIC Codes 10 & 12);
- ✘ Electric generating plants (only combusting coal and/or oil - SIC 4911, 4931 & 4939);
- ✘ Hazardous waste treatment firms (SIC code 4953);
- ✘ Chemical wholesale distributors (SIC code 5169);
- ✘ Wholesale bulk petroleum distributors (SIC code 5171); and
- ✘ Solvent recyclers (SIC code 7389).

Additionally, on February 10, 1998, EPA received a petition from the Natural Resources Defense Council, Defenders of Wildlife, National Audubon Society and the Humane Society of the United States requesting the addition of industries in SIC Code 45, transportation by air, to facilities reporting under TRI. EPA continues to review this request.

2. Chemical Use

Currently, only the states of New Jersey and Massachusetts already have "chemical use" or materials accounting programs in place. By "chemical use," EPA means tracking the amounts of chemicals entering a facility, amounts transformed into products and wastes, and resulting amounts leaving the facility. The analysis of these programs has been an integral part of the studies at EPA. EPA is exploring many options regarding the uses, benefits and concerns about materials accounting. An advanced notice of proposed rulemaking has been published. This announced EPA's intent to develop a proposed rule to increase the information available to the public on chemical use under the TRI. EPA may also consider use-related data elements. This discussion on addition of materials accounting continues.

Dioxins and Persistent Bioaccumulators

EPA has proposed to add the chemical dioxin and other persistent bioaccumulative toxics (PBTs) to its TRI list of chemicals. PBTs are of concern in the environment because:

- ✔ They **persist** in the environment for a long time without breaking down;
- ✔ They build up in the tissues of humans, fish and animals ("**bioaccumulative**");
- ✔ They have **toxic** effects (cancer and other health problems) on living organisms.

Many of these substances are man-made and have only been in the environment for a short period of human history. Substances like cadmium and mercury that occur naturally in the environment, create health and environmental problems when they are concentrated and refined.

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In January 1999, EPA published a proposed rule to add certain PBT chemicals to the TRI reportable chemicals, to establish a dioxin-like chemical category and to lower reporting thresholds for certain PBT chemicals. Dioxin, one of the PBTs, is a highly toxic compound that is known to cause adverse health effects in humans and animals in very small concentrations. Dioxin is produced is extremely small volumes (a few pounds per facility) by many industrial processes including incineration of waste, pulp and paper production and steel production. Because of this, dioxins have not been reported since their generation was below the minimum triggering thresholds. Pending comments on this proposed rule, the new reporting requirements could apply to for the 1999 reporting year.

The Washington State Department of Ecology (Ecology) recently launched a new initiative to eliminate the PBT chemicals by the year 2025. Ecology sponsored a symposium in December, 1998 to spur discussions about PBT's and strategies for eliminating them. Further public workshops are being held in 1999 to involve the public and other interested parties in developing the strategy.

Form R Redesign

The Toxic Release Data Committee under the National Advisory Council for Environmental Policy and Technology has held a series of meetings to improve the type of right-to-know information available to communities and to streamline right-to-know reporting to ease the paperwork for business affected by the requirements. Among the topics under discussion are the definition of release, how chemicals transferred to publicly owned treatment works are treated, and Section 8 of the Form R (waste management reporting). Additionally, a series of nine public meetings are being held to solicit public comment on these issues.

Information on TRI developments can be obtained from the TRI web page: http://www.epa.gov/opptintr or by calling the EPA's EPCRA hotline at 1-800-535-0202.

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Washington State TRI Findings, 1997

Certification Form/ Alternate Threshold Reporting (Form A)

SINCE reporting year 1995, facilities have been permitted to file a Form A instead of a Form R or TRI Report if they met the following conditions for that chemical:

1. The facility met the industry category and employee requirements for reporting (Appendix 6);
2. The facility used more than the threshold (10,000 or 25,000 pounds) of a listed chemical, but used less than 1 million pounds;
3. The total annual reportable amount of the chemical waste (released, disposed of, used for energy recovery, recycled or treated, both on and off-site) was less than 500 pounds.

The result of filing this form is
1. The facility is not classified as a Form R reporter for that chemical. If they file only Form A reports for all chemicals, they would not be considered a Form R reporter at all by the Department of Ecology.
2. The facility is not subject to pollution prevention planning requirements for that chemical based upon Form R status. They may still be subject to Washington State's pollution prevention planning requirements based on hazardous waste generator status or for other chemicals.

Appendix 4 lists the facilities and chemicals reported on Form A for 1997. Sixty-one facilities used the form for one or more chemicals. Twenty-six facilities used this form for one or more chemicals but filed additional 5- page Form R reports for other chemicals. Thirty-five used this form exclusively. Other reporting facilities may have been qualified to use the certification form, but chose to file a Form R in order to get credit for their reductions in releases or because they were unaware of the two page form.

TRI Releases by Environmental Media

As of December 1998, 284 facilities in Washington State had reported under TRI reporting requirements for 1997 (Form R or Form A or both). This is an increase of 12 from 1996. Thirteen of these were reporting under the TRI for the first time. Of these, 249 facilities filed one or more five-page Toxic Release Inventory Reports (Form R).

For the 1997 reporting year, the facilities reported a total of 24,430,156 pounds of toxic chemicals released to air, water and land (Figure 2). Air releases comprised 88.5 percent of all releases (21,626,811 pounds). Water releases made up 10.1 percent (2,463,630 pounds) and land releases accounted for 1.4 percent (340,715 pounds) of releases. No underground injection releases were reported.

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The Environmental Protection Agency (EPA) also uses the sum of releases on-site and off-site transfers for disposal (release/disposal total) to rank states and facilities. EPA began using this combined total in 1996. For 1997, their data will be reported both as on-site releases and the combined release-disposal total. Because the State of Washington considers transfers to represent a different environmental hazard than releases, we have chosen to analyze on-site releases separate from transfers. This release/disposal total represents the total chemicals being disposed into the environment directly. The Washington State off-site transfers for disposal totaled 7,362,663 pounds in 1997. The sum of releases on-site and off-site transfers for disposal was 31,793,819 pounds. Using this release/disposal total, Washington State ranked 28th nationally in 1996.

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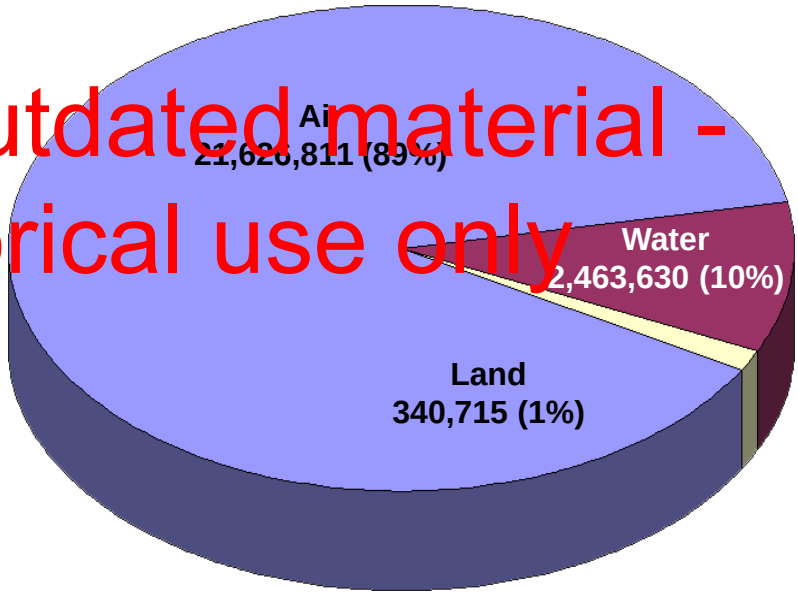

Figure 2
Washington TRI by Environmental Media, 1997
(in pounds)

TRI Releases by Industry Category

Eight of the industry categories required to report under the TRI were responsible for 96.3 percent of the releases in the state (Figure 3). The paper and allied products manufacturing category reported the largest share of releases, 12.5 million pounds. This amount comprised about 51 percent of the releases reported in the state. Primary metal products was second with 3.6 million pounds reported (15 percent). Ranked third was transportation equipment manufacturing, 2.1million pounds (8.47 percent). These three categories accounted almost three-fourths of the state's total releases in 1997.

Other top classification groups included:

- 4th: *chemicals & allied products manufacturing,* 1.6 million pounds (6.4 percent);
- 5th: *fabricated metal products,* 1.3 million pounds (5.3 percent);
- 6th: *rubber & plastics manufacturing,* 922,000 pounds (3.8 percent);
- 7th: *petroleum refining,* 895,000 pounds (3.7 percent);
- 8th: *lumber and wood products,* 609,000 pounds (2.5 percent).

All other classifications combined reported releases of about 915,000 pounds, about 3.7 percent of the state total.

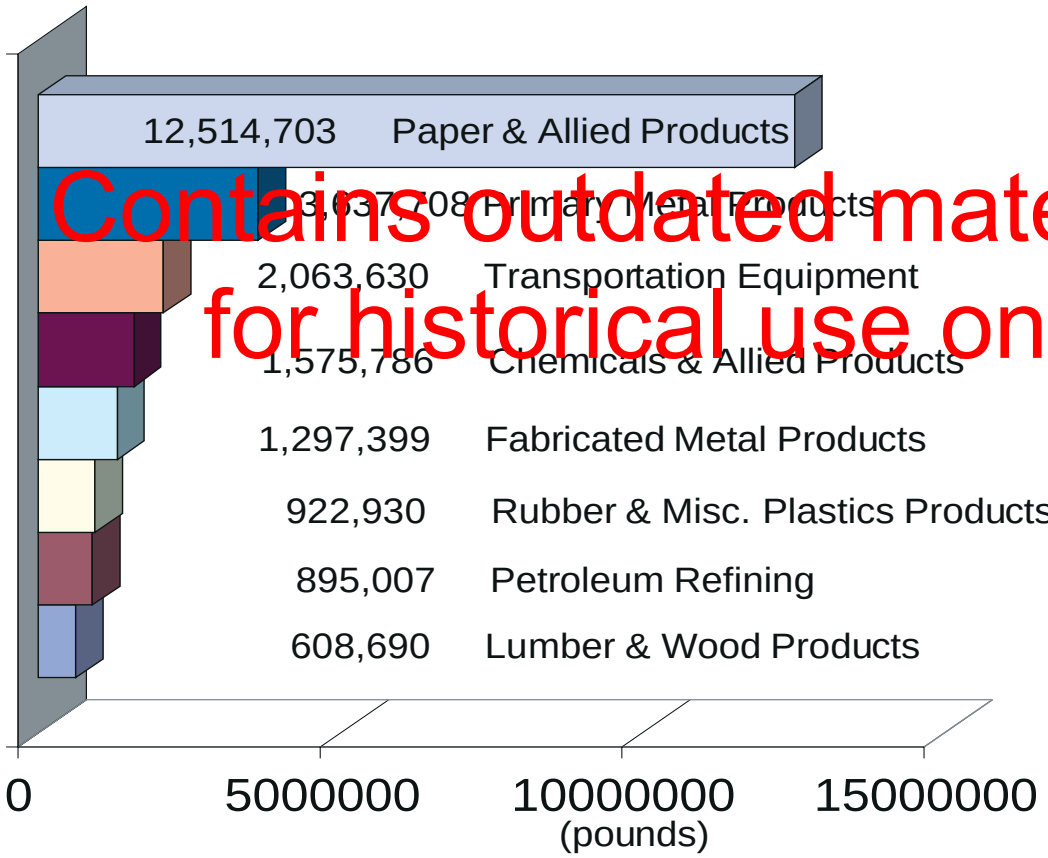

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Figure 3
Release by Industry

Top Reporting Facilities-Releases

For the 1997 reporting year, the top twenty reporting facilities for total releases on-site are listed in Table 2. Weyerhaeuser Incorporated, in Longview, was the facility reporting the highest total releases, 4.5 million pounds. This represents a decrease of about 250,000 pounds from 1996. The second highest releases were reported by Fort James Camas LLC in Camas, 1.4 million pounds, a decrease of about 150,000 pounds from 1996 (10 percent). The top four ranked facilities and seven of the top ten ranked facilities are in the paper and allied products manufacturing category.

The top twenty reporting facilities for releases represent 18 million pounds of the state's 24.4 million pound total. This is about 74 percent.

Facilities Showing Increases and Decreases in 1997 from 1996

The facility showing the greatest decrease from 1996 to 1997 was Rayonier Inc., Port Angeles Mill (1.0 million pounds (82 percent). This facility ceased operations during 1997. The company with the greatest decrease while in full operation was Vanalco Inc. in Vancouver, 477,000 pounds or 45 percent. Other facilities reporting decreases of more than 100,000 pounds were: Aluminum Company of America, Malaga (50 percent), Foamex, L.P., Kent (59 percent), Fort James Camas LLC.(11 percent), and Kaiser Aluminum & Chemical Co., Spokane (45 percent) and Mead (11 percent).

Other facilities showing decreases of over 70 percent were: Columbia Lighting, Spokane (72 percent), Coatings Unlimited, Kent (96 percent), Praegitzer Ind, Redmond (89 percent), Borden Chemical, Kent (93 percent), Chevron Products, Seattle (76 percent) and Nestle USA, Moses Lake (99 percent).

The facility showing the greatest increase in total pounds from 1996 to 1997 was Tompkins Industries in Yelm., 259,671 pounds (109 percent). Facilities reporting increases of more than 100,000 pounds include: Boeing Commercial Airplane Group, Everett (16 percent), Georgia Pacific West, Bellingham (11 percent), Toray Composites, Tacoma (349 percent), and Crown Beverage Packaging, Olympia (36 percent).

Other facilities showing increases of over 100 percent were: Dyno Overlays, Tacoma (139 percent), Sandvik Special Metals, Kennewick (146 percent), McCain Foods USA (1100 percent), U.S. Navy, Bremerton (953 percent), Matsushita Semiconductor Corp, Puyallup (1019 percent), Alloy Trailer, Spokane (272 percent), Mikron Industries, (1149 percent) and Northwest Composites, Marysville (859 percent).

Paper & Allied Products

With over 12.5 million pounds of reported releases, the paper and allied products manufacturing category accounted for more than 50 percent of the releases reported in this state. Fifteen different facilities reported in this category in 1997. The amount of releases in this industry category decreased in 1997 from 1996, continuing a trend of decreases since 1995. However, some facilities in this category reported an increase in releases in 1997. Rayonier Inc. Port Angeles Mill ceased operations during 1997 and represents a decrease of 1.0 million pounds. Without Rayonier Inc., the releases in this industry category increased by 334,000 pounds from 1996.

Major chemicals reported by this industry include methanol, hydrochloric acid, and chloroform.

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Primary Metal Products

The primary metal products industry was the second highest category for amounts of chemical released. The twenty-seven facilities reporting in this category acknowledged releases of about 3.6 million pounds. This is a decrease of 1.1 million pounds (23 percent). The major chemicals reported by this industry were carbonyl sulfide, hydrogen fluoride and hydrochloric acid.

Transportation Equipment Manufacturing

The transportation equipment manufacturing industry reported releases of 2.1 million pounds. This is an increase of about 200,000 pounds from 1996. There were thirty-seven facilities reporting in this category. Major chemicals reported by this industry are methyl ethyl ketone, styrene and toluene. The six Boeing facilities reported 1.2 million pounds in 1997. This is an increase from the 1.1 million pounds reported in 1996.

Chemicals & Allied Products

The chemical and allied products manufacturing industry was the fourth highest industry reporting releases under TRI. Releases from the forty facilities reporting in this industry were 1.6 million pounds. The total amount released in this category increased about 100,000 pounds from 1996. Major chemicals reported by this industry were ammonia, toluene, and methanol.

Federal Facilities

Reporting year 1997 was the fourth year that federal facilities reported under Executive Order 12856. Four facilities reported in Washington State: Bremerton Naval Shipyard, Naval Submarine Base-Bangor, U.S. Department of Energy, Hanford Site, and Fort Lewis. These facilities, together, reported releases of 94,225 pounds in 1997, a small part of the state's total.

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Table 2. Washington TRI Top 20 Facilities, 1997 Releases (in pounds)

Facility	City	Industry	Air	Water	Land	Release Total-97	Release Total-96	POTW-97	Transfer Off-site-97
WEYERHAEUSER COMPANY	LONGVIEW	Paper & Allied Products	4,179,303	275,063	0	**4,454,366**	4,205,276	0	328,352
FORT JAMES CAMAS LLC	CAMAS	Paper & Allied Products	1,148,750	222,750	4,570	**1,376,070**	1,527,850	0	9,500
BOISE CASCADE PAPER DIVISION	WALLULA	Paper & Allied Products	1,239,966	93,766	38,248	**1,371,980**	1,265,887	0	301
GEORGIA-PACIFIC WEST	BELLINGHAM	Paper & Allied Products	596,304	563,852	0	**1,160,156**	1,038,640	0	3,014
KAISER ALUMINUM & CHEMICAL MEAD	MEAD	Primary Metal Products	1,121,755	286	250	**1,122,291**	1,263,255	0	25,150
SIMPSON TACOMA KRAFT	TACOMA	Paper & Allied Products	1,069,153	22,592	0	**1,091,745**	1,024,995	0	0
UNOCAL AGRICULTURAL PROD BOWLES	KENNEWICK	Chemicals & Allied Products	805,075	37,475	145,340	**987,890**	959,296	0	1,133,030
BOEING CAG EVERETT	EVERETT	Transportation Equipment	908,213	923	0	**909,136**	767,456	1,915	454,618
KIMBERLY-CLARK TISSUE COMPANY	EVERETT	Paper & Allied Products	172,130	514,400	0	**686,530**	615,780	0	5
WEYERHAEUSER PULP MILL	COSMOPOLIS	Paper & Allied Products	575,165	77,950	3,450	**656,565**	563,515	0	3,455
LONGVIEW FIBRE CO	LONGVIEW	Paper & Allied Products	542,925	102,415	0	**645,440**	661,950	0	214,500
VANALCO INC.	VANCOUVER	Primary Metal Products	572,181	0	0	**572,181**	1,049,255	0	17,046
TOMPKINS INDUSTRIES INC LASCO	YELM	Rubber & Misc. Plastics Products	497,200	0	0	**497,200**	237,529	0	0
INTALCO ALUMINUM CORPORATION	FERNDALE	Primary Metal Products	488,345	0	0	**488,345**	487,207	0	0
PORT TOWNSEND PAPER CORP	PORT TOWNSEND	Paper & Allied Products	417,490	15,248	46,000	**478,738**	472,560	0	0
CROWN BEVERAGE PACKAGING	OLYMPIA	Fabricated Metal Products	396,398	0	0	**396,398**	197,695	5	250
ALUMINUM COMPANY OF AMERICA	MALAGA	Primary Metal Products	329,560	0	0	**329,560**	657,124	0	13,917
REYNOLDS METALS CO.	KENT	Fabricated Metal Products	305,308	0	0	**305,308**	261,247	12	98,598
KAISER ALUMINUM TACOMA WORKS	TACOMA	Primary Metal Products	298,273	14	0	**298,287**	300,317	0	103,994
SHELL ANACORTES REFINING CO	ANACORTES	Petroleum Refining	277,933	8,900	1,341	**288,174**	233,558	0	9,095

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TRI Releases by Chemical

Of the approximately 600 chemicals or chemical categories reported under TRI, 105 were reported by one or more facilities in Washington State (Appendix 1). Eighteen of these are on the list of newly added chemicals.

The top ten chemicals in amount of releases cover 77.5 percent of all chemical releases reported in the state (Table 3). In descending order, the top 4 chemicals reported were methanol, ammonia, carbonyl sulfide, and hydrogen fluoride.

Methanol

Methanol is generated through chemical reactions and occurs naturally in the breakdown of wood fibers. The pulping process releases this chemical from the wood fibers. Methanol is a flammable solvent and is the most reported chemical for 1997. Methanol releases in 1996 were 7.0 million pounds, about the same as in 1996. Twenty-six facilities reported releases of methanol in 1997. Weyerhaeuser Inc., Longview, reported 2.96 million pounds. Other facilities reporting more than 500,000 pounds were: Fort James Camas LLC, Simpson Tacoma Kraft, Boise Cascade Paper Division, Wallula.

The primary reporters of methanol operate in the paper and allied products industry category.

The picture of what has happened with methanol release reporting since 1990 represents an example of how difficult it is to make year- to-year comparisons with TRI data. Some of this industry use emission factors provided by the National Council for Air and Stream Improvement to calculate releases. In 1994, new emission factors were provided to the industry. The new emission factors for 1994 resulted in the reporting of an increase in the amount of methanol released by manufacturers. Facilities have since moved to reporting based upon actual emissions monitoring.

Ideally, a facility should go back and recalculate their reported releases for previous years when new factors cause major changes in reporting. Historically, TRI databases have not been adjusted for these changes. For example, acetone was deleted from the list of reportable chemicals in 1994, but acetone releases are still included in data for 1993 and before. When comparing 1994 data to 1993 and prior years, the releases due to acetone must be excluded from totals. For methanol, where the reporting requirements for the chemical have remained constant but the way some releases are calculated has changed, there is no standard for addressing these variables.

Ammonia

Ammonia was the second highest reported chemical in 1997. Reported releases of ammonia totaled 2.03 million pounds. In 1996, ammonia releases totaled 2.1 million pounds. Ammonia is widely used as a fertilizer, a refrigerant and as a wastewater treatment nutrient addition.

