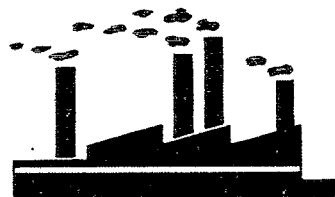
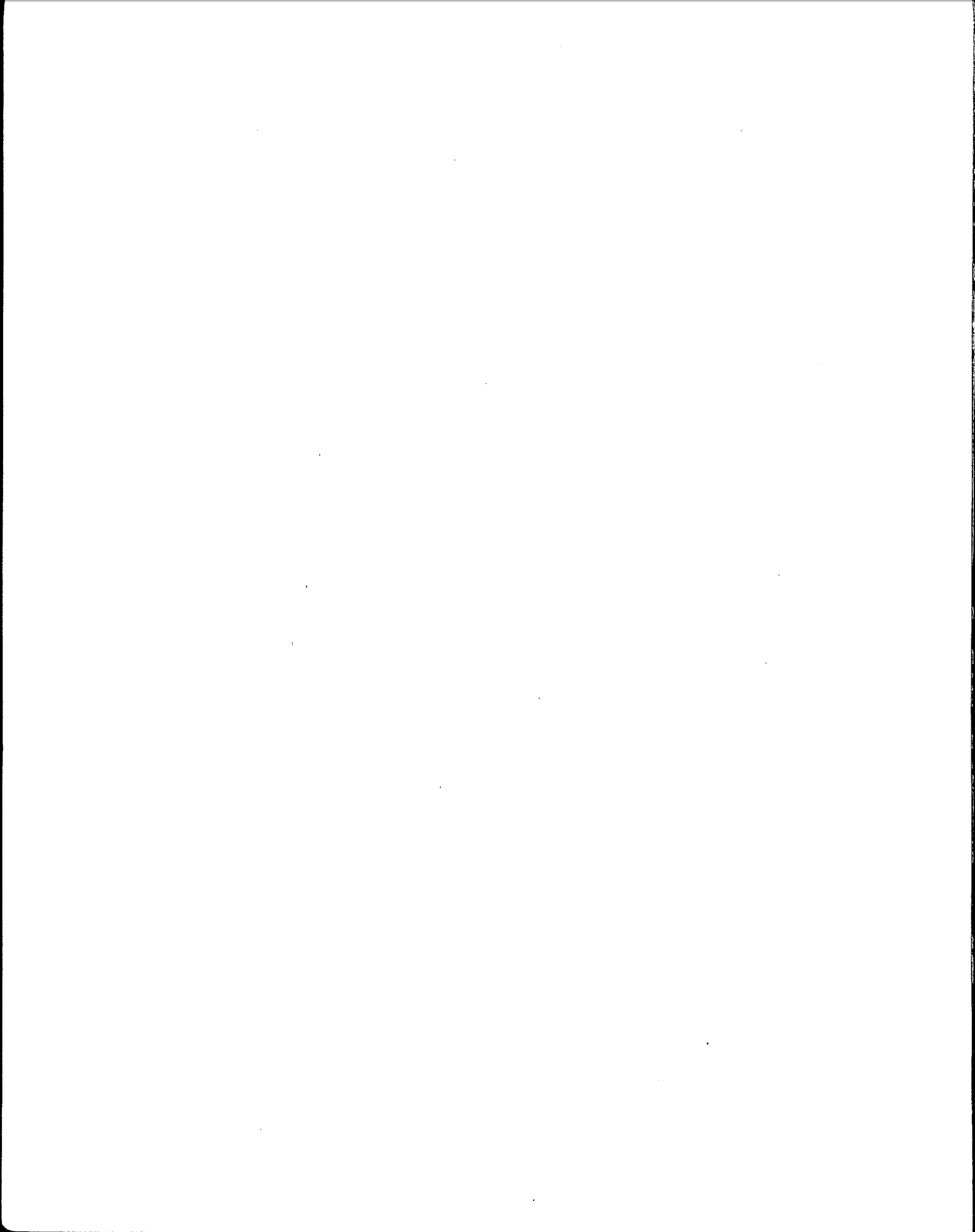




# 1998 Toxic Release Inventory (TRI) Data Summary

# TRI





# 1998 Toxics Release Inventory Data Summary

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## **Summary of 1998 Toxics Release Inventory (TRI) Data**

### **Background**

The Toxics Release Inventory (TRI) is a publicly available database that contains information on specific toxic chemical releases and other waste management activities reported annually by certain covered industries as well as by federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), which requires facilities to use their best readily available data to calculate their releases and waste management estimates. If facilities do not have actual monitoring data, submitted values are derived from various estimation techniques. There are now nearly 650 toxic chemicals and chemical compounds on the list of chemicals that must be reported to EPA and the States under the EPCRA/TRI Program.

A facility must report to TRI if it meets the following three criteria:

- Conducts manufacturing operations within Standard Industry Classification (SIC) codes 20 through 39 and, beginning in the 1998 reporting year, if it is in one of the following industry categories: metal mining, coal mining, electrical utilities, RCRA Subtitle C hazardous waste treatment and disposal facilities, chemicals distributors, petroleum terminals, and solvent recovery services; (Also, federal facilities must report to TRI regardless of their SIC code classification.)
- Employs 10 or more full-time equivalent employees;
- Manufactures or processes more than 25,000 pounds or otherwise uses more than 10,000 pounds of any listed chemical during the reporting year.

### **1998 Data Release**

The time period covered for the data released today is for reporting year 1998. A reporting year is equal to a calendar year. This 1998 data was submitted to EPA by July 1, 1999 and is the focus of the current data release. This report briefly summarizes the 1998 TRI data and trends in the data from 1988 to 1998, 1995 to 1998 and from 1997 to 1998. This report also describes assumptions made in the analysis and provides information on the uses as well as limits of the data. The full Public Data Release report and State Fact Sheet report will be complete in June, 2000.

1998 was the first year that seven "new" industries were required to report their releases and other waste management quantities to EPA under the TRI program. The seven new industries are metal mining, coal mining, electric utilities, chemicals distributors, petroleum bulk terminals, RCRA Subtitle C hazardous waste treatment and disposal facilities, and solvent recovery services. 1,957 of these new facilities reported to TRI in 1998.

The "old" or "original" industries that have been reporting to TRI since 1987 are facilities in the manufacturing sector. Manufacturing facilities are defined as facilities in Standard Industrial

Classification (SIC) Codes 20-39. Federal facilities, which have been required to report since 1994 regardless of their SIC code classification, are also included as an "old" or "original" industry. 21,439 of these original facilities reported to TRI in 1998.

### **1998 TRI Data (Original and New Industries)**

In 1998, facilities reported a total of 7.3 billion pounds of releases to air, land, water and underground injection. The original industries reported approximately 2.4 billion pounds, or 32.6%, of the 7.3 billion pounds. These industries submitted 61,234 Form Rs and 10,840 Form As.<sup>1</sup> Facilities in the new sectors reported almost 4.9 billion pounds, or 67.4%, of the 7.3 billion pounds. The new industries submitted 12,567 Form Rs and 2,688 Form As.

On-site releases were 93.9 % (6.9 billion pounds) of the total releases in 1998. Of these on-site releases, 62.8 % were to land, 29.9 % were to air, 3.9 % were to underground injection, and 3.4 % were to surface water. Reporting from the new industries accounted for 91.7 % of the land releases on-site, 38.8% of the air releases, 21.2 % of the releases to underground injection wells, and 3.5% of the discharges to surface water.

Off-site releases were 6.1% (444 million pounds) of the total releases in 1998. Off-site releases result when a facility sends quantities of a toxic chemical to another facility, where they are then released. Of these off-site releases, 65.6 % (292 million pounds) were to landfills/surface impoundments.

Of the seven new sectors, two sectors (metal mining and electric utilities) accounted for 93.9% of the 4.9 billion pounds of total releases from these newly reporting industry sectors. The metal mining sector reported 3.5 billion pounds, or 71.2 %, of the 4.9 billion pounds. On-site releases were 99.97 % of the metal mining sector's total releases and 98.9% of these on-site releases were to land.

Metal mines move, store and dispose of very large volumes of heavy metals which are components of waste rock and tailings. In order to get at an ore body, some mines must remove a large amount of submarginal ore, or waste rock, and dispose of it. This material may contain small amounts of various heavy metals, and if reporting thresholds are exceeded elsewhere in the facility, the amount of these TRI-listed chemicals that are disposed must be reported. All metals originally occurred naturally. However, these metals are on the TRI list because they are known to cause human health and/or environmental toxicity. The previously buried metals in waste rock are exposed to the elements upon excavation and become susceptible to leaching by rain and snow. Unless carefully controlled and monitored, the leaching process can lead to ground and surface water sources contaminated with heavy metals and other toxic chemical pollution that

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<sup>1</sup>The Form R is the reporting form that must be annually submitted by the facility. Facilities report the amounts of toxic chemicals released on- or off-site to air, land, water, underground injection; the amounts transferred off-site for recycling, energy recovery, treatment, and disposal; and the amounts recycled, burned for energy recovery, or treated at the facility. A facility can report using a Form A if the facility does not exceed the total production-related waste amount of 500 pounds, and does not manufacture, process, or otherwise use more than 1 million pounds of the chemical. Instead of filing a Form R detailing all its releases and waste management activities, the facility can submit a certification statement (Form A).

would not have occurred naturally. Significant factors are the chemistry of the rock, particle size, precipitation rates, and most importantly, a mine's operating and waste management practices. Some mines also produce tailings, which is the processed rock that remains after the target metal is extracted from the ore. Tailings often contain various other metals, such as chromium and copper. Under TRI Regulations, mines are required to report the metal compounds contained in the tailings when the rock is disposed of.

The electric utility sector (SIC code 49) reported 1.1 billion pounds of releases, or 22.7%, of the 4.9 billion pounds of the releases from the new industries. On-site releases were 94.4% of the electric utility sector's total releases and 74.3% of these on-site releases were to the air. Most of the releases from electric utilities are the result of burning coal or oil to generate electricity. (Note: Only coal-fired and oil-fired electric utilities are required to report to TRI.) Both coal and oil contain metals that are released to the air when the fuel is combusted. These metals include barium, copper, chromium, manganese, lead, nickel and zinc. Other chemicals formed during combustion include hydrochloric acid, sulfuric acid, and hydrogen fluoride. The ash that remains after coal is combusted will also contain metals. Large quantities of this ash may be disposed of in on- or off-site landfills, or returned to coal mines for disposal there.

The sector made up of RCRA Subtitle C hazardous waste treatment and disposal facilities (SIC code 4953) and solvent recovery facilities (SIC code 7389) reported 282 million pounds, or 5.7 % of the 4.9 billion pounds of releases from the new industries. Since many of the facilities in these two SIC codes are co-located and the activities are closely related, their releases were aggregated for this analysis. Hazardous waste treatment facilities handle large quantities of materials which may contain heavy metals, asbestos, and other chemicals. (Note: The reporting requirements apply only to those facilities regulated by subtitle C of RCRA.) Solvent recovery services collect, recycle, and redistribute solvents. On-site releases made up 83.0 % of this sector's total releases and 84.0% of these on-site releases were to landfills permitted under RCRA subtitle C.

In terms of reporting from the original (manufacturing sector) industries, the top 3 sectors for total releases are the chemical manufacturing sector (SIC code 28), the primary metals sector (SIC code 33), and the paper sector (SIC code 26). The chemical manufacturing sector (SIC code 28) reported 739 million pounds of total releases, or 31.1%, of the 2.4 billion pounds reported by the original industries. 94.4 % of the 739 million pounds were on-site releases and 46.2 % of those on-site releases were to air and 29.6% were to Class I underground injection wells. The primary metals sector (SIC code 33) reported 614 million pounds of total releases, or 25.8%, of the 2.4 billion pounds reported by the original industries. On-site releases made up 68.6% of the 614 million pounds of total releases and 31.4% were off-site releases. Of the on-site releases, 58.0% were to land, 29.0% were to air, and 12.8% were to surface water. The paper sector (SIC code 26) reported 230 million pounds of total releases, or 9.7%, of the 2.4 billion pounds reported by the original industries. On-site releases were 97.9% of the 230 million pounds of total releases and 82.7% of those on-site releases were to air and 9.7% were to surface water.

## **Trend Data**

Year-to-year comparisons must be based on a consistent set of chemicals and reporting industries to assure that any changes in releases or other waste management do not simply reflect changes in reporting requirements from one year to another. Since the seven new industries just began reporting in 1998, the year-to-year comparisons below only include the original industries that have been required to report to TRI since the program began in 1987. The trend comparisons for 1997 to 1998 and 1995 to 1998 include only chemicals that were reportable in all years from 1995 through 1998. The trend comparison for 1988 to 1998 includes only chemicals that were reportable in all years from 1988 through 1998.

### **1997-1998 TRI Data**

Overall, between 1997 and 1998, total releases (including both on-site and off-site releases) decreased approximately 3.5% or 90 million pounds. On-site releases decreased 4% or 85 million pounds and off-site releases decreased 1.2% or 6 million pounds. At the same time, total forms submitted decreased 1.4% and total facilities decreased 1.9% (410 fewer facilities reported in 1998 compared to 1997).

Of the four on-site release categories, two decreased and two increased. Air releases decreased 6% or 80 million pounds, and underground injection decreased 5% or 11 million pounds. Surface water discharges increased 0.5% or 1 million pounds, and on-site land releases increased 1.5% or 5 million pounds.

### **1995-1998 TRI Data**

Overall, between 1995 and 1998, total releases (including both on-site and off-site releases) decreased approximately 5% or 141 million pounds. On-site releases decreased 12% or 274 million pounds; while off-site releases increased 42% or 134 million pounds. At the same time, total forms submitted decreased 5.3% and total facilities decreased 5.9% (1,342 fewer facilities reported in 1998 compared to 1995).

Of the four on-site release categories, two decreased and two increased. Air releases decreased 21% or 328 million pounds, and underground injection decreased 11% or 26 million pounds. Surface water discharges increased 24% or 43 million pounds, and on-site land releases increased 11% or 36 million pounds.

### **1988-1998 TRI Data**

Overall, on- and off-site releases have decreased 1.5 billion pounds or 45% since 1988. On-site releases substantially decreased with air releases making up 1.3 billion pounds of the 1.5 billion pound total decrease in on-site releases. Off-site releases increased 2.0 million pounds or 0.5%. In terms of absolute amounts, four categories made up most of the off-site releases: solidification/stabilization (metals and metal compounds), landfills/disposal surface



impoundments, other off-site management, and transfers to waste broker for disposal. In terms of the change in off-site releases from 1988 to 1998, solidification/stabilization (metals and metal compounds) increased 107 million pounds and was off-set by decreases in three categories including landfills/disposal surface impoundments, other off-site management, and transfers to waste broker for disposal (decreases of 44 million pounds, 31 million pounds, 18 million pounds, respectively).

### **Understanding the Uses, Scope and Limits of TRI Data**

The TRI Program has given the public unprecedented direct access to toxic chemical release and other waste management data at the local, state, regional, and national level. Responsible use of this information can enable the public to identify potential concerns, gain a better understanding of potential risks, and work with industry and government to reduce toxic chemical releases and the risks associated with them. When combined with hazard and exposure data, this information can allow informed environmental priority-setting at the local level.

Federal, state, and local governments can use the data to compare facilities or geographic areas, to identify hot spots, to evaluate existing environmental programs, to more effectively set regulatory priorities, and to track pollution control and waste reduction progress. TRI data, in conjunction with demographic data, can help government agencies and the public identify potential environmental justice concerns.

In addition, industry can use the data to obtain an overview of the release and other waste management of toxic chemicals, to identify and reduce costs associated with toxic chemicals in waste, to identify promising areas of pollution prevention, to establish reduction targets, and to measure and document progress toward reduction goals. Public availability of the data has prompted many facilities to work with communities to develop effective strategies for reducing environmental and human health risks posed by toxic chemical releases.

While TRI provides the public, industry, and state and local governments an invaluable source of key environmental data, it has some limitations that must be considered when using the data. First, users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from releases and other waste management activities of toxic chemicals.

Also, TRI data are only collected from certain industrial sectors. These include the manufacturing sector (SIC codes 20-39), metal mining, coal mining, electric utilities, petroleum bulk terminals, chemicals wholesalers, RCRA commercial hazardous waste treatment, and solvent recovery. Federal facilities also report to TRI regardless of their SIC classification. Although TRI is successful in capturing information on a significant portion of toxic chemicals currently being used by covered industry sectors, it does not cover all toxic chemicals or all industry sectors. For instance, TRI does not include toxic emissions from cars and trucks, nor from the majority of

sources of releases of pesticides, volatile organic compounds, fertilizers and many other non-industrial sources. In addition, facilities that do not meet the TRI threshold levels (for manufacturing/processing or otherwise using or for number of employees) are not required to report.

Another limitation of the existing TRI program is that the data currently collected provide limited information on the life cycle of chemicals used by facilities. Beyond reporting on releases and other waste management, only limited and very general information on chemicals storage is provided and none on the toxicity of the chemicals.

Furthermore, facilities report estimated data to TRI, and the program does not mandate that they monitor their releases. Various estimation techniques are used when monitoring data are not available, and EPA has published estimation guidance for the regulated community. Variations between facilities can result from the use of different estimation methodologies. These factors should be taken into account when considering data accuracy and comparability.

Finally, the TRI report alone does not indicate whether a facility's chemical releases are legal. These releases must be compared with applicable permits to evaluate whether the facility is in compliance with other environmental regulations. Many of the releases included in the TRI report are permitted by EPA and State Regulatory Agencies.

#### **Assumptions in Analysis**

1998 was the first year that EPA collected information from the commercial hazardous waste treatment sector. In the analysis of this year's data, EPA has taken steps to adjust for possible double counting of some releases in TRI now that EPA collects information from this sector. The potential for double counting arises because some manufacturing facilities report transfers of chemicals to other facilities that may then report the release of these chemicals. TRI facilities transfer off-site chemicals in waste to other facilities for disposal. These other facilities can dispose of the wastes in on-site landfills, disposal surface impoundments, in land treatment facilities, other types of land disposal, and underground injection wells or, if metals are sent to a wastewater treatment facility, they may be discharged to surface waters. These other facilities generally are treatment, storage and disposal (TSD) facilities regulated under the federal Resource Conservation and Recovery Act (RCRA). As mentioned above, such facilities are in one of the new industries required to report to TRI for the first time in the 1998 reporting year.

To avoid counting the transfers to the TSD facilities that are also reported to TRI as on-site releases by the TSD facilities, off-site transfers for disposal to these TSD facilities have been omitted from tables that compare or summarize on-site and off-site releases nationally or at a state level. Only the on-site releases from the TSD facilities have been included. The attached tables contain a note

at the bottom of the table if transfers were omitted for that particular table. In general, these transfers were omitted if the data were being analyzed from a national or state perspective.<sup>2</sup>

In addition to the double counting adjustment described above, EPA reclassified reporting for metals and metal compounds in this analysis in an effort to correct facility reporting errors. EPA requires the transfer of metals and metal compounds for further waste management be reported as either a transfer to recycling or a transfer to disposal (due to the fact that metal has no heat value and thus can not be combusted for energy recovery and can not be treated because it can not be destroyed). Two new disposal codes were added to the TRI reporting form in 1997 to provide more accurate reporting, codes M41 (solidification/stabilization—metals and metal compounds) and M62 (wastewater treatment (excluding POTWs)—metals and metal compounds). A number of facilities incorrectly reported the waste management of metals and metal compounds in 1998. These chemicals were incorrectly reported under codes M40 or M61, as being treated. In order to account for this error, EPA included metals and metal compounds that were incorrectly reported in the waste treatment categories in the corresponding disposal categories for metals and metal compounds instead. In order to compare data across reporting years, EPA made similar adjustments for prior years in tables that compared 1997 or 1998 data to earlier years of data.

#### **Accessing the TRI data**

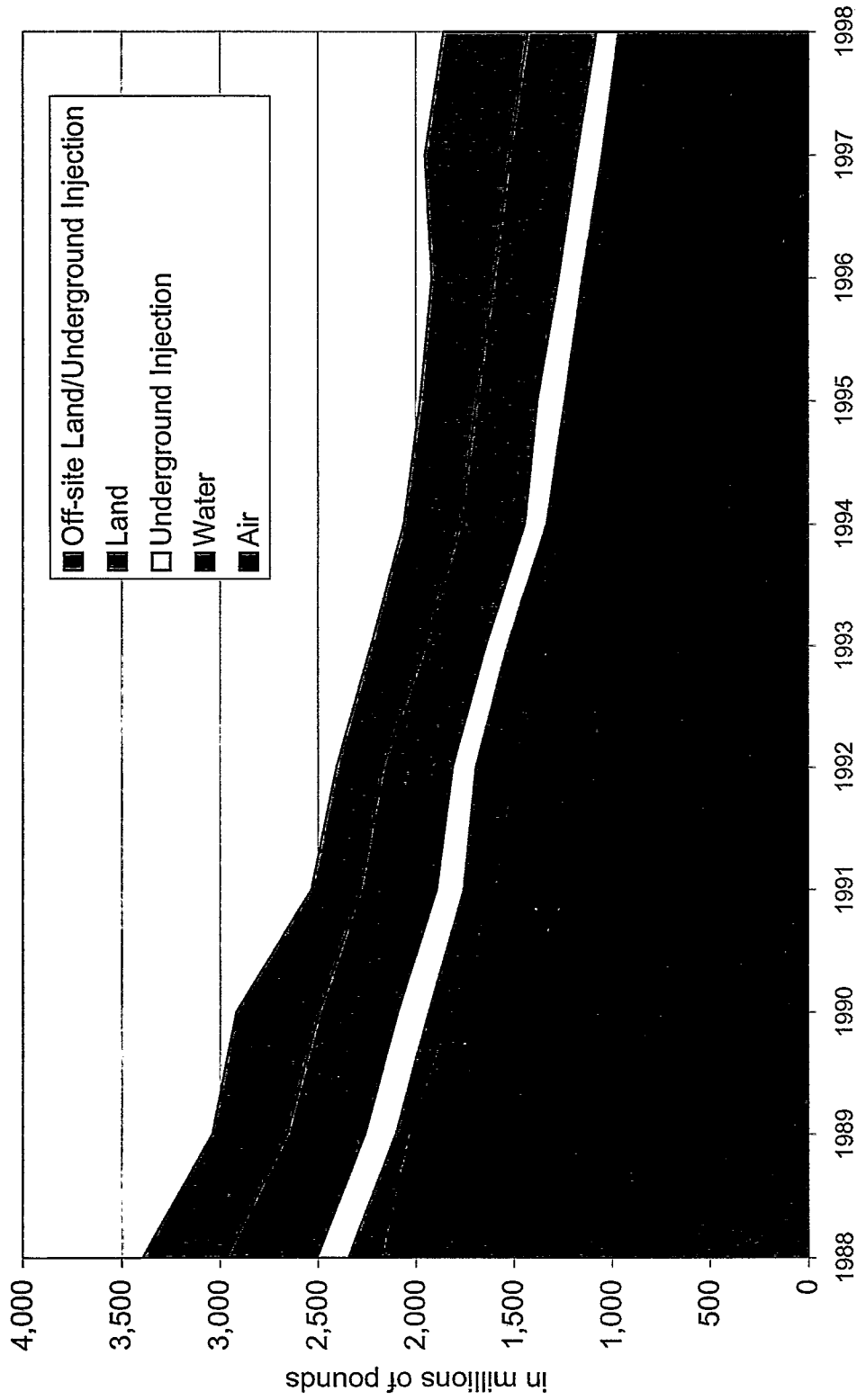
You may access the TRI data through a number of web-based tools by going to the EPA's TRI home page at <http://www.epa.gov/tri>. The TRI home page also includes other background information on the TRI program and TRI data as well as information on applicable statutes, regulations, and guidance.

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<sup>2</sup>Conducting this exercise required that EPA match amounts transferred to TSD facilities with amounts reported by these TSD facilities by using the reported RCRA ID number. In some cases, these RCRA ID numbers were not reported correctly by the facility so there are some quantities that cannot be matched and, therefore, these quantities could not be omitted from the analysis.

# TRI Releases, 1988-1998

(using the 1988 core set of chemicals and manufacturing sectors)



# TRI Total Releases, 1998

(in millions of pounds)

281.8 (4%)

4.7 (<1%)

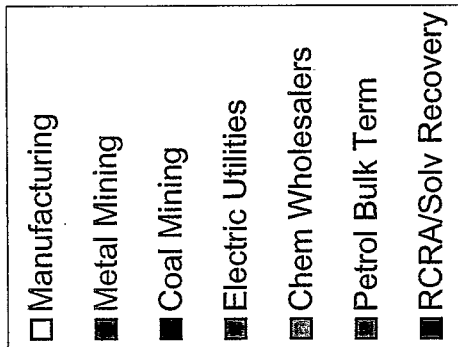
1.6 (<1%)

1,117.1 (15%)

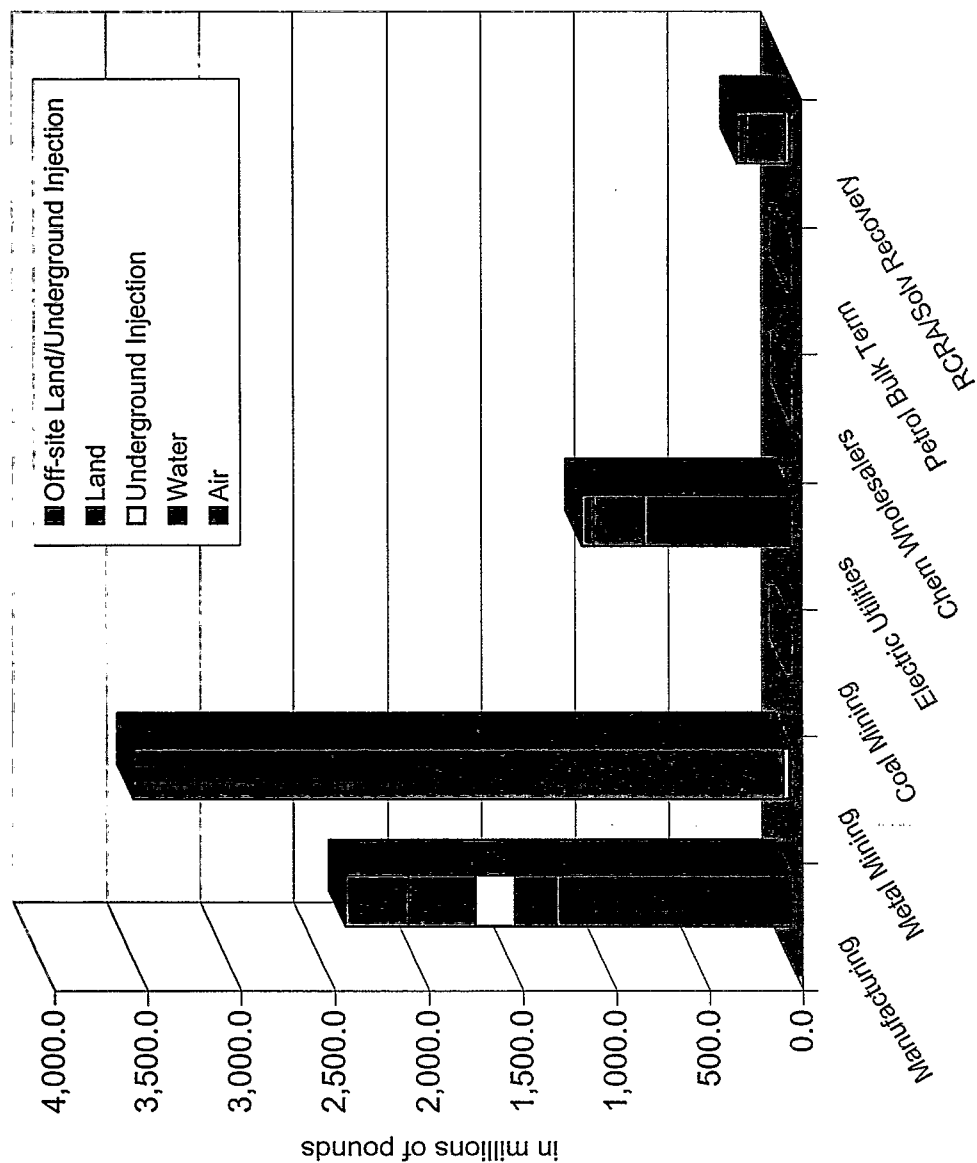
13.3 (<1%)

2,378.8 (33%)

3,509.9 (48%)