EPA added a qualifier to reporting of ammonia under TRI in 1994. The qualifier for ammonia means that anhydrous forms of ammonia are 100 percent reportable; but solutions of ammonia and water are limited to 10 percent of total aqueous ammonia. In past years, aqueous forms of ammonia were 100 percent reportable. For this reason, reported releases for ammonia for years prior to 1995 (when ammonia was the number one reportable chemical in the state) are not comparable to the 1995, 1996 or 1997 values.

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Ammonia was reported by thirty-seven facilities in 1997. The two Unocal Agricultural Products, Kennewick, facilities reported about 800,000 pounds of ammonia releases to the environment, almost one-half of the state total. Other facilities reporting over 100,000 pounds of ammonia releases were Boise Cascade Paper Division, Wallula, Georgia Pacific-West, Fort James Camas LLC, and Weyerhaeuser Company, Longview.

Carbonyl sulfide

Carbonyl sulfide was the third most reported chemical in 1996. A total of 1.8 million pounds was reported released to the environment by the six facilities reporting this chemical. All of these facilities are in the primary metal product's industry category. Vanalco, Inc. in Vancouver reported 428,000 pounds, down from 800,000 pounds in 1996. Kaiser Mead Works in Mead reported 512,000 pounds and Intalco Aluminum Corporation 382,000 pounds.

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Carbonyl sulfide is a by-product of the aluminum manufacturing process.

Hydrogen fluoride

Hydrogen fluoride acid is the fourth chemical on the list of most released TRI chemicals in Washington State in 1997. Releases of this chemical decreased to 1.5 million pounds from the 1.7 million pounds reported in 1996.

Nineteen facilities reported releases of hydrogen fluoride for 1996. The six facilities reporting the highest amounts released are in the primary metal product's category. The top four reporters for releases of this chemical were Kaiser Aluminum & Chemical Co., Mead, Reynolds Metals, Longview, Vanalco, Vancouver, and Aluminum Company of America, Malaga.

Carcinogens

Releases of carcinogens (noted in Appendix 5) decreased in Washington State from 1996 to 1997 by 200,000 pounds. A total of 3.2 million pounds of chemicals listed as known or suspected cancer causing agents by the Occupational Safety and Health Administration were reported in 1997, compared to 3.4 million pounds in 1996. The top chemicals were styrene, acetaldehyde, chloroform, and dichloromethane. This represents a decrease from 4.4 million pounds in 1995 and 7.1 million pounds in 1988.

Targeted Chemicals (33/50 Program)

Facilities reported a total of 4.3million pounds of releases of chemicals targeted for reduction under the voluntary 33/50 Program. This EPA sponsored program targeted 17 chemicals (noted in Appendix 6) for voluntary reduction by industry. These chemicals were targeted because they posed a concern for public health and the environment, and were high volume industrial chemicals that had the potential for reduction through pollution prevention. EPA concluded the 33/50 Program in 1995 having reached its goal of a 50 percent reduction in release volume nationally. Washington State achieved a 57 percent reduction by 1995 reporting year compared to 1988 release totals (13.3 million pounds in Washington State). With the continued decrease in release amounts, the state has achieved over a 60 percent reduction in the reported releases of these chemicals since 1988.

New Chemicals

Of the chemicals or chemical categories added to the TRI beginning with reporting year 1995, eighteen were reported in Washington State in 1996. Many of the newly added chemicals are active ingredient pesticides. Over 1.56 million pounds of the newly listed chemicals were reported released to the air, land and water in 1996, an increase from 1.3 million pounds in 1996, and 1.2 million pounds in 1995. The chemical with the highest amount of releases was the nitrate compounds category with 1.28 million pounds. The nitrate compounds category included only compounds that dissolve in water solution and they are reportable only when present in a solution. The second-highest reported chemical was n-hexane, 233,000 pounds.

Table 3. Washington TRI Releases by Chemical, 1997 (in pounds)

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Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW-97	Transfer Off-site-97
METHANOL	6,409,927	543,179	6,100	**6,959,206**	6,372,470	16,270	80,385
AMMONIA	1,589,121	346,617	93,300	**2,031,038**	1,644,422	15,547	247,777
CARBONYL SULFIDE	1,820,838	0	0	**1,820,838**	2,490,323	0	0
HYDROGEN FLUORIDE	1,475,716	0	0	**1,475,716**	1,710,324	0	47,800
NITRATE COMPOUNDS	256	1,134,466	145,330	**1,280,052**	1,728,541	2,767,297	1,218,226
TOLUENE	1,195,434	110	1,480	**1,197,024**	1,083,986	15	412,109
STYRENE	1,131,586	234	0	**1,131,820**	853,458	5	34,702
METHYL ETHYL KETONE	1,090,495	3,622	5	**1,094,122**	1,152,954	2,443	889,661
HYDROCHLORIC ACID	1,087,121	0	0	**1,087,121**	1,336,711	0	7,624
ACETALDEHYDE	818,550	46,455	307	**865,312**	694,970	0	5

TRI Releases by County[1]

Twenty-six of Washington's thirty-nine counties had facilities that reported TRI releases (Appendix 2). Reporters in five counties (Cowlitz, King, Whatcom, Pierce and Clark) acknowledged releases that totaled over 2 million pounds per county (Figure 4). Four other counties (Snohomish, Spokane, Walla Walla, and Benton) each totaled between one and two million pounds released per county. Two counties (Grays Harbor and Thurston) each reported release totals of more than 500,000 pounds but less than 1 million pounds. The releases in these ten counties accounted for 87.8 percent of all TRI releases statewide.

Cowlitz County reported the largest amount of chemicals released in the state in 1997. The 5.6 million pounds accounted for 22.8 percent of the state total. Weyerhaeuser Incorporated, Longview accounted for 4.7 million pounds of the county's releases.

King County ranked second with 2.18 million pounds, followed by Whatcom County with 2.14 million pounds.

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The TRI information is collected and analyzed according to political boundaries such as states and counties. Of course, natural earth processes cross over such artificial boundaries. Surface water movement and weather patterns affect the impact chemical releases have on the soil, water and air. The way the winds blow and waters flow will influence the impact of chemicals on the environment independent of political boundaries.

Still, looking at releases by area and population helps establish points of reference and gives a starting point to better characterize the impact of these releases. The points of reference cannot, however, be used to directly assess exposure and environmental risk. The question of determining the risk associated with a chemical release is a complex process that falls far beyond the scope of this report. Some relative risk-based rankings of TRI chemicals have been developed. A tool to make such computations may be available for general use in 1999. However, to determine the risk of a particular chemical in a specific situation requires a process called risk assessment. The EPA has developed tools to help communities deal with local environmental problems including chemical risk assessments. These tools are available by contacting EPA in person, over the telephone or on their website (www.epa.gov).

Counties Ranked-Pounds per Square Mile

County rankings relating TRI releases per square mile appear in Figure 5. A county may rank higher on releases per area, but lower on the overall county rankings because of its relatively smaller size, even though its releases were also a relatively small number.

Cowlitz County ranked first with 4,746 pounds per square mile. Cowlitz County has a relatively small area and ranked first in the counties in releases. These two factors give it a high number for pounds per area. Clark County ranked second with 3,267 pounds per square mile. Thurston County was third with 1,290 pounds per square mile. Pierce, Walla Walla and Spokane counties placed fourth, fifth and sixth respectively.

Statewide releases averaged 371 pounds per square mile.

TRI Releases by Water Body

Counties Ranked-Pounds by Population
Cowlitz County was also number one for TRI releases when ranked by estimated 1997 population in pounds per person (Figure 6). Cowlitz County reported 60.4 pounds of chemical releases per person. Walla Walla County reported 26.3 pounds per person. Jefferson, Whatcom, Pend Orielle and Grays Harbor counties ranked third through sixth with 18.2, 13.7, 11.7 and 11.5 pounds per person reported respectively. Statewide, releases averaged 4.35 pounds per person. This does not mean that each person was exposed to these "pounds" of chemicals.

Counties that appear high on this list often have fairly high release amounts and average populations (Walla Walla) or moderate releases with very small populations (Jefferson). Counties like King and Pierce counties, with very large populations, do not show up in the ranking of top 10 counties even though they had high total release amounts.

Releases of TRI chemicals to water in Washington state have ranked high nationally both in total chemicals and in releases of known or suspected cancer causing chemicals. One report ranks the state number one for releases of carcinogens from 1989 to 1996. Water releases in the state decreased from 2.53 million pounds in 1996 to 2.46 million pounds in 1997. Of these, 116,782 pounds were of chemicals classified by OSHA as known or suspected carcinogens. The Columbia River was reported as receiving the highest amount of water releases, both carcinogens and other chemicals (862,500 pounds). This compares to 1.3 million pounds in 1995 and 954,000 in 1996. The water body with the second highest reported releases of both carcinogens and total chemicals was Bellingham Bay. Table 4 ranks water releases by water body.

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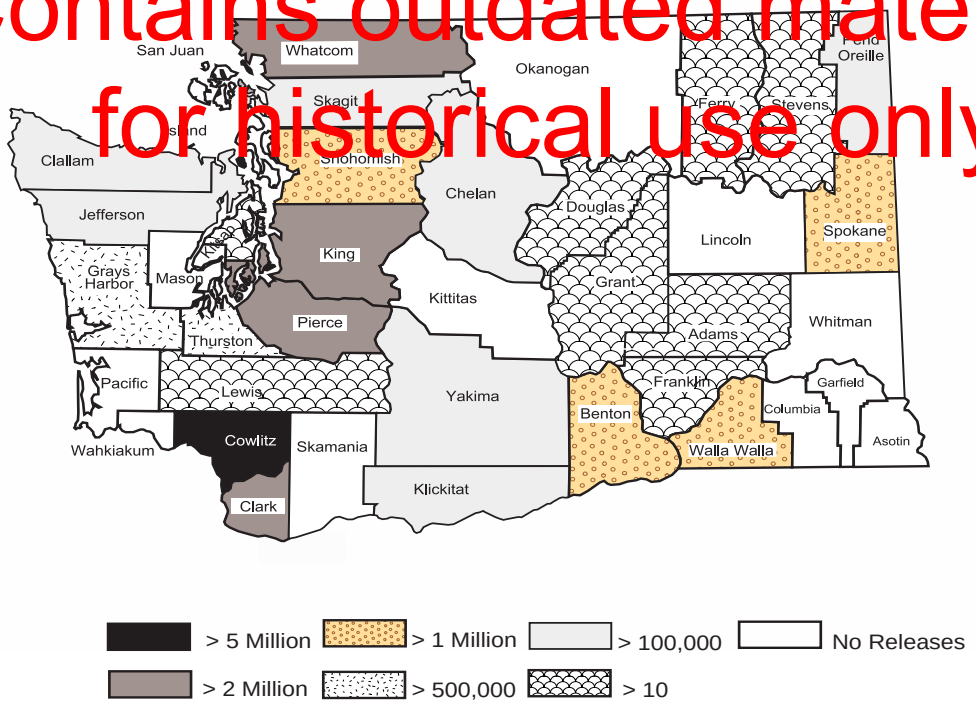

Figure 4
Washington TRI Releases by Counties, 1997 Counties

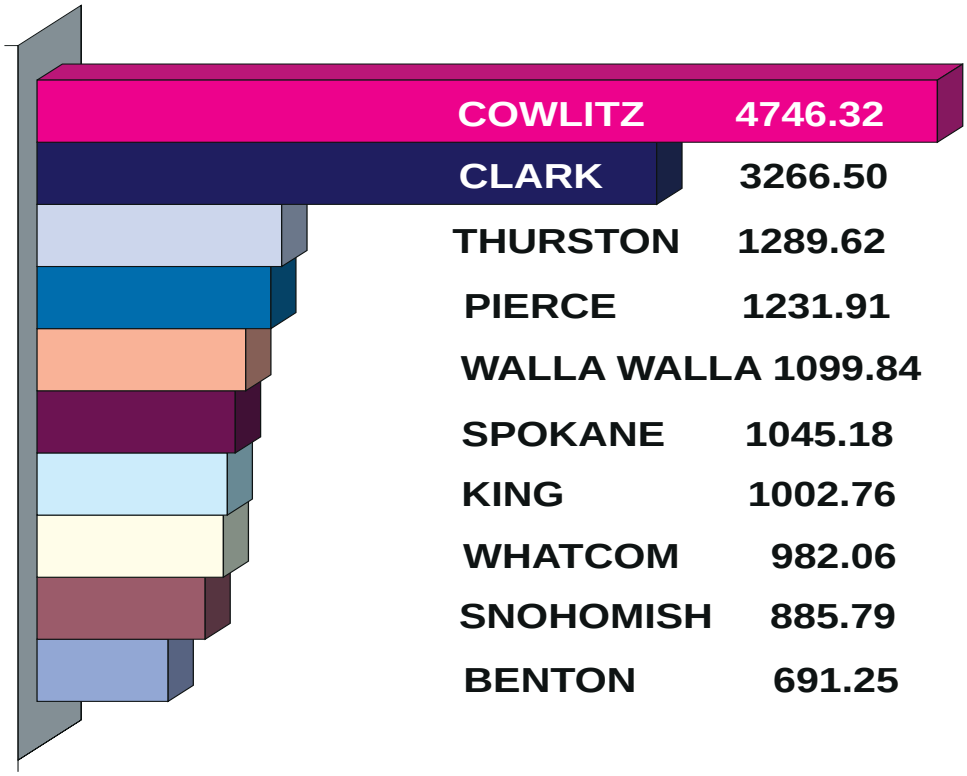

Figure 5
Washington TRI Top 10 Counties, Pounds per Square Mile, 1997

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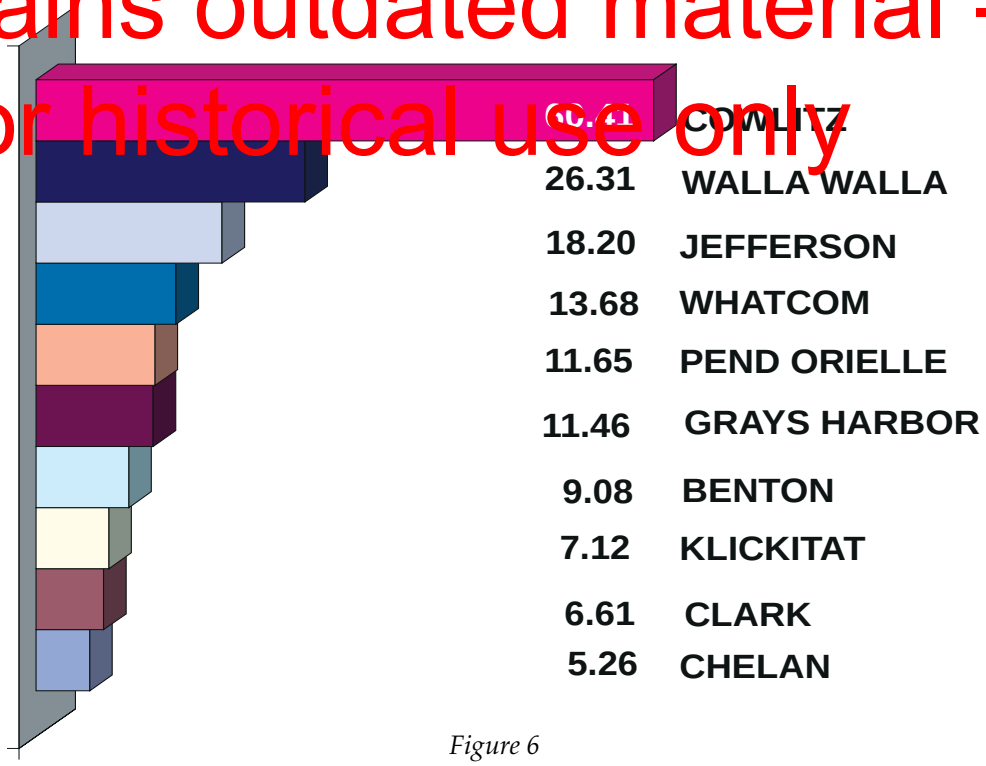

Figure 6
Washington TRI Top 10 Counties, Pounds per Capita, 1997

TRI Releases: 1989—1997

TRI releases to all environmental media decreased in 1997 by 1.6 million (6.3 percent) pounds when compared to 1996. This decrease follows a decrease of 4.5 percent from 1995 to 1996. Because reporting criteria and chemical lists have been relatively constant from 1995 to 1997, it is possible to make this direct comparison.

Making comparisons over a greater time period requires adjustment to the list of reportable chemicals to provide a core group of chemicals that have had constant reporting criteria since 1989. To create this list of "core chemicals", all chemicals that have been added, deleted or significantly modified on the list of reportable chemicals are excluded. This includes the removal of methanol because the change in emission factors for calculations in 1994 resulted in an artificial change in reported values. The result is a list of "core chemicals" that shows a somewhat different reduction trend that the list of all reportable chemicals.

This core group of chemicals shows a 10 percent decrease from 1996 to 1997 and a 3 percent decrease from 1995 to 1997. Compared to 1989, the releases from this core group of chemicals have decreased 8.7 million pounds, 42 percent. This decrease includes the decreases represented by the 33/50 chemicals that were targeted by EPA for reduction.

The differences shown in Figure 7 demonstrate the difficulty of making year-to-year comparisons for TRI data. To be entirely accurate, perhaps we should only look at those chemicals that have been reported by particular facilities for all years. There are some facilities that have modified their chemical use so much that they no longer report. Excluding them from comparative totals would not give credit for reductions in those cases. Comparisons are most accurate when addressing a particular chemical over time. At that level, the original reports will show what has happened at a particular facility.

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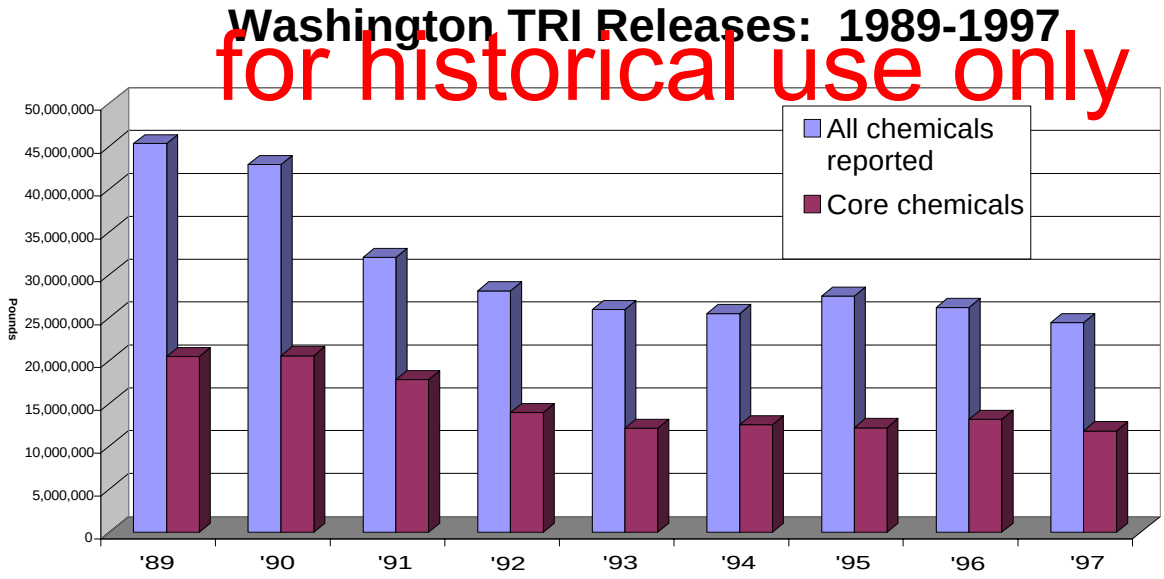

Figure 7, (in pounds)

If we look at all chemicals reported, without any adjustments for changes in reporting, TRI releases show a decrease of 20.9 million pounds, or 48 percent. From 1995 to 1997, they show a decrease of 3.1 million pounds. This includes releases from Rayonier Incorporated in Port Angeles which ceased operations midway through 1997. Reductions from this facility account for 1.04 million pounds of the decreases from 1996 to 1997 and 1.4 million pounds of the decreases from 1995 to 1997.

For all chemicals reported, the greatest proportional decreases have been in releases to water. From 1989 to 1997, releases to water have decreased from 15.5 million pounds to 2.4 million pounds. Releases to land have remained relatively constant and releases to air have decreased from 46 million pounds to 21 million pounds. Air releases continue to be the largest component of TRI releases reported.

Releases of known or suspected cancer causing chemicals have also decreased over time. In 1989, 6.1 million pounds of carcinogens were reported released in Washington State. In 1997, 3.4 million pounds were reported released. This represents a decrease of 47 percent.