# TRI Total Releases, 1998



| SIC<br>Code Industry                        | Total<br>Facilities<br>Number | Form As<br>Number | Form Rs<br>Number | Form As<br>Number | Total Air<br>Emissions<br>Pounds | Surface              |                 | Underground Injection |                      | RCRA                |                     | On-site Land Releases |                     |                |                   | Off-site<br>Releases |                 | Total On-<br>and Off-site<br>Pounds |
|---|-------------------------------|-------------------|-------------------|-------------------|----------------------------------|----------------------|-----------------|-----------------------|----------------------|---------------------|---------------------|-----------------------|---------------------|----------------|-------------------|----------------------|-----------------|-------------------------------------|
|   |                               |                   |                   |                   |                                  | Discharges<br>Pounds | Water<br>Pounds | Class I<br>Pounds     | Class II-V<br>Pounds | Subpart C<br>Pounds | Landfills<br>Pounds | Other<br>Pounds       | Treatment<br>Pounds | Land<br>Pounds | Surface<br>Pounds | Disposal<br>Pounds   | Other<br>Pounds |                                     |
| TOTAL FOR ALL INDUSTRIES                    | 23,487                        | 73,801            | 87,329            | 13,528            | 2,053,501,450                    | 231,439,923          | 233,969,888     | 33,346,918            | 212,957,001          | 262,407,933         | 6,523,800           | 1,379,816,264         | 2,448,111,457       | 6,863,074,634  | 444,262,589       | 7,307,337,223        |                 |                                     |
| ORIGINAL INDUSTRIES                         |                               |                   |                   |                   |                                  |                      |                 |                       |                      |                     |                     |                       |                     |                |                   |                      |                 |                                     |
| 20 Food                                     | 1,995                         | 3,711             | 2,492             | 1,219             | 63,628,957                       | 17,136,151           | 760             | 5                     | 292                  | 15,841              | 3,406,911           | 211,114               | 2,563,602           | 86,983,633     | 2,325,147         | 89,288,780           |                 |                                     |
| 21 Tobacco                                  | 21                            | 65                | 64                | 1                 | 3,128,068                        | 160,366              | 0               | 0                     | 0                    | 0                   | 0                   | 0                     | 0                   | 3,288,434      | 304,195           | 3,592,629            |                 |                                     |
| 22 Textiles                                 | 274                           | 566               | 511               | 55                | 10,840,786                       | 254,827              | 0               | 0                     | 0                    | 3,361               | 136,210             | 74,553                | 2,430               | 11,312,167     | 697,298           | 12,009,465           |                 |                                     |
| 23 Apparel                                  | 19                            | 37                | 32                | 5                 | 461,508                          | 0                    | 0               | 0                     | 0                    | 0                   | 0                   | 0                     | 0                   | 461,513        | 41,045            | 502,558              |                 |                                     |
| 24 Lumber                                   | 825                           | 1,995             | 1,183             | 812               | 32,519,334                       | 82,916               | 0               | 0                     | 28,188               | 39,244              | 23,677              | 88,387                | 212,458             | 32,984,204     | 1,332,490         | 34,327,490           |                 |                                     |
| 25 Furniture                                | 377                           | 907               | 840               | 67                | 17,150,227                       | 797                  | 0               | 0                     | 0                    | 11,789              | 0                   | 0                     | 0                   | 17,183,857     | 113,802           | 17,307,459           |                 |                                     |
| 26 Paper                                    | 473                           | 2,597             | 2,439             | 158               | 185,981,370                      | 21,880,578           | 29,100          | 0                     | 956,008              | 12,373,673          | 305,468             | 3,084,549             | 402,118             | 225,012,864    | 4,883,205         | 229,866,069          |                 |                                     |
| 27 Printing                                 | 425                           | 446               | 434               | 12                | 22,301,593                       | 598                  | 0               | 0                     | 0                    | 0                   | 0                   | 0                     | 0                   | 22,302,441     | 152,294           | 22,454,735           |                 |                                     |
| 28 Chemicals                                | 3,806                         | 20,869            | 16,982            | 3,887             | 321,710,008                      | 95,444,195           | 206,649,154     | 8,256                 | 744,092              | 23,890,688          | 421,237             | 40,716,878            | 7,528,895           | 697,113,403    | 39,943,448        | 737,056,951          |                 |                                     |
| 29 Petroleum                                | 391                           | 3,195             | 2,807             | 388               | 49,010,221                       | 8,080,563            | 2,827,139       | 85,754                | 3,384                | 88,614              | 99,460              | 293,736               | 71,464              | 60,560,335     | 2,692,041         | 63,252,376           |                 |                                     |
| 30 Plastics                                 | 1,824                         | 3,745             | 3,108             | 637               | 98,644,519                       | 39,334               | 0               | 0                     | 31,983               | 802,319             | 0                   | 7,181                 | 52,301              | 99,577,637     | 10,090,980        | 109,668,617          |                 |                                     |
| 31 Leather                                  | 80                            | 193               | 174               | 19                | 2,550,015                        | 75,511               | 80              | 0                     | 0                    | 250                 | 0                   | 2,952                 | 5                   | 2,628,813      | 2,196,077         | 4,824,890            |                 |                                     |
| 32 Stone/Clay/Glass                         | 657                           | 1,760             | 1,482             | 278               | 30,936,566                       | 152,872              | 0               | 0                     | 47,576               | 2,887,412           | 1,013               | 88,939                | 144,697             | 34,258,075     | 6,097,000         | 40,356,075           |                 |                                     |
| 33 Primary Metals                           | 1,920                         | 6,893             | 6,105             | 788               | 120,643,456                      | 53,897,382           | 1,022,076       | 0                     | 13,034,455           | 58,206,560          | 274                 | 44,155,068            | 84,610,255          | 373,568,526    | 192,803,745       | 566,373,271          |                 |                                     |
| 34 Fabricated Metals                        | 2,897                         | 7,508             | 6,738             | 770               | 61,866,726                       | 1,279,531            | 255             | 0                     | 84,285               | 334,303             | 15                  | 3,879                 | 405,592             | 64,004,586     | 21,879,327        | 85,883,913           |                 |                                     |
| 35 Machinery                                | 1,117                         | 2,915             | 2,544             | 371               | 14,582,692                       | 51,939               | 0               | 0                     | 13,504               | 166,171             | 23,055              | 5                     | 53,864              | 14,891,230     | 4,556,611         | 19,447,841           |                 |                                     |
| 36 Electrical Equip.                        | 1,234                         | 3,047             | 2,872             | 175               | 16,578,816                       | 2,182,517            | 500             | 0                     | 64,789               | 167,961             | 10                  | 1,355                 | 160,983             | 19,156,931     | 9,955,924         | 29,112,855           |                 |                                     |
| 37 Transportation Equip.                    | 1,296                         | 4,590             | 4,246             | 334               | 90,513,228                       | 168,114              | 0               | 0                     | 17,343               | 368,070             | 478                 | 323                   | 21,682              | 91,089,238     | 11,409,497        | 102,498,735          |                 |                                     |
| 38 Measure/Photo.                           | 253                           | 628               | 539               | 89                | 9,588,636                        | 1,189,200            | 0               | 0                     | 18                   | 74,058              | 643                 | 8                     | 556                 | 10,853,119     | 1,323,385         | 12,176,504           |                 |                                     |
| 39 Miscellaneous                            | 316                           | 722               | 611               | 111               | 9,589,335                        | 7,726                | 0               | 0                     | 21,961               | 9,150               | 0                   | 0                     | 199,892             | 9,838,064      | 739,697           | 10,577,761           |                 |                                     |
| Multiple codes 20-39                        | 1,233                         | 4,257             | 3,816             | 441               | 76,448,886                       | 15,065,977           | 15,800          | 5                     | 284,425              | 1,569,488           | 200,789             | 715,808               | 2,727,575           | 97,093,753     | 16,399,303        | 113,369,056          |                 |                                     |
| No codes 20-39                              | 208                           | 577               | 469               | 108               | 5,817,686                        | 472,719              | 0               | 505                   | 26,324               | 1,000               | 582,030             | 68,539                | 130,867             | 7,099,670      | 501,072           | 7,600,742            |                 |                                     |
| Combination New/Original Industry SIC codes | 76                            | 861               | 746               | 115               | 12,418,811                       | 5,740,949            | 0               | 0                     | 867                  | 720,395             | 9,333               | 724,197               | 45,836,424          | 65,450,976     | 1,844,949         | 67,295,925           |                 |                                     |
| Original Industries Subtotal                | 21,517                        | 72,074            | 61,234            | 10,840            | 1,256,951,444                    | 223,365,762          | 210,544,864     | 94,525                | 15,339,494           | 99,730,347          | 5,210,603           | 90,237,471            | 145,156,959         | 2,046,631,469  | 332,213,128       | 2,378,844,597        |                 |                                     |
| NEW INDUSTRIES                              |                               |                   |                   |                   |                                  |                      |                 |                       |                      |                     |                     |                       |                     |                |                   |                      |                 |                                     |
| 10 Metal Mining                             | 114                           | 759               | 733               | 26                | 4,552,336                        | 522,847              | 0               | 33,001,112            | 54                   | 17,634,779          | 32,171              | 1,153,824,415         | 2,299,032,526       | 3,508,800,240  | 1,306,635         | 3,509,906,875        |                 |                                     |
| 12 Coal Mining                              | 55                            | 192               | 119               | 73                | 1,457,714                        | 306,227              | 0               | 90,480                | 0                    | 8,162,856           | 428,601             | 2,493,943             | 366,223             | 13,326,044     | 0                 | 13,326,044           |                 |                                     |
| 48 Electric Utilities                       | 612                           | 4,363             | 4,179             | 184               | 783,686,372                      | 6,515,135            | 18              | 160,800               | 1,033,076            | 127,595,228         | 852,400             | 130,387,915           | 4,374,879           | 1,054,605,823  | 62,540,851        | 1,117,146,674        |                 |                                     |
| 5169 Chemical Wholesalers                   | 438                           | 3,695             | 1,950             | 1,745             | 1,284,032                        | 11,603               | 0               | 1                     | 0                    | 0                   | 0                   | 0                     | 0                   | 97,254         | 1,392,890         | 215,380              | 1,608,270       |                                     |
| 5171 Petroleum Bulk Terminals               | 546                           | 3,748             | 3,258             | 490               | 4,263,747                        | 137,947              | 0               | 0                     | 0                    | 0                   | 25                  | 0                     | 0                   | 53,667         | 4,455,386         | 233,487              | 4,688,873       |                                     |
| 4953/7389 RCRA/Solvent Recovery             | 205                           | 2,498             | 2,328             | 170               | 1,305,805                        | 580,402              | 23,425,006      | 0                     | 196,584,377          | 9,284,723           | 0                   | 2,872,520             | 9,949               | 234,062,782    | 47,753,108        | 281,815,890          |                 |                                     |
| New Industries Subtotal                     | 1,970                         | 15,255            | 12,567            | 2,688             | 795,550,006                      | 8,074,161            | 23,425,024      | 33,252,393            | 197,617,507          | 162,877,586         | 1,313,197           | 1,289,578,793         | 2,303,954,458       | 4,816,443,165  | 112,049,461       | 4,928,492,626        |                 |                                     |

Note: On-site Releases from Section 5 of Form R, Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

One facility, Cypress Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category.

Metal mining (SIC code 10) also includes forms reporting SIC code 4931 (Electric utilities) and SIC code 10.

Electric Utilities (SIC code 49) also includes forms reporting SIC code 12 (Coal mining) and SIC codes 4911, 4931 and/or 4939.

Chemical Wholesalers (SIC code 5169) also includes forms reporting SIC code 5171 (Petroleum bulk terminals) or SIC code 7389 (RCRA/Solvent recovery) and SIC codes 4953 and/or 7389.

RCRA/Solvent Recovery (SIC codes 4953/7389) also includes forms reporting SIC code 5169 (Chemical wholesalers) and SIC codes 4953 and/or 7389.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI On-site and Off-site Releases, New Industries compared to Original Industries, 1998

|  | Original<br>Industries<br>Number | New<br>Industries<br>Number | Total<br>Number | Percent<br>of Total<br>Percent | New Industries<br>as Percent<br>of Total<br>Percent |
|--|----------------------------------|-----------------------------|-----------------|--------------------------------|---|
| <b>Total Facilities</b>  | 21,517                           | 1,970                       | 23,487          |                                | 8.4   |
| <b>Total Forms</b>   | 72,074                           | 15,255                      | 87,329          | 100.0                          | 17.5  |
| Form Rs  | 61,234                           | 12,567                      | 73,801          | 84.5                           | 17.0  |
| Form As  | 10,840                           | 2,688                       | 13,528          | 15.5                           | 19.9  |
|  | Pounds                           | Pounds                      | Pounds          | Percent                        | Percent   |
| <b>On-site Releases</b>  |                                  |                             |                 |                                |   |
| Total Air Emissions  | 1,256,951,444                    | 796,550,006                 | 2,053,501,450   | 28.1                           | 38.8  |
| Fugitive Air Emissions   | 292,504,215                      | 6,983,226                   | 299,487,441     | 4.1                            | 2.3   |
| Point Source Air Emissions   | 964,447,229                      | 789,566,780                 | 1,754,014,009   | 24.0                           | 45.0  |
| Surface Water Discharges   | 223,365,762                      | 8,074,161                   | 231,439,923     | 3.2                            | 3.5   |
| Underground Injection  | 210,639,389                      | 56,677,417                  | 267,316,806     | 3.7                            | 21.2  |
| Class I Wells  | 210,544,864                      | 23,425,024                  | 233,969,888     | 3.2                            | 10.0  |
| Class II-V Wells   | 94,525                           | 33,252,393                  | 33,346,918      | 0.5                            | 99.7  |
| On-site Land Releases  | 355,674,874                      | 3,955,141,581               | 4,310,816,455   | 59.0                           | 91.7  |
| RCRA Subtitle C Landfills  | 15,339,494                       | 197,617,507                 | 212,957,001     | 2.9                            | 92.8  |
| Other On-site Landfills  | 99,730,347                       | 162,677,586                 | 262,407,933     | 3.6                            | 62.0  |
| Land Treatment   | 5,210,603                        | 1,313,197                   | 6,523,800       | 0.1                            | 20.1  |
| Surface Impoundments   | 90,237,471                       | 1,289,578,793               | 1,379,816,264   | 18.9                           | 93.5  |
| Other Disposal   | 145,156,959                      | 2,303,954,498               | 2,449,111,457   | 33.5                           | 94.1  |
| <b>Total On-site Releases</b>                                      | 2,046,631,469                    | 4,816,443,165               | 6,863,074,634   | 93.9                           | 70.2  |
| <b>Off-site Releases</b>   |                                  |                             |                 |                                |   |
| Storage Only*  | 11,749,488                       | 2,746,021                   | 14,495,509      | 0.2                            | 18.9  |
| Solidification/Stabilization -**                                   | 42,828,884                       | 5,801,573                   | 48,630,457      | 0.7                            | 11.9  |
| Metals and Metal Compounds Only                                    |                                  |                             |                 |                                |   |
| Wastewater Treatment (excluding POTWs) -***                        | 3,992,958                        | 114,693                     | 4,107,651       | 0.1                            | 2.8   |
| Metals and Metal Compounds Only                                    |                                  |                             |                 |                                |   |
| Transfers to POTWs -****   | 3,045,974                        | 493,189                     | 3,539,163       | 0.0                            | 13.9  |
| Metals and Metal Compounds Only                                    |                                  |                             |                 |                                |   |
| Underground injection  | 13,382,660                       | 334,945                     | 13,717,605      | 0.2                            | 2.4   |
| Landfills/Surface Impoundments                                     | 212,635,847                      | 78,974,401                  | 291,610,248     | 4.0                            | 27.1  |
| Land Treatment   | 1,326,956                        | 495,175                     | 1,822,131       | 0.0                            | 27.2  |
| Other Land Disposal  | 15,597,579                       | 11,328,044                  | 26,925,623      | 0.4                            | 42.1  |
| Other Off-site Management  | 9,816,029                        | 10,520,218                  | 20,336,247      | 0.3                            | 51.7  |
| Transfers to Waste Broker for Disposal                             | 14,052,361                       | 673,476                     | 14,725,837      | 0.2                            | 4.6   |
| Unknown*****   | 3,784,392                        | 567,726                     | 4,352,118       | 0.1                            | 13.0  |
| <b>Total Off-site Releases</b><br>(Transfers Off-site to Disposal) | 332,213,128                      | 112,049,461                 | 444,262,589     | 6.1                            | 25.2  |
| <b>Total On- and Off-site Releases</b>                             | 2,378,844,597                    | 4,928,492,626               | 7,307,337,223   | 100.0                          | 67.4  |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for the purpose of this analysis.

\* "Storage only" (disposal code M10) indicates that the toxic chemical is sent off-site for storage because there is no known disposal method. Amounts reported as transferred to "storage only" are included as a form of disposal (off-site release).

\*\* Beginning in reporting year 1997, transfers to solidification/stabilization of metals and metal compounds (waste treatment code M41) are reported separately from transfers to solidification/stabilization of non-metal TRI chemicals (waste treatment code M40). Because this treatment method prepares a metal for disposal, but does not destroy it, such transfers are included as a form of disposal (off-site release). Reports under code M40 of metals and metal compounds have been included in solidification/stabilization of metals and metal compounds in this report.

\*\*\* Beginning in reporting year 1997, transfers to wastewater treatment (excluding POTWs) of metals and metal compounds (waste treatment code M61) are reported separately from transfers to wastewater treatment of non-metal TRI chemicals (waste treatment code M60). Because wastewater treatment does not destroy metals, such transfers are included as a form of disposal (off-site release). Transfers of metals and metal compounds reported under code M60 have been included in transfers of metals metal compounds to wastewater treatment.

\*\*\*\* Reported as discharges to POTWs in Section 6.1 of Form R. EPA considers transfers of metals and metal compounds to POTWs as an off-site release because sewage treatment does not destroy the metal content of the waste material.

\*\*\*\*\* "Unknown" (disposal code M99) indicates that a facility is not aware of the type of waste management used for the toxic chemical that is sent off-site. Amounts reported as "unknown" transfers are treated as a form of disposal (off-site release).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals



## TRI Releases, Transfers and Waste Management, Original Industries, 1995-1998

|  | 1995<br>Number | 1996<br>Number | 1997<br>Number | 1998<br>Number | Change 1997-1998 |         | Change 1995-1998 |         |
|--|----------------|----------------|----------------|----------------|------------------|---------|------------------|---------|
|  |                |                |                |                | Number           | Percent | Number           | Percent |
| Total Facilities                                       | 22,859         | 22,340         | 21,927         | 21,517         | -410             | -1.9    | -1,342           | -5.9    |
| Total Forms  | 76,139         | 73,669         | 73,076         | 72,074         | -1,002           | -1.4    | -4,065           | -5.3    |
| Form Rs  | 69,471         | 66,167         | 62,390         | 61,234         | -1,156           | -1.9    | -8,237           | -11.9   |
| Form As  | 6,668          | 7,502          | 10,686         | 10,840         | 154              | 1.4     | 4,172            | 62.6    |
|  | Pounds         | Pounds         | Pounds         | Pounds         | Pounds           | Percent | Pounds           | Percent |
| <u>On-site Releases</u>                                |                |                |                |                |                  |         |                  |         |
| Total Air Emissions                                    | 1,585,156,840  | 1,470,214,042  | 1,336,600,706  | 1,256,951,444  | -79,649,262      | -6.0    | -328,205,396     | -20.7   |
| Fugitive Air Emissions                                 | 392,706,983    | 351,331,196    | 318,148,917    | 292,504,215    | -25,644,702      | -8.1    | -100,202,768     | -25.5   |
| Point Source Air Emissions                             | 1,192,449,857  | 1,118,882,846  | 1,018,451,789  | 964,447,229    | -54,004,560      | -5.3    | -228,002,628     | -19.1   |
| Surface Water Discharges                               | 180,516,139    | 184,739,434    | 222,302,322    | 223,365,762    | 1,063,440        | 0.5     | 42,849,623       | 23.7    |
| Underground Injection                                  | 236,194,397    | 209,317,311    | 221,732,690    | 210,639,389    | -11,093,301      | -5.0    | -25,555,008      | -10.8   |
| On-site Land Releases                                  | 319,250,562    | 333,685,655    | 350,551,945    | 355,674,874    | 5,122,929        | 1.5     | 36,424,312       | 11.4    |
| On-site Landfills                                      | 94,460,060     | 83,463,962     | 110,056,796    | 115,069,841    | 5,013,045        | 4.6     | 20,609,781       | 21.8    |
| Land Treatment   | 8,087,867      | 6,032,164      | 6,115,770      | 5,210,603      | -905,167         | -14.8   | -2,877,264       | -35.6   |
| Surface Impoundments                                   | 75,899,426     | 84,831,782     | 96,953,726     | 90,237,471     | -6,716,255       | -6.9    | 14,338,045       | 18.9    |
| Other Disposal   | 140,803,209    | 159,357,747    | 137,425,653    | 145,156,959    | 7,731,306        | 5.6     | 4,353,750        | 3.1     |
| Total On-site Releases                                 | 2,321,117,938  | 2,197,956,442  | 2,131,187,663  | 2,046,631,469  | -84,556,194      | -4.0    | -274,486,469     | -11.8   |
| <u>Off-site Releases</u>                               |                |                |                |                |                  |         |                  |         |
| Storage Only*  | 2,395,446      | 1,451,317      | 6,595,584      | 11,749,603     | 5,154,019        | 78.1    | 9,354,157        | 390.5   |
| Solidification/Stabilization -**                       | 26,723,956     | 59,253,534     | 144,629,694    | 137,084,182    | -7,545,512       | -5.2    | 110,360,226      | 413.0   |
| Metals and Metal Compounds Only                        |                |                |                |                |                  |         |                  |         |
| Wastewater Treatment (excluding POTWs) -***            | 3,740,028      | 3,776,635      | 5,467,652      | 4,225,724      | -1,241,928       | -22.7   | 485,696          | 13.0    |
| Metals and Metal Compounds Only                        |                |                |                |                |                  |         |                  |         |
| Transfers to POTWs -****                               | 2,542,345      | 2,448,282      | 2,450,875      | 3,045,974      | 595,099          | 24.3    | 503,629          | 19.8    |
| Metals and Metal Compounds Only                        |                |                |                |                |                  |         |                  |         |
| Underground Injection                                  | 17,956,560     | 11,614,971     | 15,187,697     | 16,481,522     | 1,293,825        | 8.5     | -1,475,038       | -8.2    |
| Landfills/Surface Impoundments                         | 223,840,275    | 237,372,538    | 246,075,735    | 232,738,747    | -13,336,988      | -5.4    | 8,898,472        | 4.0     |
| Land Treatment   | 4,688,153      | 2,208,908      | 1,238,127      | 1,326,956      | 88,829           | 7.2     | -3,361,197       | -71.7   |
| Other Land Disposal                                    | 13,655,120     | 12,085,985     | 12,051,182     | 15,597,579     | 3,546,397        | 29.4    | 1,942,459        | 14.2    |
| Other Off-site Management                              | 12,817,023     | 10,665,955     | 11,970,541     | 9,873,534      | -2,097,007       | -17.5   | -2,943,489       | -23.0   |
| Transfers to Waste Broker for Disposal                 | 6,418,199      | 4,838,441      | 7,678,059      | 14,052,361     | 6,374,302        | 83.0    | 7,634,162        | 118.9   |
| Unknown*****   | 1,638,043      | 1,610,439      | 2,439,375      | 3,952,214      | 1,512,839        | 62.0    | 2,314,171        | 141.3   |
| Total Off-site Releases                                | 316,415,148    | 347,327,005    | 455,784,521    | 450,128,396    | -5,656,125       | -1.2    | 133,713,248      | 42.3    |
| (Transfers Off-site to Disposal)                       |                |                |                |                |                  |         |                  |         |
| Total On-site and Off-site Releases                    | 2,637,533,086  | 2,545,283,447  | 2,586,972,184  | 2,496,759,865  | -90,212,319      | -3.5    | -140,773,221     | -5.3    |
| <u>Transfers Off-site for Further Waste Management</u> |                |                |                |                |                  |         |                  |         |
| Transfers to Recycling                                 | 2,264,288,077  | 2,200,626,637  | 2,189,348,418  | 1,989,546,130  | -199,802,288     | -9.1    | -274,741,947     | -12.1   |
| Transfers to Energy Recovery                           | 518,969,202    | 478,301,979    | 507,689,578    | 478,821,401    | -28,868,177      | -5.7    | -40,147,801      | -7.7    |
| Transfers to Treatment                                 | 250,844,541    | 226,781,151    | 262,423,782    | 251,823,538    | -10,600,244      | -4.0    | 978,997          | 0.4     |
| Transfers to POTWs                                     | 250,389,543    | 244,511,023    | 272,349,506    | 266,724,175    | -5,625,331       | -2.1    | 16,334,632       | 6.5     |
| Other Off-site Transfers*****                          | 2,510,305      | 1,044,503      | 34,528         | 921,574        | 887,046          | 2,569.1 | -1,588,731       | -63.3   |
| Total Transfers Off-site for Further Waste Management  | 3,287,001,668  | 3,151,265,293  | 3,231,845,812  | 2,987,836,818  | -244,008,994     | -7.6    | -299,164,850     | -9.1    |
| <u>Waste Management</u>                                |                |                |                |                |                  |         |                  |         |
| Recycled On-site                                       | 11,663,554,919 | 7,533,569,188  | 8,232,958,364  | 9,646,825,222  | 1,413,866,858    | 17.2    | -2,016,729,697   | -17.3   |
| Recycled Off-site                                      | 2,350,533,667  | 2,243,302,912  | 2,202,661,577  | 2,059,419,896  | -143,241,681     | -6.5    | -291,113,771     | -12.4   |
| Energy Recovery On-site                                | 2,740,388,125  | 2,727,639,231  | 2,794,347,219  | 2,851,489,429  | 57,142,210       | 2.0     | 111,101,304      | 4.1     |
| Energy Recovery Off-site                               | 503,968,089    | 512,680,522    | 521,798,706    | 485,373,723    | -36,424,983      | -7.0    | -18,594,366      | -3.7    |
| Treated On-site  | 6,794,862,115  | 5,943,643,124  | 6,020,549,126  | 6,012,991,050  | -7,558,076       | -0.1    | -781,871,065     | -11.5   |
| Treated Off-site                                       | 569,710,695    | 511,458,178    | 530,911,878    | 547,355,031    | 16,443,153       | 3.1     | -22,355,664      | -3.9    |
| Quantity Released On- and Off-site                     | 2,556,354,462  | 2,469,858,172  | 2,496,082,319  | 2,449,256,842  | -46,825,477      | -1.9    | -107,097,620     | -4.2    |
| Total Production-related Waste                         | 27,179,372,072 | 21,942,151,327 | 22,799,307,189 | 24,052,711,193 | 1,253,404,004    | 5.5     | -3,126,660,879   | -11.5   |
| Non-Production-related Waste                           | 34,060,993     | 30,846,845     | 35,306,677     | 26,993,463     | -8,313,214       | -23.5   | -7,067,530       | -20.7   |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Other On-site Waste Management from Section 8.

Total Transfers Off-site for Further Waste Management from Section 6 (excluding transfers off-site to disposal) of Form R.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

\* "Storage only" (disposal code M10) indicates that the toxic chemical is sent off-site for storage because there is no known disposal method. Amounts reported as transferred to "storage only" are included as a form of disposal (off-site release). See Box 2-2.

\*\* Beginning in reporting year 1997, transfers to solidification/stabilization of metals and metal compounds (waste treatment code M41) are reported separately from transfers to solidification/stabilization of non-metal TRI chemicals (waste treatment code M40). Because this treatment method prepares a metal for disposal, but does not destroy it, such transfers are included as a form of disposal (off-site release). See Box 2-3. Reports under code M40 of metals and metal compounds have been included in solidification/stabilization of metals and metal compounds in this report.

\*\*\* Beginning in reporting year 1997, transfers to wastewater treatment (excluding POTWs) of metals and metal compounds (waste treatment code M61) are reported separately from transfers to wastewater treatment of non-metal TRI chemicals (waste treatment code M60). Because wastewater treatment does not destroy metals, such transfers are included as a form of disposal (off-site release). See Box 2-3. Transfers of metals and metal compounds reported under code M60 have been included in transfers of metals metal compounds to wastewater treatment.

\*\*\*\* Reported as discharges to POTWs in Section 6.1 of Form R. EPA considers transfers of metals and metal compounds to POTWs as an off-site release because sewage treatment does not destroy the metal content of the waste material.

\*\*\*\*\* "Unknown" (disposal code M99) indicates that a facility is not aware of the type of waste management used for the toxic chemical that is sent off-site. Amounts reported as "unknown" transfers are treated as a form of disposal (off-site release).

\*\*\*\*\* Other Off-site Transfers are transfers reported without a valid waste management code.