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Table 4. Washington TRI Releases by Water Body, 1997 (in pounds)

Water Body	Carcinogens	Other Chemicals	Total
BELLINGHAM BAY	28,926	534,926	563,852
BLAIR WATERWAY VIA LINCOLN AVE. DITCH, TACOMA	5		5
CDID DITCH NO. 9, LONGVIEW		244	244
CDID NO. 1 DITCH NO. 3, LONGVIEW	161		161
COLUMBIA RIVER	53,253	809,247	862,500
COMMENCEMENT BAY OF PUGET SOUND	17,240	5,352	22,592
DEADMAN(PEONE) CREEK, MEAD		286	286
EVERETT HARBOR	11,500	502,900	514,400
FIDALGO BAY, ANACORTES		18,810	18,810
GIBBONS CREEK, WASHOUGAL	15	77	92
GRAYS HARBOR		77,950	77,950
HYLEBOS WATERWAY, TACOMA		14	14
JAPANESE CREEK, EVERETT		80	80
LAND APPLICATION SYSTEM, MOSES LAKE		250	250
MILL CREEK, KENT	5	20	25
OTHER, SEATTLE		30	30
PEND OREILLE RIVER, USK		130,550	130,550
PORT TOWNSEND BAY	1,300	13,948	15,248
POWDERMILL CREEK, EVERETT		843	843
PUGET SOUND	152	2,512	2,664
PUYALLUP RIVER	250	755	1,005
SINCLAIR INLET, BREMERTON	2,000	4,905	6,905
SPOKANE RIVER		154	154
STRAIT OF GEORGIA, BLAINE	1,615	101,484	103,099
STRAIT OF JUAN DE FUCA	350	139,150	139,500
THEA FOSS WATERWAY, TACOMA	5	10	15
WHITE STICK RIVER	5	10	15
YAKIMA RIVER, RICHLAND		2,341	2,341
Grand Total	**116,782**	**2,346,848**	**2,463,630**

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TRI Off-site Transfers, 1997

Transfers reported under the TRI include those chemicals transferred to public owned treatment works and those chemicals transferred to a facility located geographically or physically separate from the reporting facility. These transfers may be for treatment, energy recovery, recycling or disposal. Total transfers for 1997 were 17.5 million pounds. Transfers are not included in on-site release totals. Total transfers in 1996 were 18.6 million pounds.

Transfers to Publicly Owned Treatment Works (POTW)

In 1997, transfers to publicly owned treatment works (POTW) were 2.9 million pounds, a reported increase of 1.2 million pounds. Much of this increase is attributable to the total of 2.6 million pounds of nitrate compounds was reported transferred to POTWs in Washington State in 1997. The amount of this chemical reported continues to increase as more facilities determine that they need to report it. SEH America in Vancouver reported transfers of 1.5 million pounds. This accounted for 51 percent of all POTW transfers. A total of seven other facilities reported more than 10,000 pounds of chemicals transferred to the POTW. The top four chemicals reported transferred to the POTWs were nitrate compounds, glycol ethers, methanol and ammonia.

Chemicals sent to the sanitary sewer may be treated there by a variety of methods. Chemicals not removed in these processes typically move into surface waters. POTWs typically treat incoming chemicals with bacteria. Biological processes may reduce the quantities of chemicals into less toxic compounds before they eventually enter surface water. It is difficult to determine how much of a chemical in the surface water is from a reporting facility. Effluent limits from POTWs are monitored and regulated by permits issued by the Department of Ecology. In turn, industrial discharges into sewers are regulated and permitted by the local POTW.

Transfers to Other Off-site Locations

Chemicals reported as transferred to other locations for treatment, storage, disposal, recycling or energy recovery were 15.0 million pounds in 1997, down from 16.8 million pounds in 1996. Metals like copper, lead, and manganese, and organic solvents like xylene and toluene are among the chemicals with the greatest amounts being transferred off-site. Facilities reporting the highest amount being transferred off-site were Birmingham Steel Corp in Seattle, sending 1.1 million pounds to off-site recycling and 3.9 million pounds to off-site disposal and Unocal Agricultural Products in Kennewick sending 1.1 million pounds to off-site disposal. A total of 16 facilities each reported transfers off-site of more than 150,000 pounds for disposal, recycling, energy recovery or treatment (Table 5).

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Table 5. Washington TRI Top 20 Facilities, Off-site Transfers, 1997 (in pounds)

Facility	City	County	POTW	Disposal	Recycling	Energy Recovery	Treatment	Transfer 97	Transfer 96
BIRMINGHAM STEEL CORP.	SEATTLE	KING	0	3,877,764	1,014,868	0	0	4,892,632	5,535,844
SEH-AMERICA INC.	VANCOUVER	CLARK	1,511,300	0	132,800	0	8,650	1,652,750	1,623,243
UNOCAL AGRICULTURAL PROD BOWLES	KENNEWICK	BENTON	0	1,133,030	0	0	0	1,133,030	467,798
REYNOLDS METALS CO.	LONGVIEW	COWLITZ	0	892,820	24,653	0	1,646	919,119	18,514
SIEMENS POWER CORP.	RICHLAND	BENTON	789,750	750	40,100	0	13,500	844,100	69,560
BCAG FABRICATION DIV-AUBURN	AUBURN	KING	14,259	31,319	554,151	79,197	45,476	724,402	808,433
TORAY COMPOSITES (AMERICA)	TACOMA	PIERCE	0	0	344,000	307,000	0	651,000	377,977
JORGENSEN FORGE CORP	TUKWILA	KING	0	519,124	0	0	0	519,124	459,500
KAISER ALUMINUM & CHEMICAL	SPOKANE	SPOKANE	0	1,313	446,929	62,741	0	510,983	506,383
BOEING CAG EVERETT	EVERETT	SNOHOMISH	1,915	76,604	218,546	143,829	15,639	456,533	443,540
SCOTT GALVANIZING CO INC	SEATTLE	KING	0	75	438,150	0	0	438,225	268,490
ACE GALVANIZING INC.	SEATTLE	KING	0	56	399,107	0	0	399,163	309,102
NELSON IRRIGATION CORP	WALLA WALLA	WALLA WALLA	0	550	361,750	0	0	362,300	419,525
DARIGOLD SUNNYSIDE	SUNNYSIDE	YAKIMA	345,490	0	0	0	0	345,490	88,417
WEYERHAEUSER COMPANY	LONGVIEW	COWLITZ	[illegible]	327,527	0	1,625	0	328,152	241,309
BCAG FABRICATION DIV-FREDRICK	PUYALLUP	PIERCE	42	0	102,570	419	150,000	253,031	368,181
LONGVIEW FIBRE CO	LONGVIEW	COWLITZ	0	102,500	112,000	0	0	214,500	0
BFGOODRICH KALAMA, INC	KALAMA	COWLITZ	[illegible]	24,186	176,945	6,668	3,72[illegible]	210,074	141,351
JOHNSON MATTHEY ELECTRONICS	SPOKANE	SPOKANE	26[illegible]	0	201,387	0	0	201,647	72,482
BOEING SPACE CENTER, KENT	KENT	KING	79,075	7,256	48,155	0	10,303	144,789	146,594
Grand Total			**2,742,091**	**6,994,674**	**4,615,214**	**600,879**	**248,386**	**15,201,244**	**12,366,243**

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Pollution Prevention Act Reporting

Total waste processed or disposed of by a facility is reported under The Pollution Prevention Act of 1990 (as reported in Section 8 of Form R). These data elements include the amount of chemicals reported under TRI as generated as waste or recycled and used for energy recovery, or treated both on and off the facility premises (Table 6). Facilities report for the current and prior year and provide projected totals for the next two years. Estimates for 1998 and 1999 indicate that the total waste processed or disposed of by those facilities required to report under the TRI in Washington State will remain about the same or increase. The facilities estimate that on-site recycling and off-site recycling will increase in 1999.

[1] 1997 Washington State Yearbook, October 1997, Olympia, Washington.

Table 6, Pollution Prevention Act Reporting 1997 (in pounds)

	1996	1997	1998 (Projected)	1999 (Projected)
Energy Recovery -Onsite	18,479,801	12,166,288	12,005,234	12,246,224
Energy Recovery -Offsite	834,078	856,472	897,529	899,718
Recycling-On-Site	85,500,648	96,656,720	97,137,769	103,981,908
Recycling -Offsite	11,433,914	6,376,141	5,396,989	8,913,887
Treatment -Onsite	75,177,957	75,522,356	73,490,854	74,456,260
Treatment -Offsite	4,183,302	4,147,206	4,574,385	4,723,176
Sub-Total	195,609,700	195,715,183	193,502,760	205,221,173
Released	26,414,048	31,140,759	31,581,508	27,901,776
Total Waste	222,023,748	226,855,942	225,084,268	233,122,949
One-Time Release		146,155		

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Appendix 1. Washington TRI by Chemical, 1997, in pounds

Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfers Off-site-97
1,1,1-TRICHLOROETHANE	28,403	0	0	28,403	95,807	0	17,526
1,1-DICHLORO-1-FLUOROETHANE	34,988	0	0	34,988	21,173	0	5,319
1,2,4-TRIMETHYLBENZENE	11,389	11	19	11,419	16,572	0	0
1,3-BUTADIENE	1,824	0	0	1,824	916	0	0
ACETALDEHYDE	818,550	46,455	307	865,312	736,500	0	5
ACETONITRILE	0	0	0	0		0	15,055
ACRYLAMIDE	42	0	0	42	42	214	36
ACRYLIC ACID	461	0	0	461	311	0	0
ALUMINUM	574	0	0	574	482	0	234,012
AMMONIA	1,589,121	348,617	93,300	2,031,038	2,095,224	15,547	247,777
ANTHRACENE	1,587	12	0	1,599	3,649	0	0
ANTIMONY COMPOUNDS	260	7,900	215	8,375	10,090	0	6,231
AROMATIC HYDROCARBON	34,930	82	250	35,262		0	907,883
ARSENIC COMPOUNDS	28	20	2,826	2,874	1,316	0	5,122
ASBESTOS (FRIABLE)	11	2	0	13	6	0	20,038
BARIUM COMPOUNDS	4,064	9,350	20,582	33,996	618	0	221,303
BENZENE	81,688	167	183	82,038	122,440	0	5,970
BIPHENYL	4,640	0	0	4,640	2,110	0	3,624
CADMIUM	0		0		0	0	0
CARBON DISULFIDE	3,060	3	0	3,063	242	0	0
CARBONYL SULFIDE	1,820,836	0	0	1,820,836	2,490,323	0	0
CATECHOL	750	4,718	6	5,474	6,357	0	5
CHLORINE	230,963	14,058	0	245,021	331,885	0	0
CHLORINE DIOXIDE	98,884	0	0	98,884	51,485	0	0
CHLORODIFLUOROMETHANE (HCFC-22)	53,155	0	0	53,155		0	236
CHLOROFORM	561,350	23,138	280	584,768	1,093,088	0	0
CHROMIUM	2,130	382	123	2,635	2,210	71	138,936
CHROMIUM COMPOUNDS	2,493	14,044	1,800	18,337	14,331	68	232,694
COBALT	0	0	0	0	0	5	6,024
COBALT COMPOUNDS	110	80	0	190	180	0	13,431
COPPER	8,354	1,180	1,157	10,691	6,453	707	1,417,028
COPPER COMPOUNDS	4,863	878	250	5,991	2,859	449	223,860
CREOSOTE	255	255	55	565	0	0	250
CRESOL (MIXED ISOMERS)	84,213	355	0	84,568	78,907	0	5
CUMENE	1,938	11	89	2,038	2,609	0	0
CYCLOHEXANE	102,817	402	140	103,359	240,797	0	1,800

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Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfers Off-site-97
DECABROMODIPHENYL OXIDE	0	0	0	0	0	0	16,088
DI(2-ETHYLHEXYL) PHTHALATE (DEHP)	853	0	0	853	3,707	5	40
DIBUTYL PHTHALATE	8,030	0	0	8,030	9,300	0	250
DICHLORODIFLUOROMETHANE (CFC-12)	34,000	0	0	34,000		0	0
DICHLOROMETHANE	318,584	251	0	318,835	577,060	2,300	150,252
DIETHANOLAMINE	2,859	8,500	0	11,359	9,060	14,000	425
DIISOCYANATES	805	0	0	805	421	0	2,078
DIMETHYLAMINE	0	7	0	7	567	0	0
DIPHENYLAMINE	0	0	250	250	0	0	0
DISODIUM CYANOTHIOMIDOCARBONATE	0		0			0	0
ETHYLBENZENE	69,626	12	58	69,696	120,047	0	17,981
ETHYLENE	49,780	0	0	49,780	48,640	0	0
ETHYLENE GLYCOL	15,142	1,959	18	17,119	13,360	0	113,579
FORMALDEHYDE	150,961	42,570	5	193,536	154,800	1,648	1,003
FORMIC ACID	1,000	0	0	1,000	1,000	0	0
FREON 113	142,000	0	0	142,000	85,000	0	20,102
GLYCOL ETHERS	541,891	6,300	5	548,196	529,754	18,450	37,766
HEXANE	232,794	304	183	233,281		5	6,868
HYDROCHLORIC ACID	1,087,121	0	0	1,087,121	1,468,611	0	7,624
HYDROGEN FLUORIDE	1,475,110	0	0	1,475,110	1,110,574	0	47,800
LEAD	549	750	0	1,299	802	15	71,389
LEAD COMPOUNDS	3,968	0	0	3,968	5,108	33	514,953
LITHIUM CARBONATE	637	250	0	887	1,141	0	0
MANGANESE	1,283	24	393	1,700	52,395	45	392,373
MANGANESE COMPOUNDS	5,402	187,204	63,150	255,756	7,085	10	854,951
MERCURY COMPOUNDS	1,430	12	0	1,442	1,505	0	466
METHAM SODIUM	5,563	3	0	5,566	1,147	0	4,123
METHANOL	6,409,927	543,179	6,100	6,959,206	7,139,095	16,270	80,385
METHYL ETHYL KETONE	1,090,495	3,622	5	1,094,122	1,173,347	2,443	889,661
METHYL ISOBUTYL KETONE	72,863	0	0	72,863	84,006	5	40,304
METHYL METHACRYLATE	1,902	0	0	1,902	2,226	0	1,516
METHYL TERT-BUTYL ETHER	1,400	0	0	1,400	10,125	0	0
MOLYBDENUM TRIOXIDE	15	0	0	15	265	0	37,000
N-BUTYL ALCOHOL	465,101	0	0	465,101	380,712	0	31,717
N-METHYL-2-PYRROLIDONE	19,000	0	0	19,000	1,554	0	224,000
NAPHTHALENE	5,262	0	87	5,349	4,917	0	2,200
NICKEL	5,587	1,255	5	6,847	3,143	358	128,176

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Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfers Off-site-97
NICKEL COMPOUNDS	4,002	1,600	20	5,622	4,982	250	37,212
NITRATE COMPOUNDS	256	1,134,466	45,330	1,280,052	1,060,868	594,552	1,218,226
NITRIC ACID	4,301	260	5	4,566	5,172	1,607	266,615
PENTACHLOROPHENOL	500	0	0	500	511	0	500
PHENANTHRENE	5,021	0	0	5,021	24,251	0	471
PHENOL	184,007	4,522	278	188,807	166,906	750	14,428
PHOSPHINE	1	0	365	366	1,288	0	365
PHOSPHORIC ACID	563	0	6	569	580	14,529	564
PHOSPHORUS (YELLOW OR WHITE)	0		0			0	0
POLYCHLORINATED ALKANES	0		0		0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	400	0	20	420	33,078	0	25
POTASSIUM DIMETHYLDITHIOCARBAMATE	0		0		0	0	0
POTASSIUM N-METHYLDITHIOCARBAMATE	0		0		0	0	0
PROPYLENE	44,310	0	0	44,310	40,042	0	0
PROPYLENE OXIDE	250	0	0	250	5	0	0
SEC-BUTYL ALCOHOL	40,200	0	0	40,200	22,800	0	37,388
SELENIUM COMPOUNDS	1	0	0	1	1	0	3
SILVER	0		0		0	0	0
SODIUM AZIDE	255	0	156	411	509	5	1,960
SODIUM DIMETHYL DITHIOCARBAMATE	1,246	0	0	1,246	[illegible]	0	795
SODIUM NITRITE	0	0	0	0	272	0	0
STYRENE	1,131,586	234	0	1,131,820	868,695	5	34,702
SULFURIC ACID	294,496	0	0	294,496	383,217	0	25
TETRACHLOROETHYLENE	24,906	0	0	24,906	3,522	0	102,810
TOLUENE	1,195,434	110	1,480	1,197,024	1,145,999	15	412,109
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0		0		0	0	0
TOLUENE-2,4-DIISOCYANATE	68	0	0	68	61	0	0
TOLUENE-2,6-DIISOCYANATE	134	0	0	134	123	0	0
TRADE SECRET	0	29,000	0	29,000		0	0
TRICHLOROETHYLENE	175,227	5	0	175,232	123,650	5	50,945
VINYL ACETATE	4,300	900	0	5,200	3,550	0	0
XYLENE (MIXED ISOMERS)	665,867	119	464	666,450	880,217	10	241,009
ZINC (FUME OR DUST)	5,409	0	0	5,409	5,038	5	130,550
ZINC COMPOUNDS	32,772	24,092	750	57,614	36,967	0	5,016,848
Grand Total	**21,625,811**	**2,463,630**	**340,715**	**24,430,156**	**25,839,758**	**2,684,381**	**14,986,790**

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Appendix 2. Washington TRI by County, 1997 (in pounds)

County	# of Facilities*	# of Chemicals*	Air	Water	Land	Release Total	POTW	Off-Site Transfer
ADAMS	1	1	7,360	0	65,600	72,960	0	0
BENTON	10	26	901,503	169,176	148,000	1,218,679	789,750	1,193,275
CHELAN	2	6	329,560	0	0	329,560	0	47,617
CLALLAM	4	13	159,370	139,500	0	298,870	0	4,596
CLARK	27	78	1,866,182	222,842	7,827	2,096,851	1,511,305	446,527
COWLITZ	10	64	5,178,382	379,554	5	5,557,941	1,107	1,679,650
DOUGLAS	1	1	0	0	776	776	0	457
FERRY	1	3	30	0	0	30	0	0
FRANKLIN	3	7	3,700	0	0	3,700	0	11,050
GRANT	5	8	49,542	250	156	49,954	5	2,210
GRAYS HARBOR	4	14	701,471	77,950	2,450	782,871	6,020	3,455
JEFFERSON	2	10	417,490	15,248	46,000	478,738	0	9,508
KING	84	218	2,184,978	55	0	2,185,033	134,483	8,036,302
KITSAP	2	3	68,499	6,905	0	75,404	275	153,654
KLICKITAT	1	6	135,430	0	0	135,430	0	0
LEWIS	3	9	867	0	0	867	0	12
PEND ORIELLE	1	5	0	130,550	0	130,550	0	0
PIERCE	32	96	2,088,293	25,605	73	2,113,971	48	1,182,768
SKAGIT	7	49	404,557	18,810	2,870	426,237	0	51,875
SNOHOMISH	21	63	1,386,665	516,028	0	1,902,693	2,626	580,502

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* Includes both Form R and Form A reports

THURSTON	6	12	942,718	0	0	942,718	5
WALLA WALLA	4	21	1,281,185	93,766	46,048	1,420,999	0
WHATCOM	13	92	1,470,327	666,951	688	2,137,966	44,557
YAKIMA	14	41	138,420	0	1,500	139,920	172,750
Grand Total	**284**	**925**	**21,625,811**	**2,463,630**	**340,715**	**24,430,156**	**2,684,381**

Contains outdated material - for historical use only

* Includes both Form R and Form A reports

Appendix 3. Washington TRI by County and Facility, 1997 (in pounds)

ADAMS	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
ADAMS									
MCCAIN FOODS USA.	OTHELLO	AMMONIA	7,360	0	65,600	**72,960**	6,080	0	0
Total			**7,360**	**0**	**65,600**	**72,960**		**0**	**0**
Summary for 'County' = ADAMS			**7,360**	**0**	**65,600**	**72,960**		**0**	**0**
BENTON									
LAMB WESTON INC RICHLAND	RICHLAND	CHLORINE	0	0	0	**0**	0	0	0
		NITRATE COMPOUNDS	0	2,341	0	**2,341**	335	0	0
Total			**0**	**2,341**	**0**	**2,341**		**0**	**0**
PENFORD FOOD INGREDIENTS CO.	RICHLAND	PROPYLENE OXIDE	250	0	0	**250**	5	0	0
Total			**250**	**0**	**0**	**250**		**0**	**0**
SANDVIK SPECIAL METALS CORP.	KENNEWICK	HYDROGEN FLUORIDE	255	0	0	**255**	255	0	0
		NITRATE COMPOUNDS	0	119,000	0	**119,000**	48,000	0	0
		NITRIC ACID	255	0	0	**255**	255	0	0
Total			**510**	**119,000**	**0**	**119,510**		**0**	**0**
SIEMENS POWER CORP.	RICHLAND	AMMONIA	5,400	0	0	**5,400**		750	0
		HYDROGEN FLUORIDE	250	0	0	**250**	0	0	40,850
		NITRATE COMPOUNDS	0	0	0	**0**		789,000	0
		NITRIC ACID	0	0	0	**0**		0	13,500
Total			**5,650**	**0**	**0**	**5,650**		**789,750**	**54,350**
TESSENDERLO KERLEY INC	KENNEWICK	AMMONIA	2,070	0	0	**2,070**	13,14	0	4,986
		CARBON DISULFIDE	10	0	0	**10**	10	0	0
		METHAM SODIUM	1,573	0	0	**1,573**	1,139	0	60
		SODIUM DIMETHYL DITHIOCARBAMATE	1,135	0	0	**1,135**		0	795
Total			**4,78**	**0**	**0**	**4,788**		**0**	**5,841**
UNOCAL AGRICULTURAL PROD	KENNEWICK	AMMONIA	85,230	10,360	2,650	**98,240**	6,525	0	0
		COPPER	0	0	5	**5**	0	0	0
		NICKEL	0	0	5	**5**		0	0
		NITRATE COMPOUNDS	0	0	0	**0**	6,002	0	0
Total			**85,230**	**10,360**	**2,660**	**98,250**		**0**	**0**