TRI Total On-site and Off-site Releases, by State, Original Industries for 1995-1998

| State                | Total On-site and Off-site Releases |                |                |                | Change 1995-1998 |         |
|----------------------|-------------------------------------|----------------|----------------|----------------|------------------|---------|
|                      | 1995<br>Pounds                      | 1996<br>Pounds | 1997<br>Pounds | 1998<br>Pounds | Pounds           | Percent |
| Alabama              | 115,003,067                         | 103,332,043    | 94,777,907     | 89,519,922     | -25,483,145      | -22.2   |
| Alaska               | 6,840,330                           | 6,908,783      | 4,617,154      | 1,948,559      | -4,891,771       | -71.5   |
| American Samoa       | 5,300                               | 10,500         | 7,000          | 8,750          | 3,450            | 65.1    |
| Arizona*             | 40,492,953                          | 47,549,250     | 31,641,811     | 54,346,031     | 13,853,078       | 34.2    |
| Arkansas             | 38,742,824                          | 42,146,898     | 59,618,614     | 50,743,995     | 12,001,171       | 31.0    |
| California           | 56,312,582                          | 53,788,702     | 44,677,505     | 43,688,750     | -12,623,832      | -22.4   |
| Colorado             | 5,307,467                           | 5,290,856      | 5,152,559      | 5,473,006      | 165,539          | 3.1     |
| Connecticut          | 11,860,417                          | 9,149,657      | 10,238,786     | 7,604,324      | -4,256,093       | -35.9   |
| Delaware             | 5,520,318                           | 4,479,297      | 4,180,960      | 5,503,568      | -16,750          | -0.3    |
| District of Columbia | 56,970                              | 9,460          | 6,615          | 11,511         | -45,459          | -79.8   |
| Florida              | 81,525,208                          | 88,401,454     | 97,507,175     | 78,499,582     | -3,025,626       | -3.7    |
| Georgia              | 61,042,615                          | 62,192,067     | 72,830,528     | 64,867,232     | 3,824,617        | 6.3     |
| Guam                 | 3,100                               | 3,000          | 0              | 0              | -3,100           | -100.0  |
| Hawaii               | 656,692                             | 540,267        | 452,405        | 435,831        | -220,861         | -33.6   |
| Idaho                | 16,120,221                          | 18,310,011     | 17,761,541     | 22,750,923     | 6,630,702        | 41.1    |
| Illinois             | 120,924,965                         | 115,330,836    | 127,158,423    | 116,483,095    | -4,441,870       | -3.7    |
| Indiana              | 114,966,053                         | 112,817,420    | 122,643,217    | 120,941,009    | 5,974,956        | 5.2     |
| Iowa                 | 38,928,564                          | 35,407,819     | 34,194,004     | 40,100,994     | 1,172,430        | 3.0     |
| Kansas               | 29,164,165                          | 26,798,538     | 26,831,425     | 29,137,835     | -26,330          | -0.1    |
| Kentucky             | 48,539,755                          | 49,974,774     | 46,844,950     | 41,033,286     | -7,506,469       | -15.5   |
| Louisiana            | 180,310,077                         | 190,278,748    | 187,808,271    | 175,603,883    | -4,706,194       | -2.6    |
| Maine                | 11,497,422                          | 9,631,285      | 9,973,645      | 9,636,269      | -1,861,153       | -16.2   |
| Maryland             | 18,271,418                          | 13,336,439     | 14,106,599     | 13,251,453     | -5,019,965       | -27.5   |
| Massachusetts        | 10,091,082                          | 8,105,515      | 7,178,480      | 7,278,796      | -2,812,286       | -27.9   |
| Michigan             | 102,920,423                         | 94,885,669     | 86,381,065     | 83,648,982     | -19,271,441      | -18.7   |
| Minnesota            | 24,467,157                          | 22,075,160     | 20,201,397     | 19,870,654     | -4,596,503       | -18.8   |
| Mississippi          | 61,434,085                          | 58,207,309     | 66,823,769     | 60,520,702     | -913,383         | -1.5    |
| Missouri             | 61,155,281                          | 59,980,750     | 61,742,224     | 57,045,614     | -4,109,667       | -6.7    |
| Montana              | 43,931,043                          | 48,520,477     | 43,621,812     | 51,377,382     | 7,446,339        | 17.0    |
| Nebraska             | 15,164,831                          | 12,962,565     | 18,128,326     | 16,186,981     | 1,022,150        | 6.7     |
| Nevada               | 3,922,022                           | 3,798,706      | 4,444,713      | 4,204,845      | 282,823          | 7.2     |
| New Hampshire        | 2,923,904                           | 2,966,639      | 2,872,430      | 2,970,927      | 47,023           | 1.6     |
| New Jersey           | 19,224,662                          | 18,907,321     | 20,546,909     | 19,959,412     | 734,750          | 3.8     |
| New Mexico           | 45,032,577                          | 44,347,541     | 41,779,667     | 24,827,806     | -20,204,771      | -44.9   |
| New York             | 43,490,743                          | 37,954,432     | 39,491,267     | 35,489,850     | -8,000,893       | -18.4   |
| North Carolina       | 96,546,219                          | 94,878,345     | 85,758,466     | 76,800,683     | -19,745,536      | -20.5   |
| North Dakota         | 2,932,925                           | 2,325,812      | 2,422,425      | 2,449,976      | -482,949         | -16.5   |
| Ohio                 | 157,260,172                         | 153,643,964    | 155,865,505    | 153,558,752    | -3,701,420       | -2.4    |
| Oklahoma             | 30,045,985                          | 26,546,507     | 24,886,232     | 24,397,829     | -5,648,156       | -18.8   |
| Oregon               | 28,545,660                          | 28,713,017     | 30,492,618     | 33,180,800     | 4,635,140        | 16.2    |
| Pennsylvania         | 129,697,137                         | 120,389,458    | 144,947,172    | 145,737,350    | 16,040,213       | 12.4    |
| Puerto Rico          | 10,051,513                          | 9,019,800      | 7,959,917      | 7,288,665      | -2,762,848       | -27.5   |
| Rhode Island         | 3,409,326                           | 2,402,424      | 2,207,449      | 1,751,380      | -1,657,946       | -48.6   |
| South Carolina       | 59,417,978                          | 58,353,270     | 56,823,857     | 59,695,616     | 277,638          | 0.5     |
| South Dakota         | 4,186,498                           | 3,731,672      | 4,218,481      | 3,251,231      | -935,267         | -22.3   |
| Tennessee            | 110,980,496                         | 107,014,100    | 106,744,974    | 94,907,549     | -16,072,947      | -14.5   |
| Texas                | 305,641,800                         | 267,670,497    | 262,400,508    | 262,681,842    | -42,959,958      | -14.1   |
| Utah                 | 79,853,420                          | 88,118,018     | 103,895,386    | 106,252,499    | 26,399,079       | 33.1    |
| Vermont              | 692,851                             | 501,317        | 567,574        | 417,357        | -275,494         | -39.8   |
| Virgin Islands       | 1,493,257                           | 1,506,143      | 1,428,697      | 1,055,561      | -437,696         | -29.3   |
| Virginia             | 59,952,147                          | 58,856,804     | 58,378,853     | 56,848,332     | -3,103,815       | -5.2    |
| Washington           | 29,992,922                          | 29,364,350     | 32,185,569     | 32,108,843     | 2,115,921        | 7.1     |
| West Virginia        | 32,571,087                          | 29,333,199     | 25,310,249     | 26,185,485     | -6,385,602       | -19.6   |
| Wisconsin            | 47,056,858                          | 44,724,438     | 44,877,440     | 43,780,692     | -3,276,166       | -7.0    |
| Wyoming              | 11,354,542                          | 9,790,124      | 9,357,659      | 9,437,664      | -1,916,878       | -16.9   |
| Total                | 2,637,533,086                       | 2,545,283,447  | 2,586,972,184  | 2,496,759,865  | -140,773,221     | -5.3    |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for the purpose of this analysis.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

## TRI Releases, Transfers and Waste Management, Original Industries for 1988-1998

|   | 1988<br>Number | 1995<br>Number | 1996<br>Number | 1997<br>Number | 1998<br>Number | Change 1988-1998 |         |
|---|----------------|----------------|----------------|----------------|----------------|------------------|---------|
|   |                |                |                |                |                | Number           | Percent |
| Total Facilities  | 20,470         | 20,783         | 20,380         | 19,999         | 19,610         | -860             | -4.2    |
| Total Forms   | 62,826         | 63,161         | 61,636         | 61,213         | 60,252         | -2,574           | -4.1    |
| Form Rs   | 62,826         | 57,813         | 55,546         | 52,554         | 51,480         | --               | --      |
| Form As   | --             | 5,348          | 6,090          | 8,659          | 8,772          | --               | --      |
|   | Pounds         | Pounds         | Pounds         | Pounds         | Pounds         | Pounds           | Percent |
| <u>On-site Releases</u>                                     |                |                |                |                |                |                  |         |
| Total Air Emissions   | 2,182,565,290  | 1,201,484,542  | 1,104,879,205  | 986,118,909    | 920,705,030    | -1,261,860,260   | -57.8   |
| Fugitive Air Emissions                                      | 681,200,525    | 306,608,931    | 270,369,623    | 242,048,463    | 216,215,438    | -464,985,087     | -68.3   |
| Point Source Air Emissions                                  | 1,501,364,765  | 894,875,611    | 834,509,582    | 744,070,446    | 704,489,592    | -796,875,173     | -53.1   |
| Surface Water Discharges                                    | 164,566,331    | 37,178,869     | 44,607,289     | 61,601,861     | 44,660,053     | -119,906,278     | -72.9   |
| Underground Injection                                       | 161,969,122    | 142,514,672    | 122,769,454    | 131,462,206    | 114,554,014    | -47,415,108      | -29.3   |
| On-site Land Releases                                       | 459,273,405    | 306,589,692    | 325,331,861    | 342,010,439    | 347,031,866    | -112,241,539     | -24.4   |
| Total On-site Releases                                      | 2,968,374,148  | 1,687,767,775  | 1,597,587,809  | 1,521,193,415  | 1,426,950,963  | -1,541,423,185   | -51.9   |
| <u>Off-site Releases</u>                                    |                |                |                |                |                |                  |         |
| Storage Only*   | 13,841,320     | 2,233,367      | 1,236,411      | 6,324,984      | 11,228,031     | -2,613,289       | -18.9   |
| Solidification/Stabilization-**                             | 29,540,884     | 26,723,956     | 59,253,534     | 144,626,202    | 136,998,955    | 107,458,071      | 363.8   |
| Metals and Metal Compounds Only                             |                |                |                |                |                |                  |         |
| Wastewater Treatment (excluding POTWs)-***                  | 4,647,706      | 3,740,028      | 3,751,119      | 5,417,580      | 4,080,969      | -566,737         | -12.2   |
| Metals and Metal Compounds Only                             |                |                |                |                |                |                  |         |
| Transfers to POTWs-****                                     | 9,587,698      | 2,542,345      | 2,448,282      | 2,450,875      | 3,045,974      | -6,541,724       | -68.2   |
| Metals and Metal Compounds Only                             |                |                |                |                |                |                  |         |
| Underground Injection                                       | 8,962,004      | 12,531,911     | 9,046,874      | 10,834,074     | 13,274,293     | 4,312,289        | 48.1    |
| Landfills/Surface Impoundments                              | 267,252,441    | 211,887,103    | 223,246,208    | 233,850,749    | 222,761,082    | -44,491,359      | -16.6   |
| Land Treatment  | 2,785,480      | 1,137,699      | 546,817        | 650,128        | 584,785        | -2,200,695       | -79.0   |
| Other Land Disposal   | 9,646,794      | 11,632,875     | 6,176,823      | 9,115,316      | 13,287,506     | 3,640,712        | 37.7    |
| Other Off-site Management                                   | 39,569,635     | 10,871,972     | 9,345,011      | 10,061,063     | 8,559,942      | -31,009,693      | -78.4   |
| Transfers to Waste Broker for Disposal                      | 30,402,269     | 4,562,335      | 4,368,125      | 7,241,334      | 12,446,486     | -17,955,783      | -59.1   |
| Unknown*****  | 11,773,104     | 1,541,114      | 1,514,421      | 2,213,534      | 3,716,205      | -8,056,899       | -68.4   |
| Total Off-site Releases<br>(Transfers Off-site to Disposal) | 428,009,335    | 289,404,705    | 320,933,625    | 432,785,839    | 429,984,228    | 1,974,893        | 0.5     |
| Total On- and Off-site Releases                             | 3,396,383,483  | 1,977,172,480  | 1,918,521,434  | 1,953,979,254  | 1,856,935,191  | -1,539,448,292   | -45.3   |
| <u>Transfers Off-site for Further Waste Management</u>      |                |                |                |                |                |                  |         |
| Transfers to Recycling                                      | --             | 2,212,526,603  | 2,154,377,003  | 2,144,323,655  | 1,945,915,206  | --               | --      |
| Transfers to Energy Recovery                                | --             | 489,574,529    | 447,276,376    | 469,573,955    | 435,696,242    | --               | --      |
| Transfers to Treatment                                      | 334,988,922    | 201,332,079    | 185,703,380    | 218,630,560    | 210,813,755    | -124,175,167     | -37.1   |
| Transfers to POTWs  | 245,419,292    | 151,319,024    | 139,035,489    | 156,884,773    | 146,112,643    | -99,306,649      | -40.5   |
| Other Off-site Transfers*****                               | 43,502,294     | 2,223,695      | 817,770        | 34,528         | 917,840        | -42,584,454      | -97.9   |
| Total Transfers Off-site for<br>Further Waste Management    | --             | 3,056,975,930  | 2,927,210,018  | 2,989,447,471  | 2,739,455,686  | --               | --      |
| <u>Waste Management</u>                                     |                |                |                |                |                |                  |         |
| Recycled On-site  | --             | 6,266,433,735  | 6,439,784,593  | 6,776,026,076  | 7,808,090,655  | --               | --      |
| Recycled Off-site   | --             | 2,296,479,187  | 2,196,624,726  | 2,155,792,100  | 2,016,895,662  | --               | --      |
| Energy Recovery On-site                                     | --             | 2,590,813,050  | 2,550,169,039  | 2,553,304,855  | 2,618,126,725  | --               | --      |
| Energy Recovery Off-site                                    | --             | 477,437,950    | 486,036,596    | 483,997,508    | 443,030,841    | --               | --      |
| Treated On-site   | --             | 4,521,301,770  | 4,222,748,199  | 4,345,880,640  | 4,457,491,546  | --               | --      |
| Treated Off-site  | --             | 399,276,776    | 364,182,972    | 377,251,019    | 387,845,187    | --               | --      |
| Quantity Released On- and Off-site                          | --             | 1,901,508,970  | 1,842,459,683  | 1,865,247,145  | 1,810,695,159  | --               | --      |
| Total Production-related Waste                              | --             | 18,453,251,438 | 18,102,005,808 | 18,557,501,343 | 19,542,175,775 | --               | --      |
| Non-Production-related Waste                                | --             | 31,402,801     | 24,300,165     | 32,525,531     | 25,278,322     | --               | --      |

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid and sulfuric acid.

On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Total Transfers Off-site for Further Waste Management from Section 6 (excluding transfers off-site to disposal) of Form R.