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BENTON	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
UNOCAL AGRICULTURAL PROD BOWLES	KENNEWICK	AMMONIA	804,820	3,750	0	**808,570**	837,530	0	35,680
		NITRATE COMPOUNDS	255	33,720	145,330	**179,305**	121,519	0	1,097,350
		NITRIC ACID	0	5	5	**10**	242	0	0
		PHOSPHORIC ACID	0	0	5	**5**	5	0	0
Total			**805,075**	**37,475**	**145,340**	**987,890**		**0**	**1,133,030**
US DOE HANFORD SITE	RICHLAND	PHOSPHORIC ACID	0	0	0	**0**		0	54
Total			**0**	**0**	**0**	**0**		**0**	**54**
Summary for 'County' = BENTON			**901,503**	**169,176**	**148,000**	**1,218,679**		**789,750**	**1,193,275**
CHELAN									
ALUMINUM COMPANY OF AMERICA	MALAGA	AROMATIC HYDROCARBON	844	0	0	**844**		0	13,169
		CARBONYL SULFIDE	211,838	0	0	**211,838**	477,060	0	0
		COPPER	1,516	0	0	**1,516**	1,292	0	277
		HYDROGEN FLUORIDE	115,112	0	0	**115,112**	178,772	0	0
		PHENANTHRENE	250	0	0	**250**		0	471
Total			**329,560**	**0**	**0**	**329,560**		**0**	**13,917**
TREE TOP, INC. WENATCHEE PLANT	WENATCHEE	NITRATE COMPOUNDS	0	0	0	**0**	0	0	33,700
Total			**0**	**0**	**0**	**0**		**0**	**33,700**
Summary for 'County' = CHELAN			**329,560**	**0**	**0**	**329,560**		**0**	**47,617**
CLALLAM									
ADMIRAL MARINE WORKS	PORT ANGELES	STYRENE	3,300	0	0	**3,300**		0	4,586
Total			**3,300**	**0**	**0**	**3,300**		**0**	**4,586**
ADMIRAL MARINE WORKS INC	PORT ANGELES	STYRENE	740	0	0	**740**		0	0
Total			**740**	**0**	**0**	**740**		**0**	**0**
DAISHOWA AMERICA CO. LTD.	PORT ANGELES	AMMONIA	250	37,000	0	**37,250**	18,269	0	0
		SULFURIC ACID	32,000	0	0	**32,000**	68,817	0	0
Total			**32,250**	**37,000**	**0**	**69,250**		**0**	**0**
RAYONIER INC. PORT ANGELES	PORT ANGELES	AMMONIA	360	44,950	0	**45,310**	208,295	0	0
		CHLORINE	9,750	0	0	**9,750**	45,750	0	0
		CHLORINE DIOXIDE	2,250	0	0	**2,250**	6,850	0	0
		CHLOROFORM	32,650	350	0	**33,000**	163,750	0	0
		METHANOL	64,400	57,100	0	**121,500**	596,845	0	0

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CLALLAM	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
RAYONIER INC. PORT ANGELES	PORT ANGELES	METHYL ETHYL KETONE	8,000	100	0	**8,100**	50,460	0	10
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		SULFURIC ACID	5,670	0	0	**5,670**	8,920	0	0
Total			**123,080**	**102,500**	**0**	**225,580**		**0**	**10**
Summary for 'County' = CLALLAM			**159,370**	**139,500**	**0**	**298,870**		**0**	**4,596**
CLARK									
ALLWEATHER WOOD TREATERS	WASHOUGAL	ARSENIC COMPOUNDS	0	4	0	**4**	17	0	322
		CHROMIUM COMPOUNDS	0	12	0	**12**	28	0	266
		COPPER COMPOUNDS	0	5	0	**5**	7	0	133
Total			**0**	**21**	**0**	**21**		**0**	**721**
AMERICA KOTOBUKI ELECTRONICS	VANCOUVER	ANTIMONY COMPOUNDS	0	0	0	**0**	0	0	5,746
		DECABROMODIPHENYL OXIDE	0	0	0	**0**	0	0	16,088
		N-BUTYL ALCOHOL	19,597	0	0	**19,597**	10,386	0	250
Total			**19,597**	**0**	**0**	**19,597**		**0**	**22,084**
ATTBAR, INC.	RIDGEFIELD	STYRENE	60,070	0	0	**60,070**	84,617	0	0
Total			**60,070**	**0**	**0**	**60,070**		**0**	**0**
AVX CORP	VANCOUVER	BARIUM COMPOUNDS	0	0	0	**0**	0	0	144,646
Total			**0**	**0**	**0**	**0**		**0**	**144,646**
BOC GASES GROUP	VANCOUVER	ARSENIC COMPOUNDS	5	0	2,826	**2,831**	1	0	2,827
		NAPHTHALENE	0	0	66	**66**	0	0	66
		PHOSPHINE	1	0	365	**366**	644	0	365
Total			**6**	**0**	[illegible]	**3,253**		**0**	**3,258**
CHEMCO WATER TECHNOLOGY INC	VANCOUVER	PHOSPHORIC ACID	5	0	0	**5**		5	0
Total			**5**	**0**	**0**	**5**		**5**	**0**
CHRISTENSEN SHIPYARDS LTD	VANCOUVER	STYRENE	7,996	0	0	**7,996**	5,907	0	0
Total			**7,99[illegible]**	**0**	**0**	**7,9[illegible]**		**0**	**0**
COLUMBIA MACHINE INC	VANCOUVER	MANGANESE	1[illegible]	0	0	**18**	18	0	18,424
		NICKEL	5	0	0	**5**	5	0	8,137
Total			**23**	**0**	**0**	**23**		**0**	**26,561**
CORROSION CONTROLLERS INC	WASHOUGAL	STYRENE	8,600	0	0	**8,600**	5,700	0	0
Total			**8,600**	**0**	**0**	**8,600**		**0**	**0**
DEWILS IND INC	VANCOUVER	METHYL ETHYL KETONE	12,503	0	0	**12,503**	13,903	0	0

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CLARK	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			12,503	0	0	12,503		0	0
EXTERIOR WOOD INC	WASHOUGAL	ARSENIC COMPOUNDS	2	11	0	**13**		0	1,065
		CHROMIUM COMPOUNDS	2	31	0	**33**		0	836
		COPPER COMPOUNDS	2	16	0	**18**		0	615
Total			6	58	0	64		0	2,516
FORT JAMES CAMAS LLC	CAMAS	ACETALDEHYDE	60,000	5,400	250	**65,650**	52,700	0	0
		AMMONIA	100,250	8,000	0	**108,250**	76,100	0	0
		CATECHOL	750	4,200	5	**4,955**	5,650	0	0
		CHLORINE	20,000	0	0	**20,000**	25,000	0	0
		CHLORINE DIOXIDE	15,600	0	0	**15,600**	24,940	0	0
		CHLOROFORM	159,000	2,700	250	**161,950**	261,000	0	0
		CHROMIUM COMPOUNDS	250	1,900	1,800	**3,950**	750	0	0
		CYCLOHEXANE	53,000	250	0	**53,250**	190,250	0	1,800
		DICHLOROMETHANE	7,000	250	0	**7,250**	20,350	0	0
		FORMALDEHYDE	22,750	250	5	**23,005**	[illegible]	0	0
		FORMIC ACID	0	0	0	**0**	0	0	0
		GLYCOL ETHERS	0	5,200	5	**5,205**	1,600	0	0
		HYDROCHLORIC ACID	8,600	0	0	**8,600**	8,010	0	0
		METHANOL	691,000	190,000	2,000	**883,000**	847,800	0	0
		METHYLETHYLKETONE	10,300	1,300	5	**11,605**	10,700	0	0
		NITRIC ACID	0	0	0	**0**	0	0	0
		PHENOL	250	3,300	250	**3,800**	1,000	0	7,700
Total			1,148,750	222,750	4,570	1,376,070		0	9,500
HARDER MECHANICAL FABRICATION	VANCOUVER	CHROMIUM	250	0	0	**250**		0	0
		NICKEL	250	0	0	**250**		0	0
Total			500	0	0	500		0	0
HERAEUS SHIN-ETSU AMERICA, INC	CAMAS	HYDROCHLORIC ACID	255	0	0	**255**	3	0	0
		SULFURIC ACID	10	0	0	**10**	2	0	0
Total			265	0	0	265		0	0
INTERNATIONAL COMPOSITES CORP	VANCOUVER	STYRENE	5,071	0	0	**5,071**	3,381	0	0
Total			5,071	0	0	5,071		0	0

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CLARK	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
LAVALLEY INDUSTRIES INC GL&V	VANCOUVER	STYRENE	13,461	0	0	**13,461**	9,370	0	750
Total			**13,461**	**0**	**0**	**13,461**		**0**	**750**
PENDLETON WOOLEN MILLS	WASHOUGAL	FORMIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**0**	**0**
SEH-AMERICA INC.	VANCOUVER	AMMONIA	2,350	0	0	**2,350**	2,792	0	0
		DICHLOROMETHANE	4,700	0	0	**4,700**	12,869	2,300	133,050
		HYDROCHLORIC ACID	1,000	0	0	**1,000**	889	0	0
		HYDROGEN FLUORIDE	500	0	0	**500**	679	0	6,500
		NITRATE COMPOUNDS	0	0	0	**0**	0	1,509,000	0
		NITRIC ACID	370	0	0	**370**	1,382	0	1,900
Total			**8,920**	**0**	**0**	**8,920**		**1,511,300**	**141,450**
TECHNAFLOW INC	VANCOUVER	CHROMIUM	0	0	0	**0**	0	0	32,675
		NICKEL	0	0	0	**0**	0	0	21,686
Total			**0**	**0**	**0**	**0**		**0**	**54,361**
THOMPSON METAL FAB INC	VANCOUVER	CHROMIUM	250	0	0	**250**	250	0	13,000
		NICKEL	250	0	0	**250**	250	0	5,800
Total			**500**	**0**	**0**	**500**		**0**	**18,800**
TRIM SYSTEMS LLC	VANCOUVER	DIISOCYANATES	5	0	0	**5**	131	0	0
Total			**5**	**0**	**0**	**5**		**0**	**0**
UNIVERSAL STRUCTURAL INC	VANCOUVER	NICKEL	5	0	0	**5**		0	5
Total			**5**	**0**	**0**	**5**		**0**	**5**
VANALCO INC.	VANCOUVER	CARBONYL SULFIDE	428,000	0	0	**428,000**	84[illegible],000	0	0
		COPPER	181	0	0	**181**	25	0	17,046
		HYDROGEN FLUORIDE	144,000	0	0	**144,000**	200,000	0	0
Total			**572,181**	**0**	**0**	**572,181**		**0**	**17,046**
VARICAST INC	VANCOUVER	MANGANESE	500	0	0	**500**	[illegible]00	0	250
Total			**500**	**0**	**0**	**500**		**0**	**250**
VININGS IND. INC.	WASHOUGAL	AMMONIA	41	0	0	**41**	48	0	38
		ARSENIC COMPOUNDS	1	0	0	**1**	1	0	158
		CARBON DISULFIDE	3,070	3	0	**3,073**	232	0	0
		CHROMIUM COMPOUNDS	1	0	0	**1**	1	0	211
		COPPER COMPOUNDS	1	0	0	**1**	1	0	109

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CLARK	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
VININGS IND. INC.	WASHOUGAL	DIMETHYLAMINE	0	7	0	**7**	67	0	0
		GLYCOL ETHERS	3	0	0	**3**	3	0	0
		METHAM SODIUM	3,990	3	0	**3,993**	8	0	4,063
		SODIUM DIMETHYL DITHIOCARBAMATE	111	0	0	**111**		0	0
Total			**7,218**	**13**	**0**	**7,231**		**0**	**4,579**
Summary for 'County' = CLARK			**1,866,182**	**222,842**	**7,827**	**2,096,851**		**1,511,305**	**446,527**
COWLITZ									
ALL PURE CHEMICAL COMPANY	KALAMA	CHLORINE	14	0	0	**14**	20	0	0
Total			**14**	**0**	**0**	**14**		**0**	**0**
BFGOODRICH KALAMA, INC.	KALAMA	ACETALDEHYDE	7,290	0	0	**7,290**	576	0	0
		AMMONIA	3,240	140	0	**3,380**	3,570	0	0
		BENZENE	18,720	0	0	**18,720**	53,620	0	5,523
		BIPHENYL	4,640	0	0	**4,640**	2,110	0	3,624
		COBALT COMPOUNDS	110	80	0	**190**	180	0	10,331
		COPPER COMPOUNDS	676	22	0	**6[illegible]8**	570	0	183,493
		METHANOL	16,250	0	0	**16,250**	2,480	0	0
		PHENOL	10,730	1	0	**10,731**	9,090	0	5,613
		TOLUENE	130,830	0	0	**130,830**	126,890	0	1,490
Total			**192,486**	**243**	**0**	**192,729**		**0**	**210,074**
BHP COATED STEEL CORP	KALAMA	HYDROCHLORIC ACID	2,635	0	0	**2,635**		0	6,224
Total			**2,635**	**0**	**0**	**2,635**		**0**	**6,224**
CLARIANT CORP	KALAMA	ZINC COMPOUNDS	2	0	0	**2**	2	0	0
Total			**2**	**0**	**0**	**2**		**0**	**0**
CYTEC INDUSTRIES, INC.	LONGVIEW	ACRYLAMIDE	42	0	0	**42**	42	214	36
		FORMALDEHYDE	94	0	0	**94**	120	893	0
Total			**136**	**0**	**0**	**136**		**1,107**	**36**
LONGVIEW FIBRE CO	LONGVIEW	ACETALDEHYDE	37,005	0	0	**37,005**	33,005	0	0
		AMMONIA	14,005	23,000	0	**37,005**	68,005	0	0
		BARIUM COMPOUNDS	0	0	0	**0**		0	25,500
		CATECHOL	0	250	0	**250**	250	0	0
		FORMALDEHYDE	11,005	5	0	**11,010**	11,010	0	0

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COWLITZ	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
LONGVIEW FIBRE CO	LONGVIEW	HYDROCHLORIC ACID	79,005	0	0	**79,005**	72,005	0	0
		MANGANESE COMPOUNDS	0	0	0	**0**		0	88,000
		METHANOL	397,200	0	0	**397,200**	380,000	0	0
		NITRATE COMPOUNDS	0	79,000	0	**79,000**	94,000	0	0
		NITRIC ACID	0	0	0	**0**	0	0	0
		PHENOL	3,805	160	0	**3,965**	3,675	0	0
		ZINC COMPOUNDS	0	0	0	**0**		0	101,000
Total			**542,025**	**102,415**	**0**	**644,440**		**0**	**214,500**
REYNOLDS METALS CO.	LONGVIEW	AROMATIC HYDROCARBON	23,388	80	0	**23,468**		0	892,864
		CHLORINE	1,142	1,709	0	**2,851**	2,380	0	0
		CHROMIUM	0	1	0	**1**		0	1,968
		COPPER	5	33	0	**38**	47	0	8,851
		HYDROGEN FLUORIDE	236,885	0	0	**236,885**	196,735	0	0
		MANGANESE	3	10	0	**13**	11	0	15,436
Total			**261,423**	**1,833**	**0**	**263,256**		**0**	**919,119**
SOLVAY INTEROX, INC.	LONGVIEW	NAPHTHALENE	358	0	5	**363**	315	0	1,345
		NITRIC ACID	0	0	0	**0**	0	0	0
Total			**358**	**0**	**5**	**363**		**0**	**1,345**
WEYERHAEUSER COMPANY	LONGVIEW	ACETALDEHYDE	541,751	1,455	0	**543,206**	464,185	0	5
		AMMONIA	96,513	9,462	0	**105,975**	80,299	0	0
		ASBESTOS (FRIABLE)	10	2	0	**12**	5	0	20,038
		BARIUM COMPOUNDS	108	6,758	0	**7,866**	61	0	50,737
		CATECHOL	0	92	0	**92**	25	0	5
		CHLORINE	2,710	9,849	0	**12,559**	32,405	0	0
		CHLORINE DIOXIDE	66,496	0	0	**66,496**	6,757	0	0
		CRESOL (MIXED ISOMERS)	45,746	274	0	**46,020**	44,700	0	5
		DICHLOROMETHANE	41,000	1	0	**41,001**	10,747	0	5
		FORMALDEHYDE	88,669	40,549	0	**129,218**	111,806	0	5
		HYDROCHLORIC ACID	41,734	0	0	**41,734**	103,606	0	0
		MANGANESE COMPOUNDS	1,125	54,404	0	**55,529**	1,636	0	226,952
		METHANOL	2,822,581	135,165	0	**2,957,746**	2,908,788	0	250
		METHYL ETHYL KETONE	174,123	1,810	0	**175,933**	192,997	0	1,030

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	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
COWLITZ									
WEYERHAEUSER COMPANY	LONGVIEW	NITRATE COMPOUNDS	0	405	0	**405**	11	0	5
		PHENOL	140,091	411	0	**140,502**	128,351	0	5
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		STYRENE	35,637	234	0	**35,871**	22,008	0	5
		SULFURIC ACID	78,522	0	0	**78,522**	56,107	0	0
		ZINC COMPOUNDS	1,884	14,192	0	**16,076**		0	29,305
Total			4,179,303	275,063	0	4,454,366		0	328,352
Summary for 'County' = COWLITZ			5,178,382	379,554	5	5,557,941		1,107	1,679,650
DOUGLAS									
AMERICAN SILICON TECHNOLOGIES	ROCK ISLAND	COPPER	0	0	776	**776**	0	0	457
Total			0	0	776	776		0	457
Summary for 'County' = DOUGLAS			0	0	776	776		0	457
FERRY									
INCHELIUM TRIBAL WOOD TREATMENT	INCHELIUM	ARSENIC COMPOUNDS	10	0	0	**10**		0	0
		CHROMIUM COMPOUNDS	10	0	0	**10**		0	0
		COPPER COMPOUNDS	10	0	0	**10**		0	0
Total			30	0	0	30		0	0
Summary for 'County' = FERRY			30	0	0	30		0	0
FRANKLIN									
CBI SERVICES INC	PASCO	CHROMIUM	0	0	0	**0**	0	0	6,500
		MANGANESE	0	0	0	**0**		0	650
		NICKEL	0	0	0	**0**	0	0	3,900
Total			0	0	0	0		0	11,050
LAMB-WESTON	CONNELL	AMMONIA	3,700	0	0	**3,700**		0	0
		CHLORINE	0	0	0	**0**	0	0	0
		NITRATE COMPOUNDS	0	0	0	**0**	0	0	0
Total			3,700	0	0	3,700		0	0
LAMB-WESTON, INC PASCO PLANT	PASCO	CHLORINE	0	0	0	**0**	0	0	0
Total			0	0	0	0		0	0
Summary for 'County' = FRANKLIN			3,700	0	0	3,700		0	11,050

GRANT	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
GRANT									
ADVANCED SILICON MATERIALS INC	MOSES LAKE	CHLORODIFLUOROMETHANE (HCFC-22)	47,250	0	0	**47,250**		0	0
		HYDROCHLORIC ACID	2,000	0	0	**2,000**	2,000	0	0
		NITRIC ACID	43	0	0	**43**	43	0	0
Total			**49,293**	**0**	**0**	**49,293**		**0**	**0**
INFLATION SYSTEMS INC.	MOSES LAKE	SODIUM AZIDE	255	0	156	**411**	509	5	1,960
Total			**255**	**0**	**156**	**411**		**5**	**1,960**
NESTLE USA	MOSES LAKE	NITRIC ACID	0	250	0	**250**		0	250
Total			**0**	**250**	**0**	**250**		**0**	**250**
Summary for 'County' = GRANT			**49,548**	**250**	**156**	**49,954**		**5**	**2,210**
GRAYS HARBOR									
HOWARD MOE ENTERPRISES, INC.	HOQUIAM	STYRENE	3,082	0	0	**3,082**	749	0	0
Total			**3,082**	**0**	**0**	**3,082**		**0**	**0**
MORTON INTERNATIONAL, INC.	ELMA	METHANOL	110,678	0	0	**110,678**	64,913	16,020	0
Total			**110,678**	**0**	**0**	**110,678**		**16,020**	**0**
WESTPORT SHIPYARD INC	WESTPORT	STYRENE	12,546	0	0	**12,546**	10,206	0	0
Total			**12,546**	**0**	**0**	**12,546**		**0**	**0**
WEYERHAEUSER PULP MILL	COSMOPOLIS	ACETALDEHYDE	49,000	0	0	**49,000**	44,000	0	0
		AMMONIA	250	750	0	**1,000**	3,150	0	0
		BARIUM COMPOUNDS	2,800	2,400	250	**5,450**		0	250
		CHLORINE	[illegible]	0	0	**3,005**	2,305	0	0
		CHLORINE DIOXIDE	1,005	0	0	**1,005**	1,005	0	0
		FORMIC ACID	0	0	0	**0**	0	0	0
		MANGANESE COMPOUNDS	250	73,000	3,200	**76,450**		0	3,200
		METHANOL	490,250	1,800	0	**492,050**	492,050	0	5
		NITRIC ACID	5	0	0	**5**	5	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		SULFURIC ACID	28,000	0	0	**28,000**	21,000	0	0
Total			**575,165**	**77,950**	**3,450**	**656,565**		**0**	**3,455**
Summary for 'County' = GRAYS HARBOR			**701,471**	**77,950**	**3,450**	**782,871**		**16,020**	**3,455**

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JEFFERSON	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
JEFFERSON									
ADMIRAL MARINE WORKS	PORT TOWNSEND	STYRENE	0	0	0	**0**	7,100	0	9,508
Total			**0**	**0**	**0**	**0**		**0**	**9,508**
PORT TOWNSEND PAPER CORP	PORT TOWNSEND	ACETALDEHYDE	6,300	1,300	0	**7,600**	6,080	0	0
		AMMONIA	39,250	6,900	0	**46,150**	51,650	0	0
		BARIUM COMPOUNDS	250	0	11,000	**11,250**		0	0
		CATECHOL	0	48	0	**48**	90	0	0
		HYDROCHLORIC ACID	250,000	0	0	**250,000**	260,000	0	0
		MANGANESE COMPOUNDS	750	0	35,000	**35,750**		0	0
		METHANOL	120,700	7,000	0	**127,700**	154,500	0	0
		PHENOL	240	0	0	**240**	240	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**417,490**	**15,248**	**46,000**	**478,738**		**0**	**0**
Summary for 'County' = JEFFERSON			**417,490**	**15,248**	**46,000**	**478,738**		**0**	**9,508**
KING									
ACE GALVANIZING INC.	SEATTLE	ZINC COMPOUNDS	1,500	0	0	**1,500**	1,500	0	399,163
Total			**1,500**	**0**	**0**	**1,500**		**0**	**399,163**
ACE TANK & EQUIPMENT	SEATTLE	METHYL ETHYL KETONE	300	0	0	**300**	12,002	0	0
		STYRENE	9,405	0	0	**9,405**		0	0
Total			**9,705**	**0**	**0**	**9,705**		**0**	**0**
ALASKAN COPPER WORKS	SEATTLE	CHROMIUM COMPOUNDS	15	0	0	**15**	15	5	9,147
		MANGANESE COMPOUNDS	5	0	0	**5**	5	5	395
		NICKEL COMPOUNDS	5	0	0	**5**	5	0	7,568
		NITRIC ACID	5	0	0	**5**	5	0	0
Total			**30**	**0**	**0**	**30**		**10**	**17,110**
AMERICAN MILLWORK	KIRKLAND	METHYL ETHYL KETONE	78,000	0	0	**78,000**	74,000	0	0
		TOLUENE	90,000	0	0	**90,000**	90,000	0	0
		XYLENE (MIXED ISOMERS)	49,000	0	0	**49,000**	58,000	0	0
Total			**217,000**	**0**	**0**	**217,000**		**0**	**0**
AMERICAN NATIONAL CAN COMPANY	KENT	GLYCOL ETHERS	142,087	0	0	**142,087**	135,800	0	838
		HYDROGEN FLUORIDE	20	0	0	**20**	27	0	0

KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
AMERICAN NATIONAL CAN COMPANY	KENT	MANGANESE	0	0	0	**0**	0	28	20
		N-BUTYL ALCOHOL	114,195	0	0	**114,195**	108,832	0	259
Total			**256,302**	**0**	**0**	**256,302**		**28**	**1,117**
ARIMA MARINE	AUBURN	STYRENE	7,364	0	0	**7,364**	7,338	0	0
Total			**7,364**	**0**	**0**	**7,364**		**0**	**0**
ART BRASS PLATING	SEATTLE	TRICHLOROETHYLENE	14,380	0	0	**14,380**	15,910	0	750
Total			**14,380**	**0**	**0**	**14,380**		**0**	**750**
ASKO PROCESSING, INC.	SEATTLE	TRICHLOROETHYLENE	10,912	0	0	**10,912**	9,767	0	1,805
Total			**10,912**	**0**	**0**	**10,912**		**0**	**1,805**
BALL-FOSTER GLASS CONTAINER CO	SEATTLE	CHROMIUM COMPOUNDS	5	0	0	**5**	5	0	250
		ETHYLENE GLYCOL	0	0	0	**0**		0	1,850
Total			**5**	**0**	**0**	**5**		**0**	**2,100**
BALLARD BRASS	SEATTLE	COPPER COMPOUNDS	0	0	0	**0**	0	0	3,821
Total			**0**	**0**	**0**	**0**		**0**	**3,821**
BCAG FABRICATION DIV-AUBURN	AUBURN	CHROMIUM COMPOUNDS	250	0	0	**250**	141	58	104,843
		COPPER	30	0	0	**30**	0	90	425,700
		DIETHANOLAMINE	14	0	0	**14**		14,000	425
		HYDROGEN FLUORIDE	31	0	0	**31**	0	0	200
		METHYL ETHYL KETONE	800	0	0	**800**	11,000	33	59,620
		NICKEL	3	0	0	**3**	0	78	35,200
		NITRIC ACID	[illegible]	0	[illegible]	[illegible]	[illegible]	0	32,072
		SEC-BUTYL ALCOHOL	15,800	0	0	**15,800**	22,800	0	28,906
		TOLUENE	24,200	0	0	**24,200**	30,100	0	11,420
		XYLENE (MIXED ISOMERS)	4,400	0	0	**4,400**	7,300	0	11,757
Total			**45,678**	**0**	**0**	**45,678**		**14,259**	**710,143**
BIRMINGHAM STEEL CORP.	SEATTLE	LEAD COMPOUNDS	2,038	0	0	**2,038**	2,396	0	418,113
		MANGANESE COMPOUNDS	2,157	0	0	**2,157**	2,421	0	442,623
		NICKEL COMPOUNDS	17	0	0	**17**	27	0	3,504
		ZINC COMPOUNDS	19,635	0	0	**19,635**	30,008	0	4,028,392
Total			**23,847**	**0**	**0**	**23,847**		**0**	**4,892,632**
BOEING CAG RENTON	RENTON	COPPER	0	0	0	**0**	0	5	32,660

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
BOEING CAG RENTON	RENTON	FREON 113	70,000	0	0	**70,000**	52,000	0	4,950
		GLYCOL ETHERS	2,550	0	0	**2,550**	1,750	9,000	765
		MANGANESE	10	0	0	**10**	10	5	11,500
		MANGANESE COMPOUNDS	0	0	0	**0**		0	15,850
		METHYL ETHYL KETONE	92,000	0	0	**92,000**	132,000	250	33,560
		METHYL ISOBUTYL KETONE	15,450	0	0	**15,450**		5	1,005
		TOLUENE	45,300	0	0	**45,300**	26,300	0	22,365
Total			**225,310**	**0**	**0**	**225,310**		**9,265**	**122,655**
BOEING CAG SEATTLE	SEATTLE	GLYCOL ETHERS	255	0	0	**255**	255	0	260
		GLYCOL ETHERS	1,000	0	0	**1,000**	1,000	9,200	515
		METHYL ETHYL KETONE	23,250	0	0	**23,250**	10,250	250	13,010
		METHYL ETHYL KETONE	4,850	0	0	**4,850**	6,450	0	1,255
		NAPHTHALENE	250	0	0	**250**	250	0	0
		NAPHTHALENE	250	0	0	**250**	250	0	250
		TOLUENE	755	0	0	**755**	755	0	1,260
		TOLUENE	17,250	0	0	**17,250**	1,250	0	10,170
Total			**47,860**	**0**	**0**	**47,860**		**9,450**	**26,720**
BOEING SPACE CENTER, KENT	KENT	CHROMIUM	0	0	0	**0**	0	25	8,175
		COBALT	0	0	0	**0**	0	5	6,024
		COPPER	255	0	0	**255**	250	35	14,711
		MANGANESE	0	0	0	**0**	0	0	4,233
		NICKEL	5	0	0	**5**	5	10	21,328
		NITRATE COMPOUNDS	0	0	0	**0**	0	79,000	0
		NITRIC ACID	140	0	0	**140**	250	0	11,243
Total			**400**	**0**	**0**	**400**		**79,075**	**65,714**
BORDEN CHEMICAL, INC.	KENT	FORMALDEHYDE	1,828	0	0	**1,828**	1,820	750	0
		METHANOL	0	0	0	**0**		250	0
		PHENOL	255	0	0	**255**	255	750	0
Total			**2,083**	**0**	**0**	**2,083**		**1,750**	**0**
BRAZOS INC/SUN SPORTSWEAR	KENT	XYLENE (MIXED ISOMERS)	17,882	0	0	**17,882**		0	6,062
Total			**17,882**	**0**	**0**	**17,882**		**0**	**6,062**
CAPITOL INDUSTRIES INC	SEATTLE	METHYL ISOBUTYL KETONE	12,919	0	0	**12,919**	12,229	0	157

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
CAPITOL INDUSTRIES INC	SEATTLE	XYLENE (MIXED ISOMERS)	12,953	0	0	**12,953**	11,677	0	155
Total			**25,872**	**0**	**0**	**25,872**		**0**	**312**
CIRCUIT SERVICES, INC.	BELLEVUE	COPPER	1	0	0	**1**	1	100	47,093
		NITRATE COMPOUNDS	1	0	0	**1**	1	250	5,171
Total			**2**	**0**	**0**	**2**		**350**	**52,264**
COATINGS UNLIMITED INC	KENT	METHYL ETHYL KETONE	2,041	0	0	**2,041**	28,702	0	17,723
Total			**2,041**	**0**	**0**	**2,041**		**0**	**17,723**
COLOR TECH - DIVISION OF ASKO	SEATTLE	METHYL ETHYL KETONE	8,037	0	0	**8,037**		0	0
Total			**8,037**	**0**	**0**	**8,037**		**0**	**0**
CUTLER HAMMER	KENT	COPPER	0	0	0	**0**		0	67
Total			**0**	**0**	**0**	**0**		**0**	**67**
DANIEL BOONE PAINT COMPANY	TUKWILA	METHANOL	968	0	0	**968**	250	0	900
		TOLUENE	620	0	0	**620**	750	0	3,000
		XYLENE (MIXED ISOMERS)	750	0	0	**750**	750	0	3,000
Total			**2,338**	**0**	**0**	**2,338**		**0**	**6,900**
DARIGOLD-ISSAQUAH	ISSAQUAH	NITRIC ACID	0	0	0	**0**	0	1,602	0
		PHOSPHORIC ACID	0	0	0	**0**	0	2,116	0
Total			**0**	**0**	**0**	**0**		**3,718**	**0**
DARIGOLD-RAINIER	SEATTLE	AMMONIA	17,510	0	0	**17,510**		0	0
Total			**17,510**	**0**	**0**	**17,510**		**0**	**0**
DAVIS WIRE CORPORATION	KENT	LEAD	0	0	0	**0**	0	5	559
Total			**0**	**0**	**0**	**0**		**5**	**559**
DUWAMISH SHIPYARD, INC.	SEATTLE	COPPER COMPOUNDS	0	30	0	**30**		0	1,870
		N-BUTYL ALCOHOL	10,000	0	0	**10,000**		0	0
		XYLENE (MIXED ISOMERS)	13,000	0	0	**13,000**		0	0
Total			**23,000**	**30**	**0**	**23,030**		**0**	**1,870**
DYNO BATTERY INC	SEATTLE	LEAD	19	0	0	**19**	17	0	0
		SULFURIC ACID	120	0	0	**120**	108	0	0
Total			**139**	**0**	**0**	**139**		**0**	**0**
EXOTIC METALS FORMING CO.	KENT	NITRIC ACID	250	0	0	**250**	250	0	11,900
Total			**250**	**0**	**0**	**250**		**0**	**11,900**
FABRICATED PRODUCTS/SEAFAB	SEATTLE	ANTIMONY COMPOUNDS	0	0	0	**0**	0	0	0

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
FABRICATED PRODUCTS/SEAFAB	SEATTLE	LEAD COMPOUNDS	1,424	0	0	**1,424**	1,448	32	0
Total			**1,424**	**0**	**0**	**1,424**		**32**	**0**
FISHER MILLS INC	SEATTLE	CHLORINE	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**0**	**0**
FOAMEX, L.P.	KENT	DICHLOROMETHANE	156,863	0	0	**156,863**	387,138	0	0
		TOLUENE-2,4-DIISOCYANATE	68	0	0	**68**	61	0	0
		TOLUENE-2,6-DIISOCYANATE	134	0	0	**134**	123	0	0
Total			**157,065**	**0**	**0**	**157,065**		**0**	**0**
FORMULA CORP	SEATTLE	GLYCOL ETHERS	750	0	0	**750**	750	250	500
		PHOSPHORIC ACID	5	0	0	**5**	5	250	500
Total			**755**	**0**	**0**	**755**		**500**	**1,000**
GACO WESTERN, INC.	TUKWILA	METHYL ISOBUTYL KETONE	331	0	0	**331**	681	0	750
		TOLUENE	696	0	0	**696**	581	0	1,250
		XYLENE (MIXED ISOMERS)	2,857	0	0	**2,857**	1,208	0	750
Total			**3,884**	**0**	**0**	**3,884**		**0**	**2,750**
HAWORTH INC/LUNSTYAD OPERATION	KENT	METHANOL	13,432	0	0	**13,432**	11,447	0	2,460
		TOLUENE	14,488	0	0	**14,488**	13,519	0	2,654
Total			**27,920**	**0**	**0**	**27,920**		**0**	**5,114**
HEXCEL CORPORATION	KENT	METHYL ETHYL KETONE	31,340	0	0	**31,340**	19,700	0	7,850
Total			**31,340**	**0**	**0**	**31,340**		**0**	**7,850**
HEXCEL CORPORATION - CRTM	KENT	STYRENE	2,700	0	0	**2,700**		0	1,853
Total			**2,700**	**0**	**0**	**2,700**		**0**	**1,853**
HUSSMAN CORPORATION	SEATTLE	1,1-DICHLORO-1-FLUOROETHANE	1,496	0	0	**1,496**	1,600	0	0
		DIISOCYANATES	0	0	0	**0**	0	0	0
Total			**1,496**	**0**	**0**	**1,496**		**0**	**0**
HYTEK FINISHES COMPANY	KENT	METHYL ETHYL KETONE	14,874	0	0	**14,874**	12,821	0	2,672
		NITRIC ACID	10	0	0	**10**	10	0	0
Total			**14,884**	**0**	**0**	**14,884**		**0**	**2,672**
IMMUNEX CORPORATION	SEATTLE	ACETONITRILE	0	0	0	**0**		0	15,055
Total			**0**	**0**	**0**	**0**		**0**	**15,055**
JOHNS MANVILLE INTERNATIONAL	KENT	1,1-DICHLORO-1-FLUOROETHANE	33,492	0	0	**33,492**	19,573	0	5,319

KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
JOHNS MANVILLE INTERNATIONAL	KENT	CHLORODIFLUOROMETHANE (HCFC-22)	4,763	0	0	**4,763**		0	236
		DIISOCYANATES	45	0	0	**45**	25	0	128
Total			**38,300**	**0**	**0**	**38,300**		**0**	**5,683**
JORGENSEN FORGE CORP	TUKWILA	ALUMINUM	0	0	0	**0**	0	0	234,000
		CHROMIUM	0	0	0	**0**		0	48,694
		LEAD	0	0	0	**0**	0	0	982
		MANGANESE	0	0	0	**0**	0	0	231,584
		NICKEL	0	0	0	**0**	0	0	1,900
		ZINC (FUME OR DUST)	0	0	0	**0**	0	0	1,964
Total			**0**	**0**	**0**	**0**		**0**	**519,124**
K2 CORPORATION	VASHON	DIISOCYANATES	750	0	0	**750**		0	1,250
		XYLENE (MIXED ISOMERS)	18,616	0	0	**18,616**	15,628	0	23,919
Total			**19,366**	**0**	**0**	**19,366**		**0**	**25,169**
KELLY-MOORE/PRESERVATIVE PAINT	SEATTLE	XYLENE (MIXED ISOMERS)	30	0	0	**30**	35	0	2,000
Total			**30**	**0**	**0**	**30**		**0**	**2,000**
KENWORTH TRUCK COMPANY	RENTON	ETHYLENE GLYCOL	81	0	0	**81**	61	0	23,000
		GLYCOL ETHERS	10,150	0	0	**10,150**	9,160	0	3,300
		METHYL ETHYL KETONE	41,900	0	0	**41,900**	34,100	0	12,000
		TOLUENE	51,600	0	0	**51,600**	41,600	0	14,000
		XYLENE (MIXED ISOMERS)	17,500	0	0	**17,500**	19,400	0	5,200
	TUKWILA	METHYL ETHYL KETONE	6,290	0	0	**6,290**	3,070	0	3,773
		TOLUENE	9,110	0	0	**9,110**	1,650	0	3,760
Total			**137,231**	**0**	**0**	**137,231**		**0**	**65,033**
LILLY INDUSTRIES INC	SEATTLE	ETHYLBENZENE	271	0	0	**271**	295	0	5,044
		GLYCOL ETHERS	857	0	0	**857**	1,065	0	0
		METHANOL	1,861	0	0	**1,861**	2,520	0	0
		METHYL ETHYL KETONE	2,198	0	0	**2,198**	2,626	0	4,153
		METHYL ISOBUTYL KETONE	2,845	0	0	**2,845**	4,150	0	4,153
		N-BUTYL ALCOHOL	1,311	0	0	**1,311**	1,427	0	3,561
		TOLUENE	5,702	0	0	**5,702**	7,230	0	17,801
		XYLENE (MIXED ISOMERS)	4,063	0	0	**4,063**	4,370	0	24,625

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			19,108	0	0	19,108		0	59,337
LIVINGSTON INC	AUBURN	METHYL METHACRYLATE	902	0	0	902	894	0	1,181
		STYRENE	62,499	0	0	62,499	59,905	0	2,169
Total			63,401	0	0	63,401		0	3,350
MACHINISTS DSR, INC	SEATTLE	METHYL ETHYL KETONE	18,004	0	0	18,004	18,004	0	500
		XYLENE (MIXED ISOMERS)	21,769	0	0	21,769	21,769	0	500
Total			39,773	0	0	39,773		0	1,000
MIKRON INDUSTRIES INC.	KENT	DICHLOROMETHANE	15,120	0	0	15,120		0	4,100
Total			15,120	0	0	15,120		0	4,100
MODINE AFTERMARKET HOLDINGS	SEATTLE	COPPER	1	0	0	1	16	0	26,514
		LEAD	2	0	0	2	7	0	6,548
Total			3	0	0	3		0	33,062
NEWCASTLE BRICK PLANT	RENTON	HYDROGEN FLUORIDE	68,450	0	0	68,450	67,570	0	0
Total			68,450	0	0	68,450		0	0
NON-FERROUS METALS INC.	SEATTLE	LEAD	18	0	0	18	18	0	0
Total			18	0	0	18		0	0
NORTHLAKE CABINET CORPORATION	WOODINVILLE	TOLUENE	39,510	0	0	39,510	2,429	0	2,452
Total			39,510	0	0	39,510		0	2,452
PACIFIC CIRCUITS INC	REDMOND	AMMONIA	8,217	0	0	8,217	13,306	5	107,720
		COPPER	0	0	0	0	0	250	945
		FORMALDEHYDE	750	0	0	750	750	5	0
Total			8,967	0	0	8,967		260	108,665
PACIFIC COCA-COLA BOTTLING CO	BELLEVUE	PHOSPHORIC ACID	0	0	0	0	0	968	0
Total			0	0	0	0		968	0
PRAEGITZER IND REDMOND	REDMOND	AMMONIA	4,675	0	0	4,675	44,099	7,942	25,960
		COPPER	5	0	0	5	5	162	35
		NITRIC ACID	10	0	0	10	10	0	0
Total			4,690	0	0	4,690		8,104	25,995
PROLER RECYCLING INC	SEATTLE	NITRATE COMPOUNDS	0	0	0	0	0	0	0
		SODIUM NITRITE	0	0	0	0	0	0	0
Total			0	0	0	0		0	0

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
PROTECTIVE COATINGS, INC.	KENT	METHYL ETHYL KETONE	13,000	5	0	**13,005**	11,005	5	5,000
		NITRIC ACID	1,000	5	0	**1,005**	1,005	5	0
		TOLUENE	5,870	5	0	**5,875**	5,499	5	0
		TRICHLOROETHYLENE	17,050	5	0	**17,055**	9,930	5	9,800
		XYLENE (MIXED ISOMERS)	4,210	5	0	**4,215**	3,965	5	0
Total			**41,130**	**25**	**0**	**41,155**		**25**	**14,800**
RED DOT CORP	SEATTLE	METHYL ETHYL KETONE	15,100	0	0	**15,100**	13,266	0	250
		TRICHLOROETHYLENE	38,000	0	0	**38,000**	33,000	0	750
Total			**53,100**	**0**	**0**	**53,100**		**0**	**1,000**
REYNOLDS METALS CO.	KENT	GLYCOL ETHERS	173,800	0	0	**173,800**	141,478	0	245
		HYDROGEN FLUORIDE	83	0	0	**83**	76	0	0
		MANGANESE	0	0	0	**0**	0	12	98,252
		N-BUTYL ALCOHOL	131,101	0	0	**131,101**	119,394	0	101
		SULFURIC ACID	324	0	0	**324**	299	0	0
Total			**305,308**	**0**	**0**	**305,308**		**12**	**98,598**
ROMAC INDUSTRIES, INC	SEATTLE	CHROMIUM	1	0	0	**1**	1	41	0
		MANGANESE	10	0	0	**10**	7	0	0
		NICKEL	4	0	0	**4**	3	20	0
Total			**15**	**0**	**0**	**15**		**61**	**0**
RUDD COMPANY INC	SEATTLE	DI(2-ETHYLHEXYL) PHTHALATE (DEHP)	730	0	0	**730**		0	40
		ETHYLBENZENE	630	0	0	**630**		0	4,070
		GLYCOL ETHERS	1,550	0	0	**1,550**		0	250
		METHANOL	1,400	0	0	**1,400**		0	520
		METHYL ETHYL KETONE	2,260	0	0	**2,260**		0	180
		METHYL ISOBUTYL KETONE	4,430	0	0	**4,430**		0	10,300
		N-BUTYL ALCOHOL	3,560	0	0	**3,560**		0	470
		TOLUENE	7,480	0	0	**7,480**		0	13,170
		XYLENE (MIXED ISOMERS)	4,500	0	0	**4,500**		0	16,370
Total			**26,340**	**0**	**0**	**26,340**		**0**	**45,370**
SCOTT GALVANIZING CO INC	SEATTLE	ZINC COMPOUNDS	0	0	0	**0**	0	0	438,225
Total			**0**	**0**	**0**	**0**		**0**	**438,225**
SOUND PROPELLER SERVICES INC	SEATTLE	CHROMIUM	250	0	0	**250**	255	0	6,050