Waste Management data from Section 8.

For 1998, facilities/forms are included in the original industry category if they did not report a new industry SIC code.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for 1998 for the purpose of this analysis.

\* "Storage only" (disposal code M10) indicates that the toxic chemical is sent off-site for storage because there is no known disposal method. Amounts reported as transferred to "storage only" are included as a form of disposal (off-site release).

\*\* Beginning in reporting year 1997, transfers to solidification/stabilization of metals and metal compounds (waste treatment code M41) are reported separately from transfers to solidification/stabilization of non-metal TRI chemicals (waste treatment code M40). Because this treatment method prepares a metal for disposal, but does not destroy it, such transfers are included as a form of disposal (off-site release). Reports under code M40 of metals and metal compounds have been included in solidification/stabilization of metals and metal compounds in this report.

\*\*\* Beginning in reporting year 1997, transfers to wastewater treatment (excluding POTWs) of metals and metal compounds (waste treatment code M61) are reported separately from transfers to wastewater treatment of non-metal TRI chemicals (waste treatment code M60). Because wastewater treatment does not destroy metals, such transfers are included as a form of disposal (off-site release). Transfers of metals and metal compounds reported under code M60 have been included in transfers of metals metal compounds to wastewater treatment.

\*\*\*\* Reported as discharges to POTWs in Section 6.1 of Form R. EPA considers transfers of metals and metal compounds to POTWs as an off-site release because sewage treatment does not destroy the metal content of the waste material.

\*\*\*\*\* "Unknown" (disposal code M99) indicates that a facility is not aware of the type of waste management used for the toxic chemical that is sent off-site. Amounts reported as "unknown" transfers are treated as a form of disposal (off-site release).

\*\*\*\*\* Other Off-site Transfers are transfers reported without a valid waste management code.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

## TRI Total On-site and Off-site Releases, by State, Original Industries for 1988-1998

| State                | Total On-site and Off-site Releases |               |               |               |               |                  |         |
|----------------------|-------------------------------------|---------------|---------------|---------------|---------------|------------------|---------|
|                      | 1988                                | 1995          | 1996          | 1997          | 1998          | Change 1988-1998 |         |
|                      | Pounds                              |               | Pounds        | Pounds        | Pounds        | Pounds           | Percent |
| Alabama              | 111,028,538                         | 100,913,410   | 89,890,659    | 80,129,125    | 75,875,560    | -35,152,978      | -31.7   |
| Alaska               | 3,714,569                           | 2,158,743     | 1,683,698     | 779,045       | 314,823       | -3,399,746       | -91.5   |
| American Samoa       | 0                                   | 0             | 0             | 0             | 0             | 0                | --      |
| Arizona*             | 66,280,900                          | 38,298,065    | 45,840,805    | 30,584,971    | 53,496,957    | -12,783,943      | -19.3   |
| Arkansas             | 41,209,387                          | 25,821,435    | 30,380,514    | 49,085,206    | 39,510,512    | -1,698,875       | -4.1    |
| California           | 110,756,053                         | 38,164,342    | 35,414,101    | 28,263,902    | 28,194,920    | -82,561,133      | -74.5   |
| Colorado             | 15,743,170                          | 3,498,678     | 3,204,035     | 3,131,147     | 3,569,678     | -12,173,492      | -77.3   |
| Connecticut          | 38,696,367                          | 9,315,681     | 7,290,376     | 8,489,475     | 6,023,415     | -32,672,952      | -84.4   |
| Delaware             | 8,793,803                           | 2,982,689     | 2,085,357     | 2,023,620     | 2,283,690     | -6,510,113       | -74.0   |
| District of Columbia | 750                                 | 56,970        | 9,460         | 6,615         | 11,511        | 10,761           | 1,434.8 |
| Florida              | 61,723,562                          | 52,835,932    | 53,944,608    | 57,253,531    | 41,651,398    | -20,072,164      | -32.5   |
| Georgia              | 86,694,993                          | 41,262,176    | 41,835,078    | 51,945,469    | 45,239,691    | -41,455,302      | -47.8   |
| Guam                 | 0                                   | 3,100         | 3,000         | 0             | 0             | 0                | --      |
| Hawaii               | 847,805                             | 562,284       | 448,355       | 343,620       | 306,151       | -541,654         | -63.9   |
| Idaho                | 7,354,669                           | 12,081,793    | 13,868,276    | 12,936,773    | 13,313,832    | 5,959,163        | 81.0    |
| Illinois             | 141,237,027                         | 85,812,365    | 82,306,834    | 92,037,911    | 83,581,362    | -57,655,665      | -40.8   |
| Indiana              | 185,248,438                         | 93,961,286    | 94,244,626    | 105,254,667   | 105,549,492   | -79,698,946      | -43.0   |
| Iowa                 | 43,056,771                          | 22,058,479    | 19,117,526    | 19,866,112    | 24,847,373    | -18,209,398      | -42.3   |
| Kansas               | 30,569,025                          | 17,835,085    | 17,526,044    | 18,939,538    | 20,770,839    | -9,798,186       | -32.1   |
| Kentucky             | 66,948,777                          | 34,082,658    | 33,251,579    | 35,269,358    | 31,078,308    | -35,870,469      | -53.6   |
| Louisiana            | 250,924,798                         | 125,881,755   | 135,400,374   | 131,501,530   | 120,503,130   | -130,421,668     | -52.0   |
| Maine                | 15,560,704                          | 6,958,468     | 5,608,380     | 6,368,798     | 6,576,681     | -8,984,023       | -57.7   |
| Maryland             | 20,258,825                          | 12,040,124    | 9,568,830     | 9,908,106     | 8,753,507     | -11,505,318      | -56.8   |
| Massachusetts        | 32,303,089                          | 8,770,906     | 7,017,993     | 6,285,331     | 6,540,231     | -25,762,858      | -79.8   |
| Michigan             | 143,507,412                         | 89,864,306    | 81,672,921    | 74,642,680    | 73,924,271    | -69,583,141      | -48.5   |
| Minnesota            | 56,097,889                          | 18,409,828    | 17,091,329    | 15,653,204    | 15,017,469    | -41,080,420      | -73.2   |
| Mississippi          | 59,669,849                          | 40,246,039    | 40,625,179    | 45,708,043    | 40,763,029    | -18,906,820      | -31.7   |
| Missouri             | 91,212,847                          | 50,631,807    | 50,092,779    | 53,029,567    | 48,645,483    | -42,567,364      | -46.7   |
| Montana              | 35,630,465                          | 42,644,621    | 47,219,566    | 42,565,595    | 50,530,744    | 14,900,279       | 41.8    |
| Nebraska             | 17,123,549                          | 11,353,630    | 8,817,422     | 13,891,155    | 10,218,743    | -6,904,806       | -40.3   |
| Nevada               | 2,357,318                           | 3,379,331     | 3,315,281     | 4,017,511     | 3,671,941     | 1,314,623        | 55.8    |
| New Hampshire        | 13,975,720                          | 2,250,006     | 2,247,511     | 2,368,056     | 2,346,947     | -11,628,773      | -83.2   |
| New Jersey           | 48,474,308                          | 14,090,722    | 12,315,000    | 13,559,774    | 11,492,736    | -36,981,572      | -76.3   |
| New Mexico           | 30,427,754                          | 43,436,083    | 42,722,158    | 40,093,247    | 23,788,269    | -6,639,485       | -21.8   |
| New York             | 101,432,234                         | 31,370,206    | 27,835,708    | 28,650,089    | 21,965,597    | -79,466,637      | -78.3   |
| North Carolina       | 132,089,323                         | 73,340,406    | 72,724,754    | 63,683,802    | 56,574,494    | -75,514,829      | -57.2   |
| North Dakota         | 1,195,540                           | 1,206,639     | 773,687       | 794,419       | 1,045,336     | -150,204         | -12.6   |
| Ohio                 | 206,027,514                         | 126,504,425   | 123,169,541   | 127,043,535   | 124,018,172   | -82,009,342      | -39.8   |
| Oklahoma             | 30,594,900                          | 16,086,020    | 15,320,406    | 15,219,915    | 13,905,499    | -16,689,401      | -54.5   |
| Oregon               | 21,648,764                          | 22,313,626    | 23,547,717    | 24,197,432    | 28,039,036    | 6,390,272        | 29.5    |
| Pennsylvania         | 136,473,174                         | 97,762,531    | 88,165,538    | 96,910,470    | 89,865,562    | -46,607,612      | -34.2   |
| Puerto Rico          | 12,869,935                          | 8,877,571     | 7,942,240     | 7,192,393     | 6,694,121     | -6,175,814       | -48.0   |
| Rhode Island         | 7,821,230                           | 3,181,430     | 2,252,709     | 2,046,266     | 1,607,134     | -6,214,096       | -79.5   |
| South Carolina       | 66,161,727                          | 49,054,562    | 48,554,629    | 47,833,188    | 49,997,982    | -16,163,745      | -24.4   |
| South Dakota         | 2,393,747                           | 1,905,217     | 1,401,061     | 1,323,017     | 1,287,592     | -1,106,155       | -46.2   |
| Tennessee            | 127,004,563                         | 93,964,293    | 90,647,927    | 89,934,912    | 78,245,857    | -48,758,706      | -38.4   |
| Texas                | 322,558,783                         | 208,978,359   | 186,249,091   | 179,274,943   | 169,996,600   | -152,562,183     | -47.3   |
| Utah                 | 123,845,400                         | 69,401,025    | 77,730,842    | 96,470,201    | 99,492,858    | -24,352,542      | -19.7   |
| Vermont              | 1,750,690                           | 562,760       | 344,045       | 346,264       | 208,300       | -1,542,390       | -88.1   |
| Virgin Islands       | 2,592,912                           | 1,235,660     | 1,232,275     | 1,184,171     | 887,525       | -1,705,387       | -65.8   |
| Virginia             | 112,871,474                         | 41,023,826    | 40,177,272    | 40,867,551    | 39,526,438    | -73,345,036      | -65.0   |
| Washington           | 30,678,806                          | 22,655,549    | 22,270,714    | 24,613,732    | 24,151,925    | -6,526,881       | -21.3   |
| West Virginia        | 39,676,284                          | 19,962,084    | 17,657,607    | 15,287,406    | 16,325,841    | -23,350,443      | -58.9   |
| Wisconsin            | 62,526,731                          | 34,798,910    | 33,105,187    | 33,842,049    | 33,756,270    | -28,770,461      | -46.0   |
| Wyoming              | 16,740,621                          | 1,324,584     | 1,358,830     | 1,330,817     | 950,359       | -15,790,262      | -94.3   |
| Total                | 3,396,383,483                       | 1,977,172,480 | 1,918,521,434 | 1,953,979,254 | 1,856,935,191 | -1,539,448,292   | -45.3   |

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid and sulfuric acid.

On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

For 1998, facilities/forms are included in the original industry category if they did not report a new industry SIC code.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

\*One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for 1998 for the purpose of this analysis.

TRI On-site and Off-site Releases, by State, 1998  
ORIGINAL INDUSTRIES

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                                    |               | Off-site Releases             |                                       | Total On- and Off-site Releases Pounds |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------------|---------------|-------------------------------|---------------------------------------|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                                    |               | Total On-site Releases Pounds | Transfers Off-site to Disposal Pounds |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | Other On-site Land Releases Pounds |               |                               |                                       |  |
| Alabama              | 531                     | 2,015              | 333            | 54,160,590                 | 4,810,219                       | 0                     | 5                       | 718,739                          | 11,344,626                         | 71,034,179    | 17,553,193                    | 88,587,372                            |  |
| Alaska               | 6                       | 30                 | 4              | 1,838,917                  | 96,428                          | 0                     | 256                     | 0                                | 1,872                              | 1,937,473     | 286                           | 1,937,759                             |  |
| American Samoa       | 1                       | 1                  | 0              | 8,750                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 8,750         | 0                             | 8,750                                 |  |
| Arizona*             | 212                     | 542                | 105            | 5,840,821                  | 5,038                           | 4                     | 0                       | 4,554                            | 47,391,811                         | 53,242,228    | 839,920                       | 54,082,148                            |  |
| Arkansas             | 395                     | 1,280              | 210            | 25,858,289                 | 1,820,349                       | 1,172,182             | 5                       | 169,622                          | 2,091,114                          | 31,111,561    | 4,330,200                     | 35,441,761                            |  |
| California           | 1,376                   | 3,788              | 634            | 26,784,463                 | 3,854,112                       | 0                     | 81,905                  | 17,224                           | 1,844,261                          | 32,581,965    | 7,844,079                     | 40,426,044                            |  |
| Colorado             | 172                     | 469                | 120            | 2,987,059                  | 996,480                         | 0                     | 0                       | 0                                | 62,821                             | 4,046,360     | 1,048,238                     | 5,094,598                             |  |
| Connecticut          | 304                     | 843                | 87             | 4,813,164                  | 600,326                         | 0                     | 0                       | 0                                | 36,943                             | 5,450,433     | 2,087,069                     | 7,537,502                             |  |
| Delaware             | 67                      | 266                | 36             | 4,238,492                  | 747,352                         | 0                     | 0                       | 250                              | 346,937                            | 5,333,031     | 86,948                        | 5,419,979                             |  |
| District of Columbia | 3                       | 5                  | 0              | 2,700                      | 6                               | 0                     | 0                       | 0                                | 8,800                              | 11,506        | 5                             | 11,511                                |  |
| Florida              | 523                     | 1,308              | 250            | 31,915,108                 | 2,049,041                       | 27,473,112            | 0                       | 2,064                            | 14,552,129                         | 75,991,454    | 1,954,024                     | 77,945,478                            |  |
| Georgia              | 739                     | 2,356              | 603            | 46,621,812                 | 6,288,967                       | 0                     | 0                       | 238,189                          | 1,934,127                          | 55,083,095    | 2,414,899                     | 57,497,994                            |  |
| Guam                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0                                     |  |
| Hawaii               | 14                      | 57                 | 11             | 376,116                    | 2,057                           | 0                     | 3,849                   | 0                                | 33,634                             | 415,656       | 3,268                         | 418,924                               |  |
| Idaho                | 65                      | 209                | 22             | 6,250,363                  | 5,575,048                       | 0                     | 0                       | 0                                | 10,664,410                         | 22,489,821    | 214,892                       | 22,704,713                            |  |
| Illinois             | 1,274                   | 4,253              | 675            | 58,775,372                 | 6,264,554                       | 250                   | 0                       | 9,286,090                        | 10,402,373                         | 84,728,639    | 17,721,684                    | 102,450,323                           |  |
| Indiana              | 1,000                   | 3,344              | 387            | 52,797,207                 | 2,117,917                       | 1,039,913             | 0                       | 1,172,555                        | 13,249,166                         | 70,376,758    | 44,516,471                    | 114,893,229                           |  |
| Iowa                 | 414                     | 1,249              | 214            | 25,575,473                 | 3,118,336                       | 0                     | 0                       | 336,491                          | 1,945,508                          | 30,975,808    | 4,319,410                     | 35,295,218                            |  |
| Kansas               | 262                     | 896                | 99             | 19,492,825                 | 620,344                         | 1,350,665             | 0                       | 292                              | 1,109,233                          | 22,573,359    | 6,433,673                     | 29,007,032                            |  |
| Kentucky             | 423                     | 1,604              | 186            | 30,707,376                 | 613,048                         | 0                     | 0                       | 485,532                          | 2,812,464                          | 34,618,420    | 5,230,783                     | 39,849,203                            |  |
| Louisiana            | 315                     | 2,202              | 207            | 75,490,120                 | 37,153,990                      | 52,845,038            | 0                       | 782                              | 8,004,650                          | 173,494,580   | 1,799,852                     | 175,294,432                           |  |
| Maine                | 81                      | 306                | 33             | 6,521,208                  | 1,096,895                       | 0                     | 0                       | 155,561                          | 705,948                            | 8,479,612     | 1,155,851                     | 9,635,463                             |  |
| Maryland             | 185                     | 580                | 144            | 8,213,866                  | 2,375,596                       | 0                     | 0                       | 0                                | 1,994,518                          | 12,583,980    | 645,881                       | 13,229,861                            |  |
| Massachusetts        | 465                     | 1,255              | 187            | 4,838,904                  | 51,598                          | 0                     | 0                       | 0                                | 4,297                              | 4,894,799     | 2,381,450                     | 7,276,249                             |  |
| Michigan             | 894                     | 3,228              | 373            | 40,997,059                 | 483,956                         | 3,431,059             | 0                       | 86,194                           | 2,072,063                          | 47,070,331    | 36,042,210                    | 83,112,541                            |  |
| Minnesota            | 470                     | 1,290              | 248            | 15,904,943                 | 812,176                         | 0                     | 0                       | 1,069                            | 286,453                            | 17,004,641    | 2,375,503                     | 19,380,144                            |  |
| Mississippi          | 321                     | 1,088              | 172            | 35,436,941                 | 11,383,390                      | 6,892,506             | 0                       | 6,703                            | 5,502,602                          | 59,222,142    | 1,187,049                     | 60,409,191                            |  |
| Missouri             | 561                     | 1,847              | 327            | 30,206,648                 | 2,528,218                       | 0                     | 0                       | 75,750                           | 19,750,936                         | 52,561,552    | 4,405,048                     | 56,966,600                            |  |
| Montana              | 29                      | 160                | 19             | 4,190,212                  | 94,176                          | 0                     | 0                       | 2,298                            | 42,244,471                         | 46,531,157    | 600,495                       | 47,131,652                            |  |
| Nebraska             | 162                     | 494                | 93             | 6,338,728                  | 2,487,238                       | 0                     | 0                       | 3                                | 575,591                            | 9,401,560     | 3,685,052                     | 13,086,612                            |  |
| Nevada               | 52                      | 121                | 26             | 1,750,522                  | 0                               | 0                     | 0                       | 0                                | 2,421,469                          | 4,171,991     | 32,854                        | 4,204,845                             |  |
| New Hampshire        | 106                     | 309                | 51             | 2,298,511                  | 127,630                         | 0                     | 0                       | 0                                | 82,087                             | 2,508,228     | 454,521                       | 2,962,749                             |  |
| New Jersey           | 553                     | 1,957              | 371            | 9,330,070                  | 6,132,478                       | 2                     | 0                       | 71,759                           | 270,775                            | 15,805,084    | 4,088,383                     | 19,893,467                            |  |
| New Mexico           | 44                      | 168                | 25             | 1,531,690                  | 12,508                          | 0                     | 0                       | 0                                | 23,174,487                         | 24,718,685    | 109,121                       | 24,827,806                            |  |
| New York             | 630                     | 1,897              | 253            | 21,867,773                 | 7,873,875                       | 500                   | 0                       | 14,688                           | 125,120                            | 29,881,956    | 5,096,339                     | 34,978,295                            |  |
| North Carolina       | 815                     | 2,462              | 516            | 44,780,426                 | 7,294,815                       | 29,100                | 0                       | 1,335                            | 18,642,059                         | 70,747,735    | 4,884,200                     | 75,631,935                            |  |
| North Dakota         | 33                      | 92                 | 18             | 2,255,973                  | 43,280                          | 0                     | 0                       | 0                                | 2,506                              | 2,301,759     | 147,721                       | 2,449,480                             |  |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0                                     |  |
| Ohio                 | 1,579                   | 5,263              | 772            | 63,602,506                 | 5,778,926                       | 13,329,724            | 0                       | 1,378,051                        | 24,467,189                         | 108,556,396   | 35,786,258                    | 144,342,654                           |  |
| Oklahoma             | 290                     | 908                | 163            | 16,867,200                 | 751,512                         | 3,318,269             | 0                       | 525,142                          | 189,954                            | 21,652,077    | 2,527,302                     | 24,179,379                            |  |
| Oregon               | 256                     | 766                | 116            | 16,266,446                 | 2,573,110                       | 0                     | 0                       | 24,997                           | 2,527,503                          | 21,392,056    | 1,870,536                     | 23,262,592                            |  |
| Pennsylvania         | 1,266                   | 4,086              | 548            | 38,602,369                 | 45,483,216                      | 0                     | 0                       | 95,834                           | 2,055,749                          | 86,237,168    | 49,771,001                    | 136,008,169                           |  |
| Puerto Rico          | 146                     | 440                | 56             | 6,504,721                  | 128,874                         | 0                     | 0                       | 250                              | 9,307                              | 6,643,152     | 643,651                       | 7,286,803                             |  |
| Rhode Island         | 132                     | 331                | 69             | 1,433,349                  | 1,465                           | 0                     | 0                       | 0                                | 505                                | 1,435,319     | 297,555                       | 1,732,874                             |  |
| South Carolina       | 476                     | 1,781              | 263            | 43,284,655                 | 3,343,152                       | 0                     | 0                       | 35,750                           | 1,981,029                          | 48,644,586    | 5,263,774                     | 53,908,360                            |  |
| South Dakota         | 66                      | 150                | 19             | 2,314,440                  | 808,061                         | 0                     | 0                       | 0                                | 13,807                             | 3,136,308     | 114,923                       | 3,251,231                             |  |
| Tennessee            | 639                     | 2,078              | 268            | 77,905,764                 | 1,442,948                       | 3,816,300             | 0                       | 137,682                          | 3,815,988                          | 87,118,682    | 5,989,694                     | 93,108,376                            |  |
| Texas                | 1,249                   | 5,961              | 706            | 110,705,485                | 25,158,641                      | 88,189,920            | 8,000                   | 167,524                          | 20,070,107                         | 244,299,677   | 14,858,547                    | 259,158,224                           |  |
| Utah                 | 142                     | 486                | 73             | 61,208,838                 | 1,131,818                       | 0                     | 0                       | 11,158                           | 36,137,000                         | 98,488,814    | 947,423                       | 99,436,237                            |  |
| Vermont              | 34                      | 77                 | 8              | 189,210                    | 151,374                         | 0                     | 0                       | 0                                | 1,005                              | 341,589       | 71,376                        | 412,965                               |  |
| Virgin Islands       | 1                       | 25                 | 0              | 1,016,014                  | 37,903                          | 0                     | 0                       | 0                                | 1,502                              | 1,055,419     | 142                           | 1,055,561                             |  |
| Virginia             | 433                     | 1,394              | 191            | 45,297,883                 | 2,561,850                       | 0                     | 0                       | 104,229                          | 1,513,123                          | 49,477,085    | 6,945,274                     | 56,422,359                            |  |
| Washington           | 287                     | 957                | 138            | 21,604,993                 | 3,497,496                       | 0                     | 0                       | 255                              | 343,960                            | 25,446,704    | 2,283,466                     | 27,730,170                            |  |
| West Virginia        | 141                     | 695                | 34             | 12,404,749                 | 7,266,259                       | 20                    | 0                       | 10,036                           | 33,521                             | 19,714,585    | 6,436,253                     | 26,150,838                            |  |
| Wisconsin            | 855                     | 2,560              | 360            | 25,035,473                 | 3,711,391                       | 0                     | 0                       | 842                              | 1,441,221                          | 30,188,927    | 12,690,355                    | 42,879,282                            |  |
| Wyoming              | 28                      | 145                | 17             | 1,708,858                  | 6,325                           | 7,656,300             | 505                     | 0                                | 40,649                             | 9,412,637     | 25,026                        | 9,437,663                             |  |
| Total                | 21,517                  | 72,074             | 10,840         | 1,256,951,444              | 223,365,762                     | 210,544,864           | 94,525                  | 15,339,494                       | 340,335,380                        | 2,046,631,469 | 332,213,128                   | 2,378,844,597                         |  |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.  
Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.  
Facilities/forms are included in the original industry category if they did not report a new industry SIC code.  
Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.  
If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.  
If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.  
\* One facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for the purpose of this analysis.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.  
Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State, 1998  
ORIGINAL INDUSTRIES