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KING	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			250	0	0	250		0	6,050
STARROW ENTERPRISES	AUBURN	STYRENE	1,000	0	0	1,000	0	0	0
Total			1,000	0	0	1,000		0	0
TEMPRESS INC	SEATTLE	DICHLOROMETHANE	14,294	0	0	14,294	19,606	0	8,409
		DIISOCYANATES	0	0	0	0	0	0	0
Total			14,294	0	0	14,294		0	8,409
THE STROH BREWERY COMPANY	SEATTLE	AMMONIA	3,500	0	0	3,500		6,600	0
		PHOSPHORIC ACID	0	0	0	0	0	0	0
Total			3,500	0	0	3,500		6,600	0
TODD PACIFIC SHIPYARDS CORP	SEATTLE	COPPER COMPOUNDS	410	0	0	410	58,951	5	1,639
		N-BUTYL ALCOHOL	14,193	0	0	14,193	6,738	0	3,437
		XYLENE (MIXED ISOMERS)	8,862	0	0	8,862	23,162	0	2,148
		ZINC (FUME OR DUST)	94	0	0	94	582	5	3,766
Total			23,559	0	0	23,559		10	10,990
UNIVERSAL MANUFACTURING CORP	WOODINVILLE	COPPER	10	0	0	10		0	7,600
Total			10	0	0	10		0	7,600
VIOX CORPORATION	SEATTLE	LEAD COMPOUNDS	277	0	0	277	105	1	45,140
Total			277	0	0	277		1	45,140
WASSER HIGH-TECH COATINGS	RENTON	METHYL ISOBUTYL KETONE	2,08[illegible]	0	0	2,[illegible]	1,920	0	1,200
		XYLENE (MIXED ISOMERS)	1,46[illegible]	0	0	1,460	2,400	0	1,200
		ZINC (FUME OR DUST)	4,565	0	0	4,565	3,800	0	1,000
Total			8,107	0	0	8,107		0	3,400
WESCOR GRAPHICS CORP	SEATTLE	N-BUTYL ALCOHOL	0	0	0	0	0	0	7,574
		TETRACHLOROETHYLENE	0	0	0	0	0	0	85,656
Total			0	0	0	0		0	93,230
WESTERN PNEUMATIC TUBE COMPANY	KIRKLAND	HYDROGEN FLUORIDE	0	0	0	0	0	0	0
		NITRIC ACID	0	0	0	0	0	0	0
		TRICHLOROETHYLENE	53,206	0	0	53,206	46,424	0	30,839
Total			53,206	0	0	53,206		0	30,839
Summary for 'County' = KING			2,184,978	55	0	2,185,033		134,483	8,036,302

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KITSAP	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
KITSAP									
NAVAL SUBMARINE BASE BANGOR	SILVERDALE	XYLENE (MIXED ISOMERS)	6,399	0	0	**6,399**	7,146	0	32,859
Total			**6,399**	**0**	**0**	**6,399**		**0**	**32,859**
U.S. DOD, U.S. NAVY	BREMERTON	CHROMIUM	750	250	0	**1,000**	500	5	3,755
		COPPER	4,300	750	0	**5,050**	1,950	5	8,900
		COPPER COMPOUNDS	3,700	800	0	**4,500**		5	14,350
		LEAD	250	750	0	**1,000**	500	5	34,700
		N-BUTYL ALCOHOL	26,300	0	0	**26,300**		0	13,200
		NICKEL	4,800	1,250	0	**6,050**	2,850	250	20,820
		XYLENE (MIXED ISOMERS)	16,300	5	0	**16,305**		5	8,460
		ZINC COMPOUNDS	5,700	3,100	0	**8,800**	750	0	16,610
Total			**62,100**	**6,905**	**0**	**69,005**		**275**	**120,795**
Summary for 'County' = KITSAP			**68,499**	**6,905**	**0**	**75,404**		**275**	**153,654**
KLICKITAT									
GOLDENDALE ALUMINUM COMPANY	GOLDENDALE	CARBONYL SULFIDE	96,000	0	0	**96,000**	94,000	0	0
		CHLORINE	3,030	0	0	**3,030**	1,588	0	0
		HYDROGEN FLUORIDE	36,400	0	0	**36,400**	25,000	0	0
Total			**135,430**	**0**	**0**	**135,430**		**0**	**0**
Summary for 'County' = KLICKITAT			**135,430**	**0**	**0**	**135,430**		**0**	**0**
LEWIS									
DARIGOLD - CHEHALIS	CHEHALIS	NITRATE COMPOUNDS	0	0	0	**0**	0	0	0
		NITRIC ACID	0	0	0	**0**	0	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**0**	**0**
FOSECO INC.	CHEHALIS	ALUMINUM	574	0	0	**574**	482	0	12
		COPPER COMPOUNDS	28	0	0	**28**	18	0	0
Total			**602**	**0**	**0**	**602**		**0**	**12**
QUALI-CAST FOUNDRY	CHEHALIS	CHROMIUM	250	0	0	**250**	5	0	0
		MANGANESE	5	0	0	**5**		0	0
		MOLYBDENUM TRIOXIDE	5	0	0	**5**		0	0
		NICKEL	5	0	0	**5**	5	0	0
Total			**265**	**0**	**0**	**265**		**0**	**0**

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LEWIS	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Summary for 'County' = LEWIS			867	0	0	867		0	12
PEND ORIELLE									
PONDERAY NEWSPRINT CO	USK	AMMONIA	0	550	0	550	520	0	0
		NITRATE COMPOUNDS	0	130,000	0	130,000	74,000	0	0
Total			0	130,550	0	130,550		0	0
Summary for 'County' = PEND ORIELLE			0	130,550	0	130,550		0	0
PIERCE									
ABITIBI CONSOLIDATED SALES	STEILACOOM	METHANOL	15,790	0	0	15,790	10,000	0	0
Total			15,790	0	0	15,790		0	0
AMERICAN REINFORCED PLASTICS	TACOMA	STYRENE	12,773	0	0	12,773	13,036	5	0
Total			12,773	0	0	12,773		5	0
ATLAS FOUNDRY & MACHINE CO	TACOMA	CHROMIUM	255	5	0	260	755	0	12,000
		COPPER	10	5	0	15	265	0	750
		MANGANESE	10	0	0	10	260	0	1,400
		MOLYBDENUM TRIOXIDE	10	0	0	10	265	0	1,600
		NICKEL	253	5	0	260	2[illegible]	0	6,300
Total			546	15	0	55[illegible]		0	22,050
BCAG FABRICATION DIV-FREDRICK	PUYALLUP	COPPER	0	0	0	0	0	42	102,400
		NITRIC ACID	44	0	0	44	0	0	150,000
		TOLUENE	22,670	0	0	22,670	14,780	0	589
Total			22,71[illegible]	0	0	22,714		42	252,989
BEATRICE CHEESE INC	SUMNER	NITRIC ACID	0	0	0	0	0	0	0
		PHOSPHORIC ACID	0	0	0	0	0	0	0
Total			0	0	0	0		0	0
CASCADE POLE & LUMBER COMPANY	TACOMA	CREOSOTE	255	255	55	565		0	250
Total			255	255	55	565		0	250
DURHAM MOLDING CORP	TACOMA	DIISOCYANATES	0	0	0	0	0	0	0
Total			0	0	0	0		0	0
DYNO OVERLAYS, INC.	TACOMA	FORMALDEHYDE	6,896	0	0	6,896	2,897	0	993
		METHANOL	145,711	0	0	145,711	56,439	0	0
		PHENOL	336	0	0	336	4,628	0	1,110

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PIERCE	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			152,943	0	0	152,943		0	2,103
GENERAL PLASTICS MFG CO	TACOMA	DICHLOROMETHANE	17,303	0	0	17,303	24,421	0	1,277
		DIISOCYANATES	5	0	0	5	5	0	0
Total			17,308	0	0	17,308		0	1,277
GIRARD CUSTOM COATERS, INC.	TACOMA	ETHYLBENZENE	10,215	0	0	10,215	14,000	0	1,135
		TOLUENE	9,285	0	0	9,285	18,598	0	1,031
		XYLENE (MIXED ISOMERS)	58,115	0	0	58,115	90,553	0	6,457
Total			77,615	0	0	77,615		0	8,623
JONES CHEMICALS, INC.	TACOMA	CHLORINE	6	0	0	6	3	0	0
Total			6	0	0	6		0	0
KAISER ALUMINUM TACOMA WORKS	TACOMA	AROMATIC HYDROCARBON	5,170	2	0	5,172		0	1,600
		CARBONYL SULFIDE	182,000	0	0	182,000	178,000	0	0
		COPPER	851	12	0	863	871	0	102,394
		HYDROGEN FLUORIDE	109,870	0	0	109,870	120,810	0	0
		LITHIUM CARBONATE	382	0	0	382	636	0	0
Total			298,273	14	0	298,287		0	103,994
LIANGA PACIFIC, INC.	TACOMA	XYLENE (MIXED ISOMERS)	12,000	0	0	12,000	11,764	0	0
Total			12,000	0	0	12,000		0	0
MATSUSHITA SEMICONDUCTOR CORP	PUYALLUP	AMMONIA	36,930	755	0	37,685		0	0
		HYDROGEN FLUORIDE	2,090	0	0	2,090	3,100	0	250
		NITRIC ACID	178	0	0	178	37[illegible]	0	250
		PHOSPHORIC ACID	22[illegible]	0	0	22	39[illegible]	0	5
Total			39,220	755	0	39,975		0	505
NALLEYS FINE FOODS	TACOMA	AMMONIA	0	0	0	0	0	0	0
		PHOSPHORIC ACID	0	0	0	0	0	0	0
Total			0	0	0	0		0	0
NORTH COAST BOATS	TACOMA	STYRENE	8,100	0	0	8,100	4,500	0	0
Total			8,100	0	0	8,100		0	0
NORTHWEST ETCH TECHNOLOGY	TACOMA	COPPER	0	0	0	0	0	0	8,000
		HYDROCHLORIC ACID	0	0	0	0	0	0	1,400
Total			0	0	0	0		0	9,400

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PIERCE	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
PACE INDUSTRIES	TACOMA	COPPER	125	0	0	**125**	183	1	7,630
Total			**125**	**0**	**0**	**125**		**1**	**7,630**
PARKER PAINT	TACOMA	ETHYLENE GLYCOL	2,640	0	0	**2,640**	2,205	0	421
		N-BUTYL ALCOHOL	228	0	0	**228**		0	0
		TOLUENE	1,036	0	0	**1,036**	797	0	695
		XYLENE (MIXED ISOMERS)	5,824	0	0	**5,824**	4,131	0	695
Total			**9,728**	**0**	**0**	**9,728**		**0**	**1,811**
PIONEER CHLOR ALKALI COMPANY,	TACOMA	ASBESTOS (FRIABLE)	1	0	0	**1**	1	0	0
		CHLORINE	278	0	0	**278**	303	0	0
		DICHLORODIFLUOROMETHANE (CFC-12)	34,000	0	0	**34,000**		0	0
		HYDROCHLORIC ACID	151	0	0	**151**	275	0	0
Total			**34,430**	**0**	**0**	**34,430**		**0**	**0**
RAVEN INDUSTRIES, INC. NORCOR	TACOMA	ETHYLENE GLYCOL	9,500	0	0	**9,500**	9,472	0	0
		STYRENE	5,500	0	0	**5,500**	12,499	0	0
Total			**15,000**	**0**	**0**	**15,000**		**0**	**0**
SIMPSON TACOMA KRAFT	TACOMA	ACETALDEHYDE	38,904	12,600	0	**51,504**	41,004	0	0
		AMMONIA	77,400	3,800	0	**81,200**	96,500	0	0
		CATECHOL	0	62	0	**62**	60	0	0
		CHLORINE	49	0	0	**49**	585	0	0
		CHLORINE DIOXIDE	7,600	0	0	**7,600**	7,600	0	0
		CHLOROFORM	29,700	2,900	0	**32,600**	29,700	0	0
		CRESOL (MIXED ISOMERS)	38,400	70	0	**38,470**	34,100	0	0
		FORMALDEHYDE	12,800	1,740	0	**14,540**		0	0
		FORMIC ACID	0	0	0	**0**	0	0	0
		GLYCOL ETHERS	1,600	1,100	0	**2,700**	2,340	0	0
		HYDROCHLORIC ACID	45,200	0	0	**45,200**	43,000	0	0
		METHANOL	771,300	0	0	**771,300**	705,100	0	0
		NITRIC ACID	0	0	0	**0**	0	0	0
		PHENOL	19,500	320	0	**19,820**	18,206	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		SULFURIC ACID	26,700	0	0	**26,700**	40,800	0	0

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PIERCE	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			1,069,153	22,592	0	1,091,745		0	0
SUPERIOR WOOD TREATING	SUMNER	ARSENIC COMPOUNDS	10	5	0	15		0	750
		CHROMIUM COMPOUNDS	10	5	0	15		0	750
		COPPER COMPOUNDS	10	5	0	15		0	250
Total			30	15	0	45		0	1,750
T. C. PRODUCTS INC.	TACOMA	CHLORINE	3	0	0	3	20	0	0
Total			3	0	0	3		0	0
TACOMA FIXTURE COMPANY	TACOMA	METHYL ISOBUTYL KETONE	13,252	0	0	13,252	17,935	0	270
		TOLUENE	18,211	0	0	18,211	23,016	0	1,890
		XYLENE (MIXED ISOMERS)	11,091	0	0	11,091	13,677	0	11,091
Total			42,554	0	0	42,554		0	13,251
TACOMA RUBBER STAMP CO	TACOMA	TETRACHLOROETHYLENE	21,392	0	0	21,392		0	17,150
Total			21,392	0	0	21,392		0	17,150
TORAY COMPOSITES (AMERICA)	TACOMA	METHANOL	24,000	0	0	24,000	4,233	0	76,000
		METHYL ETHYL KETONE	58,000	0	0	58,000	18,429	0	189,000
		N-METHYL-2-PYRROLIDONE	19,000	0	0	19,000	1,554	0	224,000
		TOLUENE	48,000	0	0	48,000	8,915	0	162,000
Total			149,000	0	0	149,000		0	651,000
U.S. OIL & REFINING CO.	TACOMA	BENZENE	9,042	0	0	9,042	9,120	0	15
		ETHYLBENZENE	4,383	0	0	4,383	4,400	0	0
		TOLUENE	22,482	0	0	22,482	22,627	0	0
		XYLENE (MIXED ISOMERS)	25,506	0	0	25,506	25,639	0	0
Total			61,413	0	0	61,413		0	15
U.S.DOD U.S.ARMY FORT LEWIS	FORT LEWIS	ETHYLENE GLYCOL	21	1,959	18	1,998	836	0	88,308
		TOLUENE	8,285	0	0	8,285	9,716	0	233
		XYLENE (MIXED ISOMERS)	8,538	0	0	8,538	9,163	0	179
Total			16,844	1,959	18	18,821		0	88,720
WESTMARK PRODUCTS, INC.	TACOMA	TOLUENE	11,084	0	0	11,084	11,552	0	250
Total			11,084	0	0	11,084		0	250
Summary for 'County' = PIERCE			2,088,293	25,605	73	2,113,971		48	1,182,768
SKAGIT									
FIBREX CORP	BURLINGTON	STYRENE	2,746	0	0	2,746	3,896	0	0

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SKAGIT	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			2,746	0	0	2,746		0	0
GENERAL CHEMICAL	ANACORTES	SULFURIC ACID	12,000	0	0	**12,000**	12,920	0	0
Total			12,000	0	0	12,000		0	0
MARCH POINT COGENERATION CO.	ANACORTES	1,3-BUTADIENE	8	0	0	**8**	6	0	0
		AMMONIA	400	0	0	**400**	1,036	0	0
		ETHYLENE	3,000	0	0	**3,000**	2,127	0	0
		PROPYLENE	1,100	0	0	**1,100**	820	0	0
Total			4,508	0	0	4,508		0	0
SHELL ANACORTES REFINING CO	ANACORTES	1,2,4-TRIMETHYLBENZENE	2,200	0	0	**2,200**	2,100	0	0
		1,3-BUTADIENE	70	0	0	**70**	40	0	0
		AMMONIA	1,250	1,000	670	**2,920**	2,550	0	0
		ANTIMONY COMPOUNDS	260	7,900	215	**8,375**	9,430	0	485
		BENZENE	17,500	0	21	**17,521**	17,400	0	80
		CHLORINE	3,700	0	0	**3,700**	2,900	0	0
		CUMENE	200	0	0	**200**		0	0
		CYCLOHEXANE	23,000	0	0	**23,000**	21,000	0	0
		DIETHANOLAMINE	500	0	0	**500**	500	0	0
		ETHYLBENZENE	18,000	0	35	**18,035**	18,400	0	6
		ETHYLENE	5,000	0	0	**5,000**	5,300	0	0
		HEXANE	46,000	0	0	**46,000**		0	0
		HYDROCHLORIC ACID	41	0	0	**41**	41	0	0
		METHANOL	500	0	0	**500**	500	0	0
		METHYL TERT-BUTYL ETHER	1,400	0	0	**1,400**	1,400	0	0
		MOLYBDENUM TRIOXIDE	0	0	0	**0**	0	0	0
		NAPHTHALENE	2,400	0	0	**2,400**	2,100	0	40
		NICKEL COMPOUNDS	3,000	0	20	**3,020**	3,560	0	8,400
		POLYCYCLIC AROMATIC COMPOUNDS	400	0	20	**420**	225	0	25
		PROPYLENE	17,000	0	0	**17,000**	12,600	0	0
		TETRACHLOROETHYLENE	3,512	0	0	**3,512**	3,512	0	4
		TOLUENE	62,000	0	100	**62,100**	60,000	0	10
		XYLENE (MIXED ISOMERS)	70,000	0	260	**70,260**	65,000	0	45
Total			277,933	8,900	1,341	288,174		0	9,095

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SKAGIT	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
TRMI PUGET SOUND PLANT	ANACORTES	1,2,4-TRIMETHYLBENZENE	1,130	0	7	**1,137**	1,310	0	0
		1,3-BUTADIENE	386	0	0	**386**		0	0
		AMMONIA	1,980	7,300	0	**9,280**	11,849	0	0
		AROMATIC HYDROCARBON	0	0	0	**0**		0	0
		BENZENE	5,700	0	14	**5,714**	5,753	0	281
		CHLORINE	6,100	2,500	0	**8,600**	8,746	0	0
		CYCLOHEXANE	1,580	0	35	**1,615**	1,794	0	0
		ETHYLBENZENE	1,600	0	17	**1,617**	1,787	0	4,078
		ETHYLENE	36,280	0	0	**36,280**	37,365	0	0
		HEXANE	8,900	0	2	**8,902**		0	0
		METHANOL	10	0	0	**10**	10	0	0
		MOLYBDENUM TRIOXIDE	0	0	0	**0**	0	0	35,400
		NAPHTHALENE	4	0	16	**20**	6	0	499
		PHENOL	0	110	0	**110**	331	0	0
		PHOSPHORIC ACID	0	0	1	**1**		0	0
		PROPYLENE	22,700	0	0	**22,700**	23,302	0	0
		TOLUENE	10,900	0	1,305	**12,205**	13,449	0	837
		XYLENE (MIXED ISOMERS)	10,100	0	132	**10,232**	11,556	0	1,685
Total			**107,370**	**9,910**	**1,529**	**118,809**		**0**	**42,780**
Summary for 'County' = SKAGIT			**404,557**	**18,810**	**2,870**	**426,237**		**0**	**51,875**
SNOHOMISH									
ACHILLES USA INC	EVERETT	DI(2-ETHYLHEXYL) PHTHALATE (DEHP)	123	0	0	**123**	2,707	5	0
		PHENOL	7,900	0	0	**7,900**		0	0
Total			**8,023**	**0**	**0**	**8,023**		**5**	**0**
AMERICAN BOILER WORKS, INC.	EVERETT	METHYL ETHYL KETONE	13,460	0	0	**13,460**	6,880	0	500
Total			**13,460**	**0**	**0**	**13,460**		**0**	**500**
BFGOODRICH AEROSPACE - AIRFRAM	EVERETT	METHYL ETHYL KETONE	21,481	0	0	**21,481**	7,800	5	44,482
		TOLUENE	2,360	0	0	**2,360**	4,100	5	11,288
Total			**23,841**	**0**	**0**	**23,841**		**10**	**55,770**
BOEING CAG EVERETT	EVERETT	1,1,1-TRICHLOROETHANE	28,400	0	0	**28,400**	95,600	0	17,526
		AMMONIA	13,300	0	0	**13,300**	12,200	0	131

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SNOHOMISH	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
BOEING CAG EVERETT	EVERETT	CHROMIUM COMPOUNDS	1,440	94	0	**1,534**	571	5	115,600
		COPPER	0	330	0	**330**		5	57,020
		FREON 113	72,000	0	0	**72,000**	33,000	0	15,152
		GLYCOL ETHERS	7,670	0	0	**7,670**	8,670	0	23,450
		MANGANESE COMPOUNDS	3	0	0	**3**	10	0	33,091
		METHYL ETHYL KETONE	389,000	407	0	**389,407**	400,500	1,900	76,355
		METHYL ISOBUTYL KETONE	20,100	0	0	**20,100**		0	11,182
		N-BUTYL ALCOHOL	7,000	0	0	**7,000**		0	2,865
		NITRIC ACID	0	0	0	**0**		0	45,500
		SEC-BUTYL ALCOHOL	24,400	0	0	**24,400**		0	8,482
		TOLUENE	289,000	48	0	**289,048**	200,255	5	37,795
		TRICHLOROETHYLENE	33,700	0	0	**33,700**		0	6,400
		XYLENE (MIXED ISOMERS)	22,200	44	0	**22,244**	16,650	0	4,069
Total			**908,213**	**923**	**0**	**909,136**		**1,915**	**454,618**
BOEING CAG MUKILTEO	MUKILTEO	METHYL ETHYL KETONE	11,000	0	0	**11,000**		0	3,245
Total			**11,000**	**0**	**0**	**11,000**		**0**	**3,245**
CALVERT INDUSTRIES INC	SNOHOMISH	METHYL ETHYL KETONE	20,939	0	0	**20,939**	11,53[illegible]	0	917
		XYLENE (MIXED ISOMERS)	24,231	0	0	**24,231**	27,311	0	458
Total			**45,170**	**0**	**0**	**45,170**		**0**	**1,375**
CANYON CREEK CABINETS	WOODINVILLE	TOLUENE	10,56[illegible]	0	0	**10,563**	31,[illegible]40	0	525
		XYLENE (MIXED ISOMERS)	16,87[illegible]	0	0	**16,877**	[illegible],877	0	1,650
Total			**27,440**	**0**	**0**	**27,440**		**0**	**2,175**
CHEVRON PRODUCTS COMPANY	SEATTLE	BENZENE	426	152	0	**578**	2,831	0	0
		CYCLOHEXANE	967	152	0	**1,119**	1,300	0	0
		HEXANE	2,839	304	0	**3,143**		0	0
		TOLUENE	1,251	44	0	**1,295**	1,866	0	0
		XYLENE (MIXED ISOMERS)	631	53	0	**684**	1,132	0	0
Total			**6,114**	**705**	**0**	**6,819**		**0**	**0**
CIRCUITS ENGINEERING, INC.	BOTHELL	COPPER	0	0	0	**0**	0	7	7,744
Total			**0**	**0**	**0**	**0**		**7**	**7,744**
COOK COMPOSITES AND POLYMERS	ARLINGTON	METHYL METHACRYLATE	1,000	0	0	**1,000**	1,332	0	335

SNOHOMISH	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
COOK COMPOSITES AND POLYMERS	ARLINGTON	STYRENE	2,435	0	0	**2,435**	500	0	4,415
Total			**3,435**	**0**	**0**	**3,435**		**0**	**4,750**
CREST CABINET CORP	EVERETT	TOLUENE	12,132	0	0	**12,132**	18,385	0	1,218
Total			**12,132**	**0**	**0**	**12,132**		**0**	**1,218**
FLUKE CORPORATION	EVERETT	AMMONIA	12	0	0	**12**	12	250	25,074
		COPPER COMPOUNDS	0	0	0	**0**	0	439	16,838
		NITRIC ACID	38	0	0	**38**	38	0	0
Total			**50**	**0**	**0**	**50**		**689**	**41,912**
J.H. BAXTER & CO.	ARLINGTON	PENTACHLOROPHENOL	500	0	0	**500**	500	0	500
Total			**500**	**0**	**0**	**500**		**0**	**500**
JBJ INC DBA LIFESTYLES	WOODINVILLE	STYRENE	7,518	0	0	**7,518**	4,499	0	0
Total			**7,518**	**0**	**0**	**7,518**		**0**	**0**
KIMBERLY-CLARK TISSUE COMPANY	EVERETT	AMMONIA	9,730	47,000	0	**56,730**	84,330	0	0
		CHLORINE	1,100	0	0	**1,100**	1,000	0	0
		CHLOROFORM	102,000	11,500	0	**113,500**	107,900	0	0
		FORMIC ACID	0	0	0	**0**	0	0	0
		METHANOL	55,000	105,000	0	**160,000**	79,000	0	0
		NITRATE COMPOUNDS	0	350,000	0	**350,000**	340,000	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	5
		VINYL ACETATE	4,300	900	0	**5,200**	3,550	0	0
Total			**172,130**	**514,400**	**0**	**686,530**		**0**	**5**
NORTHWEST COMPOSITES, INC.	MARYSVILLE	METHYL ETHYL KETONE	13,841	0	0	**13,841**	1,442	0	6,190
Total			**13,841**	**0**	**0**	**13,841**		**0**	**6,190**
REYNOLDS CORP	LYNNWOOD	STYRENE	2,572	0	0	**2,572**	4,574	0	0
Total			**2,572**	**0**	**0**	**2,572**		**0**	**0**
SKAGIT MARINE DISTRIBUTING	MONROE	STYRENE	1,129	0	0	**1,129**		0	0
Total			**1,129**	**0**	**0**	**1,129**		**0**	**0**
TIZ'S DOOR SALES INC.	EVERETT	TOLUENE	13,108	0	0	**13,108**	16,768	0	250
		XYLENE (MIXED ISOMERS)	13,863	0	0	**13,863**	13,055	0	250
Total			**26,971**	**0**	**0**	**26,971**		**0**	**500**
US MARINE/BAYLINER MARINE	ARLINGTON	STYRENE	103,126	0	0	**103,126**	99,580	0	0

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SNOHOMISH	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
Total			103,126	0	0	103,126		0	0
Summary for 'County' = SNOHOMISH			1,386,665	516,028	0	1,902,693		2,626	580,502
SPOKANE									
ADM ANIMAL HEALTH & NUTRITION	SPOKANE	COPPER COMPOUNDS	1	0	0	1	1	0	142
		MANGANESE COMPOUNDS	1	0	0	1	4	0	492
		SELENIUM COMPOUNDS	1	0	0	1	1	0	3
		ZINC COMPOUNDS	2	0	0	2	6	0	1,175
Total			5	0	0	5		0	1,812
ALLOY TRAILERS, INC.	SPOKANE	CHLORODIFLUOROMETHANE (HCFC-22)	1,142	0	0	1,142		0	0
		MANGANESE	3	0	0	3	3	0	0
		TOLUENE	7,560	0	0	7,560	5,907	0	0
		XYLENE (MIXED ISOMERS)	24,127	0	0	24,127	5,621	0	11,284
		XYLENE (MIXED ISOMERS)	63,726	0	0	63,726	37,685	0	19,505
Total			96,558	0	0	96,558		0	30,789
APOLLO PLASTICS INC	SPOKANE	STYRENE	4,900	0	0	4,900	9,806	0	0
Total			4,900	0	0	4,900		0	0
COLUMBIA LIGHTING, INC	SPOKANE	TOLUENE	18,103	0	0	18,103	51,204	0	1,748
		XYLENE (MIXED ISOMERS)	16,236	0	0	16,236	55,520	0	25,364
Total			34,339	0	0	34,339		0	27,112
COLUMBIA PAINT & COATINGS	SPOKANE	ETHYLENE GLYCOL	2,650	0	0	2,650	500	0	0
		METHANOL	1,000	0	0	1,000		0	0
		TOLUENE	1,000	0	0	1,000	1,000	0	0
		XYLENE (MIXED ISOMERS)	500	0	0	500	500	0	0
Total			5,150	0	0	5,150		0	0
HUNTWOOD INDUSTRIES	SPOKANE	ETHYLBENZENE	18,837	0	0	18,837	18,837	0	3,107
		FORMALDEHYDE	1,114	0	0	1,114	1,114	0	5
		TOLUENE	97,962	0	0	97,962	97,962	0	13,592
		XYLENE (MIXED ISOMERS)	21,827	0	0	21,827	81,115	0	4,660
Total			139,740	0	0	139,740		0	21,364
JOHNSON MATTHEY ELECTRONICS	SPOKANE	COPPER	5	0	0	5	5	5	171,318
		DICHLOROMETHANE	23,287	0	0	23,287	23,100	0	3,411

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SPOKANE	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
JOHNSON MATTHEY ELECTRONICS	SPOKANE	HEXANE	5,760	0	0	**5,760**		0	6,868
		HYDROCHLORIC ACID	1,000	0	0	**1,000**		0	0
		LEAD	10	0	0	**10**	10	5	9,750
		NICKEL COMPOUNDS	10	0	0	**10**	10	250	10,040
		NITRIC ACID	500	0	0	**500**		0	0
Total			**30,572**	**0**	**0**	**30,572**		**260**	**201,387**
KAISER ALUMINUM & CHEMICAL	SPOKANE	CHLORINE	175,120	0	0	**175,120**	201,070	0	0
		CHROMIUM	108	126	123	**357**	153	0	214
		COPPER	85	14	376	**475**	93	0	566
		GLYCOL ETHERS	653	0	0	**653**	524	0	5,644
		HYDROCHLORIC ACID	18,568	0	0	**18,568**	160,650	0	0
		MANGANESE	459	14	393	**866**	221	0	533
		METHYL ETHYL KETONE	3,004	0	0	**3,004**	3,509	0	406,386
		METHYL ISOBUTYL KETONE	875	0	0	**875**	890	0	11,287
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		SULFURIC ACID	0	0	0	**0**	0	0	0
		TOLUENE	3,210	0	0	**3,210**	3,394	0	73,366
		XYLENE (MIXED ISOMERS)	724	0	0	**724**	1,549	0	12,987
Total			**202,806**	**154**	**892**	**203,852**		**0**	**510,983**
KAISER ALUMINUM & CHEMICAL MEAD	MEAD	AROMATIC HYDROCARBON	1,000	0	250	**1,250**		0	250
		CARBONYL SULFIDE	521,000	0	0	**521,000**	518,000	0	0
		COPPER	500	36	0	**536**	75	0	24,900
		HYDROGEN FLUORIDE	599,000	0	0	**599,000**	744,000	0	0
		LITHIUM CARBONATE	255	250	0	**505**	505	0	0
Total			**1,121,755**	**286**	**250**	**1,122,291**		**0**	**25,150**
MELCHER MFG CO INC	SPOKANE	STYRENE	19,410	0	0	**19,410**	14,860	0	0
Total			**19,410**	**0**	**0**	**19,410**		**0**	**0**
MICA BRICK PLANT	MICA	HYDROGEN FLUORIDE	66,785	0	0	**66,785**	59,910	0	0
Total			**66,785**	**0**	**0**	**66,785**		**0**	**0**
OLYMPIC FOODS, INC	SPOKANE	PHOSPHORIC ACID	0	0	0	**0**	0	11,190	0
Total			**0**	**0**	**0**	**0**		**11,190**	**0**

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SPOKANE	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
PEPSI COLA OF SPOKANE	SPOKANE	PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**0**	**0**
SPOKANE GALVANIZING, INC.	AIRWAY HEIGHTS	SULFURIC ACID	750	0	0	**750**	585	0	0
		ZINC (FUME OR DUST)	750	0	0	**750**	656	0	123,820
Total			**1,500**	**0**	**0**	**1,500**		**0**	**123,820**
SPOKANE METAL PRODUCTS	SPOKANE	CHROMIUM	5	0	0	**5**	5	0	5,900
		NICKEL	5	0	0	**5**	5	0	3,100
Total			**10**	**0**	**0**	**10**		**0**	**9,000**
SPOKANE STEEL FOUNDRY	SPOKANE	CHROMIUM	10	0	0	**10**	10	0	5
		MANGANESE	255	0	0	**255**	255	0	6,800
Total			**265**	**0**	**0**	**265**		**0**	**6,805**
TRAVIS PATTERN & FOUNDRY INC	SPOKANE	COPPER	0	0	0	**0**	0	0	0
		TRICHLOROETHYLENE	7,979	0	0	**7,979**	8,619	0	601
Total			**7,979**	**0**	**0**	**7,979**		**0**	**601**
UNITED PAINT MANUFACTURING COM	GREENACRES	DIISOCYANATES	[illegible]	0	[illegible]	**[illegible]**	[illegible]	0	700
		ETHYLBENZENE	[illegible]	0	0	**[illegible]**	1,300	0	541
		XYLENE (MIXED ISOMERS)	3,900	0	0	**3,900**	4,400	0	1,625
Total			**5,200**	**0**	**0**	**5,200**		**0**	**2,866**
US MARINE/BAYLINER MARINE	SPOKANE	DICHLOROMETHANE	39,017	0	0	**39,017**	53,129	0	0
		STYRENE	103,765	0	0	**103,765**	1[illegible]8,216	0	0
Total			**142,782**	**0**	**0**	**142,782**		**0**	**0**
Summary for 'County' = SPOKANE			**1,879,756**	**440**	**1,142**	**1,881,338**		**11,450**	**961,689**
STEVENS									
ALADDIN STEEL PRODUCTS	COLVILLE	TOLUENE	20,821	0	0	**20,821**	15,467	0	0
Total			**20,821**	**0**	**0**	**20,821**		**0**	**0**
NORTHWEST ALLOYS, INC	ADDY	AMMONIA	5,675	0	16,580	**22,255**	31,799	0	9,288
		COPPER	222	0	0	**222**	193	0	0
		HYDROCHLORIC ACID	2,802	0	0	**2,802**	15,122	0	0
Total			**8,699**	**0**	**16,580**	**25,279**		**0**	**9,288**
Summary for 'County' = STEVENS			**29,520**	**0**	**16,580**	**46,100**		**0**	**9,288**

THURSTON	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
THURSTON									
AMTECH CORP	YELM	STYRENE	49,120	0	0	**49,120**	32,000	0	8,546
Total			**49,120**	**0**	**0**	**49,120**		**0**	**8,546**
CROWN BEVERAGE PACKAGING	OLYMPIA	GLYCOL ETHERS	156,887	0	0	**156,887**	76,906	0	0
		HEXANE	101,895	0	0	**101,895**		0	0
		HYDROGEN FLUORIDE	0	0	0	**0**	0	0	0
		MANGANESE COMPOUNDS	0	0	0	**0**	0	5	250
		N-BUTYL ALCOHOL	137,616	0	0	**137,616**	120,789	0	0
Total			**396,398**	**0**	**0**	**396,398**		**5**	**250**
OLYMPIA CHEESE COMPANY, LLC	LACEY	NITRIC ACID	0	0	0	**0**	0	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**0**	**0**
TOMPKINS INDUSTRIES INC LASCO	YELM	STYRENE	497,200	0	0	**497,200**	237,529	0	0
Total			**497,200**	**0**	**0**	**497,200**		**0**	**0**
Summary for 'County' = THURSTON			**942,718**	**0**	**0**	**942,718**		**5**	**8,796**
WALLA WALLA									
BOISE CASCADE PAPER DIVISION	WALLULA	ACETALDEHYDE	38,300	1,700	57	**40,057**	27,950	0	0
		AMMONIA	177,500	13,000	0	**190,500**	76,500	0	0
		BARIUM COMPOUNDS	306	192	9,332	**9,830**		0	170
		CATECHOL	0	66	1	**67**	57	0	0
		CHLORINE	520	0	0	**520**	3,280	0	0
		CHLORINE DIOXIDE	5,[illegible]	0	0	**5,[illegible]**	[illegible]	0	0
		CHLOROFORM	34,000	788	30	**4,818**	29,47[illegible]	0	0
		FORMIC ACID	0	0	0	**0**	0	0	0
		HYDROCHLORIC ACID	474,000	0	0	**474,000**	511,000	0	0
		MANGANESE COMPOUNDS	74[illegible]	[illegible]	21,700	**27,[illegible]**		0	131
		METHANOL	483,20[illegible]	47,00[illegible]	4,100	**534,300**	5[illegible],000	0	0
		PHENOL	700	120	28	**848**	730	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
		SULFURIC ACID	25,200	0	0	**25,200**	27,000	0	0
		TRADE SECRET	0	29,000	0	**29,000**		0	0
Total			**1,239,966**	**93,766**	**38,248**	**1,371,980**		**0**	**301**

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WALLA WALLA	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
IBC INC	WALLULA	AMMONIA	39,100	0	7,800	**46,900**	39,300	0	38,900
		CHLORINE	5	0	0	**5**	5	0	0
		PHOSPHORIC ACID	5	0	0	**5**	5	0	0
Total			**39,110**	**0**	**7,800**	**46,910**		**0**	**38,900**
NELSON IRRIGATION CORP	WALLA WALLA	COPPER	250	0	0	**250**	250	0	343,450
		LEAD	250	0	0	**250**	250	0	18,850
Total			**500**	**0**	**0**	**500**		**0**	**362,300**
REIFF MANUFACTURING INC	WALLA WALLA	STYRENE	1,609	0	0	**1,609**	7,924	0	0
Total			**1,609**	**0**	**0**	**1,609**		**0**	**0**
Summary for 'County' = WALLA WALLA			**1,281,185**	**93,766**	**46,048**	**1,420,999**		**0**	**401,501**
WHATCOM									
ARCO CHERRY POINT REFINERY	BLAINE	1,2,4-TRIMETHYLBENZENE	5,880	0	12	**5,892**	5,162	0	0
		AMMONIA	790	14,000	0	**14,790**	8,250	0	0
		BENZENE	22,000	3	4	**22,007**	24,003	0	71
		COBALT COMPOUNDS	0	0	0	**0**	0	0	3,100
		CUMENE	[illegible]	0	[illegible]	[illegible]	[illegible]	0	0
		CYCLOHEXANE	6,270	0	21	[illegible]	[illegible]	0	0
		DIETHANOLAMINE	1,350	8,500	0	**9,850**	7,920	0	0
		ETHYLBENZENE	7,700	0	0	**7,700**	6,300	0	0
		ETHYLENE	600	0	0	**600**	568	0	0
		HEXANE	9,300	[illegible]	39	[illegible]		0	0
		MANGANESE COMPOUNDS	80	800	0	**880**	722	0	43,000
		METHANOL	5,490	0	0	**5,490**	5,100	0	0
		NAPHTHALENE	1,200	0	0	**1,200**	1,060	0	0
		NICKEL COMPOUNDS	970	1,600	0	**2,570**	1,380	0	7,700
		NITRATE COMPOUNDS	0	26,000	0	**26,000**	26,000	0	0
		PROPYLENE	910	0	0	**910**	840	0	0
		SULFURIC ACID	79,000	0	0	**79,000**	80,000	0	25
		TOLUENE	40,400	1	0	**40,401**	35,801	0	0
		XYLENE (MIXED ISOMERS)	30,900	0	1	**30,901**	26,600	0	0
Total			**213,670**	**50,904**	**79**	**264,653**		**0**	**53,896**
DARIGOLD-LYNDEN	LYNDEN	NITRATE COMPOUNDS	0	0	0	**0**	0	44,557	0

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WHATCOM	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
DARIGOLD-LYNDEN	LYNDEN	NITRIC ACID	0	0	0	**0**		0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**44,557**	**0**
ERSHIGS INC	BELLINGHAM	STYRENE	22,480	0	0	**22,480**	28,300	0	2,870
Total			**22,480**	**0**	**0**	**22,480**		**0**	**2,870**
GEORGIA-PACIFIC WEST	BELLINGHAM	ACETALDEHYDE	40,000	24,000	0	**64,000**	60,000	0	0
		ACRYLIC ACID	461	0	0	**461**	311	0	0
		AMMONIA	773	110,000	0	**110,773**	100,789	0	0
		CHLORINE	3,830	0	0	**3,830**	3,840	0	0
		CHLORINE DIOXIDE	433	0	0	**433**	433	0	0
		CHLOROFORM	204,000	4,900	0	**208,900**	234,600	0	0
		CHROMIUM COMPOUNDS	510	12,000	0	**12,510**	9,390	0	791
		DICHLORODIFLUOROMETHANE (CFC-12)	0	0	0	**0**		0	0
		FORMALDEHYDE	5,055	26	0	**5,081**	5,283	0	0
		FORMIC ACID	1,000	0	0	**1,000**	1,000	0	0
		HYDROCHLORIC ACID	160,130	0	0	**160,130**	160,110	0	0
		MANGANESE COMPOUNDS	145	56,000	0	**56,145**	22	0	950
		MERCURY COMPOUNDS	1,430	12	0	**1,442**	1,505	0	466
		METHANOL	170,250	114	0	**170,364**	170,261	0	0
		METHYL ISOBUTYL KETONE	579	0	0	**579**	552	0	0
		NITRATE COMPOUNDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0
		NITRIC ACID	1,303	0	0	**1,303**	1,303	0	0
		PHOSPHORIC ACID	26	0	0	**26**	26	0	0
		SULFURIC ACID	6,200	0	0	**6,200**	8,600	0	0
		ZINC COMPOUNDS	179	[illegible]	0	[illegible]	615	0	807
Total			**96,304**	**563,85[illegible]**	**0**	**1,1[illegible]0,156**		**0**	**3,014**
INTALCO ALUMINUM CORPORATION	FERNDALE	ANTHRACENE	1,587	0	0	**1,587**		0	0
		AROMATIC HYDROCARBON	4,528	0	0	**4,528**		0	0
		CARBONYL SULFIDE	382,000	0	0	**382,000**	374,263	0	0
		CHLORINE	1	0	0	**1**	1	0	0
		CHROMIUM	1	0	0	**1**	1	0	0

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WHATCOM	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
INTALCO ALUMINUM CORPORATION	FERNDALE	COPPER	2	0	0	**2**	2	0	0
		HYDROGEN FLUORIDE	95,445	0	0	**95,445**	112,930	0	0
		MANGANESE	10	0	0	**10**	10	0	0
		PHENANTHRENE	4,771	0	0	**4,771**		0	0
		SULFURIC ACID	0	0	0	**0**	0	0	0
Total			**488,345**	**0**	**0**	**488,345**		**0**	**0**
LISTER CHAIN AND FORGE	BLAINE	MANGANESE	0	0	0	**0**	250	0	3,291
Total			**0**	**0**	**0**	**0**		**0**	**3,291**
MAAX-HYDRO SWIRL MFG. CORP.	BELLINGHAM	STYRENE	18,600	0	0	**18,600**	14,648	0	0
Total			**18,600**	**0**	**0**	**18,600**		**0**	**0**
PRAXAIR INC	FERNDALE	AMMONIA	24,860	0	0	**24,860**	36,740	0	0
Total			**24,860**	**0**	**0**	**24,860**		**0**	**0**
TOSCO REFINING COMPANY	FERNDALE	1,1,1-TRICHLOROETHANE	3	0	0	**3**	2	0	0
		1,2,4-TRIMETHYLBENZENE	2,179	11	0	**2,190**	7,191	0	0
		1,3-BUTADIENE	1,360	0	0	**1,360**	870	0	0
		AMMONIA	330	6,900	0	**7,230**	120	0	0
		ANTHRACENE	0	12	0	**2**	43	0	0
		BENZENE	8,300	12	144	**8,456**	9,713	0	0
		CHROMIUM COMPOUNDS	0	2	0	**2**	2,021	0	0
		CRESOL (MIXED ISOMERS)	64	11	0	**75**	107	0	0
		CUMENE	908	11	87	**1,006**	1,911	0	0
		CYCLOHEXANE	18,000	0	84	**18,084**	15,700	0	0
		DIETHANOLAMINE	740	0	0	**740**	640	0	0
		ETHYLBENZENE	6,690	12	6	**6,708**	5,753	0	0
		ETHYLENE	4,900	0	0	**4,900**	3,280	0	0
		HEXANE	9,100	0	142	**9,242**		0	0
		HYDROGEN FLUORIDE	540	0	0	**540**	460	0	0
		LEAD COMPOUNDS	0	0	0	**0**	590	0	0
		MANGANESE COMPOUNDS	0	1,100	0	**1,100**	1,107	0	0
		METHANOL	11	0	0	**11**		0	0
		NAPHTHALENE	800	0	0	**800**	936	0	0
		NITRATE COMPOUNDS	0	44,000	0	**44,000**	46,000	0	0

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WHATCOM	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
TOSCO REFINING COMPANY	FERNDALE	PHENOL	200	100	0	**300**	400	0	0
		PROPYLENE	2,600	0	0	**2,600**	2,480	0	0
		TETRACHLOROETHYLENE	2	0	0	**2**		0	0
		TOLUENE	20,600	12	75	**20,687**	31,413	0	0
		XYLENE (MIXED ISOMERS)	20,400	12	71	**20,483**	31,615	0	0
Total			**97,827**	**52,195**	**609**	**150,631**		**0**	**0**
WRIGHT BROS INC	BELLINGHAM	STYRENE	8,241	0	0	**8,241**	8,753	0	0
Total			**8,241**	**0**	**0**	**8,241**		**0**	**0**
Summary for 'County' = WHATCOM			**1,470,327**	**666,951**	**688**	**2,137,966**		**44,557**	**63,071**
YAKIMA									
BAY ZINC COMPANY, INC.	MOXEE	COPPER COMPOUNDS	25	0	0	**25**	32	0	600
		LEAD COMPOUNDS	229	0	0	**229**	269	0	51,700
		MANGANESE COMPOUNDS	146	0	0	**146**	158	0	17
		SULFURIC ACID	0	0	0	**0**	0	0	0
		ZINC COMPOUNDS	3,870	0	0	**3,870**	4,086	0	2,171
Total			**4,270**	**0**	**0**	**4,270**		**0**	**54,488**
DARIGOLD-SUNNYSIDE	SUNNYSIDE	NITRATE COMPOUNDS	0	0	0	**0**	0	172,745	0
		NITRIC ACID	0	0	0	**0**	0	0	0
		PHOSPHORIC ACID	0	0	0	**0**	0	0	0
Total			**0**	**0**	**0**	**0**		**172,745**	**0**
JOHN I HAAS INC	YAKIMA	HEXANE	49,000	0	0	**49,000**		5	0
Total			**49,000**	**0**	**0**	**49,000**		**5**	**0**
PACE INTERNATIONAL/WAPATO	WAPATO	COPPER COMPOUNDS	0	0	250	**250**		0	0
		DIETHANOLAMINE	255	0	0	**255**	0	0	0
		DIPHENYLAMINE	0	0	250	**250**	0	0	0
		ETHYLENE GLYCOL	250	0	0	**250**		0	0
		GLYCOL ETHERS	255	0	0	**255**	0	0	0
		MANGANESE COMPOUNDS	0	0	250	**250**		0	0
		PHOSPHORIC ACID	500	0	0	**500**	0	0	0
		ZINC COMPOUNDS	0	0	750	**750**	0	0	0
Total			**1,260**	**0**	**1,500**	**2,760**		**0**	**0**
SHIELDS BAG AND PRINTING CO	YAKIMA	DIBUTYL PHTHALATE	8,030	0	0	**8,030**	9,300	0	250

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YAKIMA	City	Chemical	Air	Water	Land	Release Total-97	Release Total-96	POTW - 97	Transfer Off-site-97
SHIELDS BAG AND PRINTING CO	YAKIMA	METHANOL	6,945	0	0	**6,945**	7,440	0	250
Total			**14,975**	**0**	**0**	**14,975**		**0**	**500**
SILGAN CONTAINER MANUFACTURING	TOPPENISH	GLYCOL ETHERS	42,024	0	0	**42,024**	35,200	0	1,999
Total			**42,024**	**0**	**0**	**42,024**		**0**	**1,999**
TRAIL WAGONS INC	YAKIMA	STYRENE	10,884	0	0	**10,884**	6,520	0	0
Total			**10,884**	**0**	**0**	**10,884**		**0**	**0**
TREE TOP, INC. ROSS PLANT	SELAH	NITRATE COMPOUNDS	0	0	0	**0**	0	0	82,000
Total			**0**	**0**	**0**	**0**		**0**	**82,000**
WESTERN RECREATIONAL VEHICLES	YAKIMA	DIISOCYANATES	0	0	0	**0**	0	0	0
		STYRENE	16,007	0	0	**16,007**	15,726	0	0
Total			**16,007**	**0**	**0**	**16,007**		**0**	**0**
Summary for 'County' = YAKIMA			**138,420**	**0**	**1,500**	**139,920**		**172,750**	**138,987**
Grand Total			**21,625,811**	**2,463,630**	**340,715**	**24,430,156**		**2,684,381**	**14,986,790**

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Appendix 4. Washington TRI Certification Reporters, 1997 (Form A)

Name	City	County	Chemical
ACHILLES USA INC	EVERETT	SNOHOMISH	BARIUM COMPOUNDS
			CADMIUM
			LEAD COMPOUNDS
			NAPHTHALENE
			ZINC COMPOUNDS
ARCO CHERRY POINT REFINERY	BLAINE	WHATCOM	CRESOL (MIXED ISOMERS)
			MOLYBDENUM TRIOXIDE
			PHOSPHORIC ACID
			TETRACHLOROETHYLENE
ASAHIPEN AMERICA, INC.	SEATTLE	KING	ETHYLENE GLYCOL
BARDAHL MFG CORP			LEAD COMPOUNDS
			POLYCHLORINATED ALKANES
BASIC AMERICAL FOODS	MOSES LAKE	GRANT	AMMONIA
			CHLORINE
BETZDEARBORN-WASHOUGAL	WASHOUGAL	CLARK	NAPHTHALENE
			PHOSPHORIC ACID
			ZINC COMPOUNDS
BFGOODRICH KALAMA, INC.	KALAMA	COWLITZ	PHOSPHORIC ACID
BIRMINGHAM STEEL CORP.	SEATTLE	KING	CHROMIUM COMPOUNDS
BORDEN CHEMICAL, INC.	KENT		AMMONIA
BROOKS MANUFACTURING CO	BELLINGHAM	WHATCOM	PENTACHLOROPHENOL
CANAM STEEL CORPORATION	SUNNYSIDE	YAKIMA	ALUMINUM
			BARIUM COMPOUNDS
			CHROMIUM
			COPPER
			LEAD
			MANGANESE
			NICKEL
			PHOSPHORUS (YELLOW OR WHITE)
			ZINC (FUME OR DUST)
CASCADE POLE & LUMBER COMPANY	TACOMA	PIERCE	ARSENIC COMPOUNDS
			CHROMIUM COMPOUNDS
			COPPER COMPOUNDS
			PENTACHLOROPHENOL
CH20 INC	OLYMPIA	THURSTON	PHOSPHORIC ACID
			SODIUM NITRITE
CHEMCO INC	FERNDALE	WHATCOM	ARSENIC COMPOUNDS
			CHROMIUM COMPOUNDS
			COPPER COMPOUNDS
			PHOSPHORIC ACID
CHEVRON PRODUCTS COMPANY	SEATTLE	SNOHOMISH	1,2,4-TRIMETHYLBENZENE
			CUMENE
			ETHYLBENZENE
COLUMBIA BEVERAGE CO	TUMWATER	THURSTON	PHOSPHORIC ACID
COLUMBIA MACHINE INC	VANCOUVER	CLARK	METHANOL

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Name	City	County	Chemical
CONNELLY SKIS INC	LYNNWOOD	SNOHOMISH	DIISOCYANATES
CYTEC INDUSTRIES, INC.	LONGVIEW	COWLITZ	ACRYLIC ACID
			AMMONIA
			DIMETHYLAMINE
			HYDROCHLORIC ACID
			METHANOL
DAISHOWA AMERICA CO. LTD.	PORT ANGELES	CLALLAM	PHOSPHORIC ACID
ELF ATTOCHEM NORTH AMERICA INC	TACOMA	PIERCE	CHLORINE
EXOTIC METALS FORMING CO.	KENT	KING	CHROMIUM COMPOUNDS
			NICKEL COMPOUNDS
FARWEST PAINT MFG CO	TUKWILA		TOLUENE
			XYLENE (MIXED ISOMERS)
FLEETWOOD HOMES OF WASHINGTON	WOODLAND	COWLITZ	DIISOCYANATES
FLUKE CORPORATION	EVERETT	SNOHOMISH	COPPER
FORT JAMES CAMAS LLC	CAMAS	CLARK	DISODIUM CYANOTHIOMIDOCARBONATE
			PHOSPHORIC ACID
			POTASSIUM N-METHYLDITHIOCARBAMATE
GACO WESTERN, INC.	TUKWILA	KING	DIISOCYANATES
			TOLUENE DIISOCYANATE (MIXED ISOMERS)
GOLDENDALE ALUMINUM COMPANY	GOLDENDALE	KLICKITAT	CHROMIUM
			COPPER
			MANGANESE
HALLMARK REFINING CORP	MOUNT VERNON	SKAGIT	SILVER
INLAND EMPIRE PAPER COMPANY	SPOKANE	SPOKANE	POTASSIUM DIMETHYLDITHIOCARBAMATE
JONES CHEMICALS, INC.	TACOMA	PIERCE	AMMONIA
KELLY-MOORE/PRESERVATIVE PAINT	SEATTLE	KING	GLYCOL ETHERS
LAMB-WESTON, INC.	QUINCY	GRANT	CHLORINE
LONGVIEW FIBRE CO	LONGVIEW	COWLITZ	PHOSPHORIC ACID
METALCRAFTS INC	SPOKANE	SPOKANE	COPPER
MICA BRICK PLANT	MICA		CHROMIUM COMPOUNDS
			MANGANESE COMPOUNDS
MIKRON INDUSTRIES INC.	KENT	KING	ANTIMONY COMPOUNDS
			CHROMIUM COMPOUNDS
NEWCASTLE BRICK PLANT	RENTON		BARIUM COMPOUNDS
			MANGANESE COMPOUNDS
NOEL CANNING	YAKIMA	YAKIMA	AMMONIA
			CHLORINE
			PHOSPHORIC ACID
NORTHWEST CASTINGS	SEATTLE	KING	CHROMIUM
			MANGANESE
O'BRIEN INTERNATIONAL	REDMOND		DIISOCYANATES
PEPSI COLA BOTTLING CO	YAKIMA	YAKIMA	CHLORINE
			PHOSPHORIC ACID
PEPSI-COLA COMPANY	SEATTLE	KING	PHOSPHORIC ACID
PONDERAY NEWSPRINT CO	USK	PEND ORIELLE	CHLORINE
			PHOSPHORIC ACID
			POTASSIUM DIMETHYLDITHIOCARBAMATE
PURINA MILLS INC	SPOKANE	SPOKANE	COPPER COMPOUNDS

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Name	City	County	Chemical
PURINA MILLS INC	SPOKANE	SPOKANE	MANGANESE COMPOUNDS
			ZINC COMPOUNDS
REYNOLDS METALS CO.	LONGVIEW	COWLITZ	CARBONYL SULFIDE
			LITHIUM CARBONATE
RICHLAND SPECIALTY EXTRUSIONS	RICHLAND	BENTON	COPPER
SAFEWAY INC	BELLEVUE	KING	PHOSPHORIC ACID
SNOKIST GROWERS	YAKIMA	YAKIMA	AMMONIA
			CHLORINE
SPECIALTY MINERALS	CAMAS	CLARK	TRADE SECRET
TELECT INC	LIBERTY LAKE	SPOKANE	DIISOCYANATES
THE OESER COMPANY	BELLINGHAM	WHATCOM	PENTACHLOROPHENOL
TRIDENT SEAFOODS CORP	ANACORTES	SKAGIT	AMMONIA
U.S. OIL & REFINING CO.	TACOMA	PIERCE	AMMONIA
			GLYCOL ETHERS
US DOE HANFORD SITE	RICHLAND	BENTON	CHLORINE
VANALCO INC.	VANCOUVER	CLARK	CHLORINE
WESMAR COMPANY	SEATTLE	KING	NITRIC ACID
			PHOSPHORIC ACID
WESTERN SINTERING CO INC	RICHLAND	BENTON	AMMONIA
WESTERN STEEL CASTING COMPANY	SEATTLE	KING	CHROMIUM
			MANGANESE
			NICKEL
WESTERN WOOD PRESERVING	SUMNER	PIERCE	ARSENIC COMPOUNDS
			CHROMIUM COMPOUNDS
			COPPER COMPOUNDS
YAKIMA BAIT COMPANY/WORDEN'S L	GRANGER	YAKIMA	LEAD

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Appendix 5. Known or Suspected Carcinogens* Reported in Washington State, 1997

Chemical	CAS
ACETALDEHYDE	000075070
ACETONITRILE	000075058
ACRYLAMIDE	000079061
ARSENIC COMPOUNDS	N020
ASBESTOS (FRIABLE)	001332214
BENZENE	000071432
CADMIUM	007440439
CHLOROFORM	000067663
COBALT	007440484
COBALT COMPOUNDS	N096
CREOSOTE	008001589
DICHLOROMETHANE	000075092
FORMALDEHYDE	000050000
LEAD	007439921
LEAD COMPOUNDS	N420
NICKEL	007440020
NICKEL COMPOUNDS	N495
PENTACHLOROPHENOL	000087865
POLYCYCLIC AROMATIC COMPOUNDS	N590
PROPYLENE OXIDE	000075569
STYRENE	000100425
TETRACHLOROETHYLENE	000127184
TOLUENE DIISOCYANATE (MIXED ISOMERS)	026471625
TOLUENE-2,4-DIISOCYANATE	000584849
TOLUENE-2,6-DIISOCYANATE	000091087
TRICHLOROETHYLENE	000079016

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*A known or suspected carcinogen under OSHA based on three sources: National Toxicology Program (NTP), Annual Report on Carcinogens"; International Agency for Research on Cancer (IARC) "Monographs"; and 29CFR 1910, Subpart Z, Toxic and Hazardous Substances, OSHA.

APPENDIX 6

Reporting Requirements and Definition of Terms

Toxics Release Inventory Chemical List - This lists contains chemicals or chemical categories which facilities must report under Section 313 of the EPCRA. With the Governor's authority 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 hazard outside a facility as a result of continuous or frequently recurring releases. In addition, chemicals may be added if they cause or may be reasonably anticipated to cause cancer or birth defects or serious or irreversible reproductive dysfunctions, neurological disorders, heritable genetic or other chronic health effects. A chemical that causes or may cause a significant adverse effect on the environment may be included. EPA may delete chemicals from the list if there is not sufficient evidence to establish that the chemical meets any of the criteria.

Changes to the Reporting Requirements - EPA has made significant changes to the TRI reporting requirements since EPCRA was established in 1986. Recent changes have included the addition of about 300 chemicals to the list for 1995 reporting year and expansion of the list of reporting industry categories. See Table 1 for a summary of reporting changes.

Facilities Covered - For the 1997 reporting year, a plant, factory, or other facility must report under Section 313 of EPCRA if it meets **all** of the following requirements:

1. It has 10 or more full-time employees or the equivalent (20,000 hours;
2. It conducts manufacturing operations (that is if it is included in the following Standard Industrial Classification (SIC) codes 20 -39 or is a federal facility that meets the other two criteria; and
3. If, in addition to the above, it manufactures, imports, processes, or in any other way uses any of the toxic chemicals listed under Section 313 of EPCRA in amounts greater than the threshold quantities. See "Thresholds" below.

Standard Industrial Classifications - The SIC code numbers and names listed here are the general industrial categories, a 2 digit number representing the general categories of manufactured products. Each facility will have one or more 4 digit numbers that specifically describes its manufacturing process.

SIC CODE	NAME
20	Food and Kindred Products
21	Tobacco Manufacturers
22	Textile Mill Products
23	Apparel and Other Textiles
24	Lumber and Wood Products
25	Furniture and Fixtures
26	Paper and Allied Products
27	Printing and Publishing
28	Chemicals and Allied Products
29	Petroleum Refining
30	Rubber And Misc. Plastic Products
31	Leather and Leather Products
32	Stone, Clay and Glass Products
33	Primary Metal Products
34	Fabricated Metal Products
35	Industrial, Commercial Machinery and Computers
36	Electronic Equipment and Components
37	Transportation Equipment
38	Instruments and Related Products
39	Misc. Manufacturing Industries

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Expanded List of Industry Categories - Industries that will be subject to TRI reporting requirements beginning with the 1998 reporting year. These include: Metal and Coal Mining (SIC 10 & 12), Electric Generating Plants (combusting coal or oil) (SIC 4911, 4931, 4939), Hazardous Waste Treatment Firms (SIC 4953), Chemical Wholesale Distributors (SIC 5169), Wholesale Bulk Petroleum Distributors (SIC 5169) and Solvent Recyclers (SIC 7389).

Thresholds - Amounts of chemicals that trigger reporting requirements. If a facility annually manufacturers or processes any listed toxic chemical, the threshold quantity is 25,000 pounds. If a facility "otherwise uses" any listed chemical, in any way other than incorporating it into a product, the threshold quantity is 10,000 pounds.

Releases to Air - Releases to air are reported as either non-point or "fugitive" or point or "stack" emissions. Fugitive emissions are releases that are not conveyed through stacks, vents, pipes or any other confined air stream. Examples include leakage from valves, pump seals, flanges, compressors, open ended lines, evaporative losses from surface impoundments and production lines, and releases from building ventilation systems. Stack or point air emissions are releases to air which are conveyed through stacks, vents, ducts pipes or other confined air streams, and include storage tank emissions and air releases from control equipment.

Releases to Water - Releases to water include releases to streams, lakes, or other bodies of water.

Releases to Land - Releases to land occur either the boundary of the reporting facility. Releases to land include disposal of wastes in a landfill, in which the waste is buried, land treatment/application farming in which a waste is applied onto or incorporated into soil, and surface impoundment which is an uncovered holding area used to volatilize and/or settle waste materials.

Underground Injection - Underground injection is the disposal of fluids by burial of the fluids in a Class I or V well.

Transfers to Public Owned Waste Water Treatment Works (POTW) - A POTW is a waste water treatment facility that is owned by a state or local municipality. Waste waters reported as transferred to POTWs are transferred through pipes or sewers. The chemicals contained in the waste water are treated at the POTW through a variety of methods. In general, chemicals are likely to be removed to some extent. Those chemicals not removed by treatment are released by the POTW to surface waters.

Off-site Transfers - An off-site transfer is the transfer of wastes to a facility that is geographically or physical separate from the manufacturing site. Chemicals are reported as either transfers for treatment, disposal, recycling , energy recovery or "other" means.

Off-site Transfers for Treatment - Treatment of toxic chemicals may include biological treatment, neutralization, incineration or physical separation. Treatment usually results in varying degrees of destruction of the chemical. Treatment may mean preparation for disposal.

Off-site Transfers for Disposal - Disposal of toxic chemicals usually means either release to land (as in a landfill) or underground injection, in this case, at the off-site location.

Off-site Transfers for Energy Recovery - Energy recovery is the combustion in industrial furnaces or boilers that generate energy for use at the location. Non-combustible chemicals like metals and halons should not be reported under this category. Treatment or destruction by incineration is not energy recovery.

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Off-site Transfers for Recycling - Recycling means the recovery or regeneration of chemicals by a variety of methods including solvent recovery, metals recovery or acid regeneration. Once they have been recovered, the chemicals may be returned to the originating facility or made available for commerce.

33/50 Program Chemicals

1,1,1-Trichloroethane
Benzene
Cadmium and cadmium compounds
Carbon tetrachloride
Chloroform
Chromium and chromium compounds
Cyanides
Dichloromethane
Lead and lead compounds
Mercury and mercury compounds
Methyl ethyl ketone
Methyl isobutyl ketone
Toluene
Nickel and nickel compounds
Tetrachloroethylene
Trichloroethylene
Xylenes

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