| State               | Recycled       |                 | Energy Recovery |                 | Treated        |                 | Quantity Released On- and Off-site Pounds | Total Production-related Waste Pounds | Non-Production-related Waste Pounds |
|---------------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|---|---------------------------------------|-------------------------------------|
|                     | On-site Pounds | Off-site Pounds | On-site Pounds  | Off-site Pounds | On-site Pounds | Off-site Pounds |   |                                       |                                     |
| Alabama             | 293,178,514    | 37,396,496      | 65,522,981      | 11,172,203      | 284,398,610    | 13,390,960      | 78,418,482                                | 783,478,246                           | 233,142                             |
| Alaska              | 29,841         | 26,770          | 450,000         | 4,979           | 1,535,357      | 832             | 1,951,419                                 | 3,999,198                             | 7,656                               |
| American Samoa      | 0              | 0               | 0               | 0               | 0              | 0               | 8,750                                     | 8,750                                 | 0                                   |
| Arizona*            | 83,318,075     | 29,357,820      | 603,220         | 1,118,310       | 9,462,416      | 3,293,116       | 54,472,730                                | 181,625,687                           | 29,476                              |
| Arkansas            | 307,082,125    | 45,083,148      | 31,483,664      | 6,312,538       | 120,250,468    | 1,540,244       | 47,275,247                                | 559,027,434                           | 4,106,494                           |
| California          | 41,705,125     | 79,721,904      | 27,993,472      | 10,022,282      | 77,512,667     | 20,306,906      | 43,876,517                                | 301,138,873                           | 457,053                             |
| Colorado            | 15,020,295     | 19,227,144      | 392,668         | 4,745,334       | 6,941,988      | 3,280,735       | 5,249,439                                 | 54,857,603                            | 82,863                              |
| Connecticut         | 94,526,224     | 19,528,393      | 3,070,165       | 2,305,077       | 44,169,482     | 8,793,271       | 6,841,765                                 | 179,234,377                           | 62,444                              |
| Delaware            | 34,449,054     | 11,979,531      | 16,155,665      | 1,496,321       | 66,770,680     | 3,953,988       | 5,490,957                                 | 140,296,176                           | 8,305                               |
| Distict of Columbia | 0              | 7,000           | 0               | 0               | 300            | 5,700           | 11,512                                    | 24,512                                | 0                                   |
| Florida             | 706,626,708    | 21,487,365      | 15,126,614      | 3,637,599       | 108,998,283    | 9,037,205       | 76,662,033                                | 941,575,807                           | 50,634                              |
| Georgia             | 280,851,010    | 53,769,200      | 45,242,232      | 11,927,123      | 174,892,589    | 7,366,156       | 64,208,570                                | 638,256,880                           | 65,965                              |
| Guam                | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Hawaii              | 0              | 110,652         | 0               | 1,139           | 3,568,243      | 2,468           | 435,396                                   | 4,117,893                             | 0                                   |
| Idaho               | 3,568,753      | 2,119,253       | 31,000          | 158,899         | 22,561,924     | 796,900         | 22,762,659                                | 51,999,388                            | 3,148                               |
| Illinois            | 1,327,391,943  | 91,148,220      | 43,023,655      | 24,961,812      | 186,856,266    | 16,836,814      | 111,580,789                               | 1,801,799,499                         | 199,733                             |
| Indiana             | 164,005,314    | 197,221,070     | 149,035,099     | 12,679,271      | 135,790,062    | 16,302,192      | 119,296,537                               | 794,329,545                           | 297,556                             |
| Iowa                | 187,987,387    | 51,296,173      | 1,302,522       | 3,698,314       | 44,900,575     | 11,046,771      | 38,189,865                                | 338,421,607                           | 1,232,058                           |
| Kansas              | 126,542,458    | 59,430,708      | 105,332,327     | 3,791,045       | 13,754,125     | 5,081,096       | 25,583,848                                | 339,515,607                           | 99,249                              |
| Kentucky            | 348,344,246    | 48,524,049      | 66,899,304      | 8,146,849       | 117,330,012    | 8,634,842       | 38,829,320                                | 636,708,622                           | 58,826                              |
| Louisiana           | 844,859,683    | 47,139,502      | 337,940,984     | 19,099,381      | 880,378,400    | 16,761,232      | 174,819,499                               | 2,320,998,681                         | 375,410                             |
| Maine               | 9,499,057      | 2,145,059       | 9,903,867       | 299,639         | 64,160,587     | 360,869         | 9,800,532                                 | 96,169,610                            | 934                                 |
| Maryland            | 25,867,890     | 12,711,729      | 13,281,742      | 905,351         | 31,078,971     | 9,597,164       | 13,170,908                                | 106,613,755                           | 85,946                              |
| Massachusetts       | 27,120,870     | 24,626,565      | 6,549,099       | 6,991,254       | 21,053,259     | 12,325,582      | 5,890,441                                 | 104,557,070                           | 707,790                             |
| Michigan            | 335,609,755    | 113,906,959     | 179,352,021     | 62,742,845      | 92,220,412     | 41,034,588      | 83,342,074                                | 908,208,654                           | 412,668                             |
| Minnesota           | 187,351,415    | 21,940,758      | 7,034,602       | 2,191,446       | 36,106,015     | 10,716,446      | 20,096,775                                | 285,437,457                           | 19,320                              |
| Mississippi         | 218,143,589    | 17,567,013      | 26,001,891      | 5,817,512       | 159,925,362    | 2,051,241       | 69,192,130                                | 498,698,738                           | 447,356                             |
| Missouri            | 225,246,952    | 55,448,281      | 97,649,194      | 11,436,473      | 63,212,942     | 12,486,677      | 56,525,337                                | 522,005,876                           | 64,217                              |
| Montana             | 33,461,138     | 161,043         | 2,736,683       | 54,685          | 8,727,209      | 29,422          | 51,408,605                                | 96,578,785                            | 74,742                              |
| Nebraska            | 1,660,358      | 26,345,794      | 534,716         | 476,364         | 11,072,700     | 4,544,108       | 20,480,915                                | 65,114,955                            | 10,296                              |
| Nevada              | 2,362,845      | 1,534,498       | 0               | 48,834          | 18,800,024     | 74,576          | 4,199,511                                 | 27,020,288                            | 1,178                               |
| New Hampshire       | 19,759,819     | 14,636,857      | 1,291,862       | 2,310,099       | 12,528,800     | 826,675         | 2,610,514                                 | 53,964,626                            | 6,661                               |
| New Jersey          | 86,428,952     | 40,389,248      | 205,384,100     | 25,742,415      | 132,394,426    | 27,467,724      | 20,739,656                                | 538,546,521                           | 123,335                             |
| New Mexico          | 2,231,074      | 743,952         | 25,925,653      | 52,123          | 4,485,523      | 559,469         | 24,272,903                                | 58,270,607                            | 2,110                               |
| New York            | 156,470,019    | 83,112,852      | 29,244,665      | 7,742,986       | 101,936,741    | 11,745,062      | 34,482,342                                | 424,734,697                           | 103,088                             |
| North Carolina      | 450,977,261    | 79,998,828      | 24,962,940      | 13,655,285      | 136,366,086    | 6,062,485       | 76,984,678                                | 789,007,563                           | 90,473                              |
| North Dakota        | 131,875        | 683,398         | 0               | 37,540          | 4,581,936      | 559,345         | 2,467,835                                 | 8,461,929                             | 12,700                              |
| Northern Marianas   | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Ohio                | 268,220,342    | 183,145,482     | 115,563,551     | 35,621,104      | 141,513,103    | 34,776,713      | 148,744,315                               | 927,584,610                           | 570,267                             |
| Oklahoma            | 40,910,547     | 21,345,349      | 232,300         | 4,679,332       | 18,606,140     | 1,514,188       | 23,129,013                                | 110,416,869                           | 284,686                             |
| Oregon              | 31,674,879     | 15,126,650      | 15,244,417      | 2,021,771       | 137,251,954    | 14,225,060      | 32,818,337                                | 248,363,068                           | 8,477                               |
| Pennsylvania        | 399,505,129    | 140,635,343     | 54,321,983      | 22,163,998      | 176,655,847    | 28,973,270      | 142,164,686                               | 964,420,256                           | 3,335,635                           |
| Puerto Rico         | 12,450,070     | 11,561,577      | 692,502         | 11,095,257      | 18,518,748     | 11,680,723      | 7,306,280                                 | 73,305,157                            | 12,304                              |
| Rhode Island        | 8,516,176      | 10,988,271      | 206,716         | 794,872         | 7,275,506      | 499,916         | 1,681,961                                 | 29,963,418                            | 3,085                               |
| South Carolina      | 461,741,175    | 54,051,753      | 73,648,246      | 14,236,094      | 108,285,284    | 14,812,906      | 59,871,574                                | 786,647,032                           | 92,491                              |
| South Dakota        | 479,727        | 899,786         | 1,092,000       | 209,283         | 1,891,554      | 1,267,051       | 3,198,539                                 | 9,037,940                             | 371                                 |
| Tennessee           | 213,074,975    | 69,924,557      | 89,442,272      | 4,868,429       | 89,279,362     | 10,284,402      | 94,201,404                                | 571,075,401                           | 746,569                             |
| Texas               | 1,118,957,774  | 149,833,364     | 829,307,121     | 87,792,352      | 1,455,423,890  | 95,273,974      | 261,684,178                               | 3,998,272,653                         | 3,361,190                           |
| Utah                | 1,596,040      | 2,756,858       | 25,386,759      | 159,747         | 231,471,430    | 900,241         | 97,487,844                                | 359,758,919                           | 8,754,117                           |
| Vermont             | 136,592        | 1,644,156       | 0               | 17,016          | 1,319,812      | 379,625         | 454,462                                   | 3,951,663                             | 16,005                              |
| Virgin Islands      | 736,904        | 145,485         | 0               | 0               | 14,488,182     | 390,821         | 1,055,560                                 | 16,816,952                            | 0                                   |
| Virginia            | 254,849,274    | 18,914,718      | 37,236,947      | 7,662,931       | 109,085,977    | 17,193,602      | 56,241,714                                | 501,185,163                           | 22,730                              |
| Washington          | 87,128,868     | 6,791,475       | 14,323,943      | 949,756         | 73,796,501     | 3,987,101       | 31,444,599                                | 218,422,243                           | 115,891                             |
| West Virginia       | 43,338,062     | 6,081,695       | 44,353,486      | 9,802,836       | 110,440,195    | 7,055,196       | 26,112,905                                | 247,185,275                           | 80,476                              |
| Wisconsin           | 60,149,181     | 54,941,089      | 10,932,984      | 17,504,954      | 115,987,625    | 17,267,203      | 40,616,199                                | 317,399,235                           | 36,926                              |
| Wyoming             | 1,548,983      | 105,056         | 45,655          | 10,664          | 2,976,520      | 178             | 9,412,762                                 | 14,099,818                            | 19,417                              |
| Total               | 9,646,825,222  | 2,059,419,896   | 2,851,489,429   | 485,373,723     | 6,012,991,050  | 547,355,031     | 2,449,256,842                             | 24,052,711,193                        | 26,993,463                          |

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* One facility, Cyprus Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years has been included in the new industry category SIC code 10 for the purpose of this analysis.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI On-site and Off-site Releases, by State, 1998  
METAL MINING (SIC CODE 10)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                                    |               | Total On-site Releases Pounds | Off-site Releases Transfers Off-site to Disposal Pounds | Total On- and Off-site Releases Pounds |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------------|---------------|-------------------------------|---|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                                    |               |                               |   |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | Other On-site Land Releases Pounds |               |                               |   |  |
| Alabama              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Alaska               | 4                       | 35                 | 2              | 511,214                    | 1,335                           | 0                     | 29,024,000              | 0                                | 274,958,589                        | 304,495,138   | 21                            | 304,495,159   | 0                                      |
| American Samoa       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Arizona*             | 13                      | 109                | 5              | 584,912                    | 193                             | 0                     | 0                       | 0                                | 1,005,141,555                      | 1,005,726,660 | 46,908                        | 1,005,773,568   | 0                                      |
| Arkansas             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| California           | 8                       | 45                 | 0              | 362,004*                   | 5                               | 0                     | 0                       | 0                                | 8,373,318                          | 8,735,327     | 12,289                        | 8,747,616   | 0                                      |
| Colorado             | 4                       | 19                 | 0              | 10,766                     | 1,422                           | 0                     | 3,975,708               | 0                                | 10,322,879                         | 14,310,777    | 290,000                       | 14,600,777  | 0                                      |
| Connecticut          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Delaware             | 1                       | 4                  | 0              | 11,963                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 11,963        | 750                           | 12,713  | 0                                      |
| District of Columbia | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Florida              | 1                       | 1                  | 1              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Georgia              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Guam                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Hawaii               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Idaho                | 5                       | 29                 | 0              | 8,693                      | 7,924                           | 0                     | 0                       | 0                                | 45,176,356                         | 45,192,973    | 33                            | 45,193,006  | 0                                      |
| Illinois             | 1                       | 8                  | 0              | 16,521                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 16,521        | 593,396                       | 609,917   | 0                                      |
| Indiana              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Iowa                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Kansas               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Kentucky             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Louisiana            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Maine                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Maryland             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Massachusetts        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Michigan             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Minnesota            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Mississippi          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Missouri             | 7                       | 21                 | 1              | 139,670                    | 29,661                          | 0                     | 0                       | 0                                | 47,112,532                         | 47,281,863    | 0                             | 47,281,863  | 0                                      |
| Montana              | 0                       | 0                  | 6              | 143,173                    | 0                               | 0                     | 0                       | 0                                | 68,280,457                         | 68,423,630    | 0                             | 68,423,630  | 0                                      |
| Nebraska             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Nevada               | 36                      | 172                | 5              | 1,453,263                  | 236,050                         | 0                     | 1,404                   | 0                                | 1,261,552,860                      | 1,263,243,577 | 38                            | 1,263,243,615   | 0                                      |
| New Hampshire        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| New Jersey           | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| New Mexico           | 0                       | 0                  | 4              | 332,059                    | 8                               | 0                     | 0                       | 0                                | 221,846,712                        | 222,178,779   | 0                             | 222,178,779   | 0                                      |
| New York             | 0                       | 0                  | 0              | 65,560                     | 5,973                           | 0                     | 0                       | 0                                | 10,073,005                         | 10,144,538    | 0                             | 10,144,538  | 0                                      |
| North Carolina       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| North Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Ohio                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Oklahoma             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Oregon               | 0                       | 12                 | 0              | 10,460                     | 0                               | 0                     | 0                       | 0                                | 18,179,396                         | 18,189,856    | 0                             | 18,189,856  | 0                                      |
| Pennsylvania         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Puerto Rico          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Rhode Island         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| South Carolina       | 1                       | 10                 | 0              | 24,000                     | 0                               | 0                     | 0                       | 0                                | 22,993,000                         | 23,017,000    | 0                             | 23,017,000  | 0                                      |
| South Dakota         | 0                       | 15                 | 1              | 85,608                     | 210,595                         | 0                     | 0                       | 0                                | 16,851,505                         | 17,147,708    | 15                            | 17,147,723  | 0                                      |
| Tennessee            | 0                       | 0                  | 0              | 177,725                    | 14,939                          | 0                     | 0                       | 54                               | 10,560,032                         | 10,752,750    | 0                             | 10,752,750  | 0                                      |
| Texas                | 1                       | 4                  | 0              | 54,030                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 54,030        | 360,600                       | 414,630   | 0                                      |
| Utah                 | 0                       | 32                 | 1              | 533,668                    | 14,742                          | 0                     | 0                       | 0                                | 448,554,670                        | 449,103,080   | 2,581                         | 449,105,661   | 0                                      |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Virgin Islands       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Virginia             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Washington           | 0                       | 7                  | 0              | 27,045                     | 0                               | 0                     | 0                       | 0                                | 547,025                            | 574,070       | 4                             | 574,074   | 0                                      |
| West Virginia        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Wisconsin            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Wyoming              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0             | 0                             | 0   | 0                                      |
| Total                | 114                     | 759                | 26             | 4,552,336                  | 522,847                         | 0                     | 33,001,112              | 54                               | 3,470,523,891                      | 3,508,600,240 | 1,306,635                     | 3,509,906,875   | 0                                      |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 33 (Primary metals) and SIC code 4931 (Electric utilities). For the purpose of this analysis, also includes one facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State 1998  
METAL MINING (SIC CODE 10)

| State                    | Recycled          |                    | Energy Recovery   |                    | Treated           |                    | Quantity Released<br>On- and<br>Off-site<br>Pounds | Total<br>Production-<br>related<br>Waste<br>Pounds | Non-<br>Production-<br>related<br>Waste<br>Pounds |
|--------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--|--|---|
|                          | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds |  |  |   |
| Alabama                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Alaska                   | 520,404           | 0                  | 0                 | 0                  | 41,631            | 9,330              | 305,216,317  | 305,787,682  | 11  |
| American Samoa           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Arizona*                 | 460,522           | 264,700            | 0                 | 0                  | 66,199            | 5,466              | 1,110,394,842                                      | 1,111,191,729                                      | 399,307   |
| Arkansas                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| California               | 9,908             | 125,366            | 0                 | 0                  | 6,375,600         | 12,670             | 8,733,609  | 15,257,153   | 20  |
| Colorado                 | 0                 | 2,000              | 0                 | 0                  | 0                 | 0                  | 14,600,497   | 14,602,497   | 6   |
| Connecticut              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Delaware                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 11,963   | 11,963   | 4   |
| District of Columbia     | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Florida                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Georgia                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Guam                     | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Hawaii                   | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Idaho                    | 1,730             | 610                | 0                 | 0                  | 0                 | 0                  | 45,241,768   | 45,244,108   | 7   |
| Illinois                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 764,649  | 764,649  | 7   |
| Indiana                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Iowa                     | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Kansas                   | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Kentucky                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Louisiana                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Maine                    | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Maryland                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Massachusetts            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Michigan                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Minnesota                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Mississippi              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Missouri                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 47,280,463   | 47,280,463   | 0   |
| Montana                  | 0                 | 39,000             | 0                 | 0                  | 1,045,707         | 0                  | 68,809,534   | 69,894,241   | 13  |
| Nebraska                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Nevada                   | 8,219,276         | 46,067             | 0                 | 0                  | 13,233,959        | 7,199              | 1,311,576,706                                      | 1,333,082,307                                      | 34  |
| New Hampshire            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| New Jersey               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| New Mexico               | 0                 | 693,846            | 0                 | 0                  | 0                 | 0                  | 222,969,848  | 223,663,694  | 3   |
| New York                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 10,144,432   | 10,144,432   | 0   |
| North Carolina           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| North Dakota             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Northern Mariana Islands | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Ohio                     | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Oklahoma                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Oregon                   | 2,610,200         | 0                  | 0                 | 0                  | 0                 | 0                  | 18,196,996   | 20,727,265   | 11  |
| Pennsylvania             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Puerto Rico              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Rhode Island             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| South Carolina           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 22,680,000   | 22,680,000   | 0   |
| South Dakota             | 541,964           | 52,000             | 0                 | 0                  | 3,897,554         | 3                  | 17,135,614   | 21,628,125   | 7   |
| Tennessee                | 5,000,000         | 0                  | 0                 | 0                  | 0                 | 0                  | 10,747,637   | 18,747,637   | 8   |
| Texas                    | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 414,630  | 414,630  | 4   |
| Utah                     | 0                 | 0                  | 0                 | 0                  | 85,640            | 0                  | 452,755,449  | 458,880,489  | 22  |
| Vermont                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virgin Islands           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virginia                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Washington               | 0                 | 0                  | 0                 | 0                  | 0                 | 23                 | 595,000  | 595,023  | 0   |
| West Virginia            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Wisconsin                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Wyoming                  | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Total                    | 26,320,561        | 1,223,589          | 0                 | 0                  | 24,746,290        | 34,691             | 3,668,269,954                                      | 3,720,598,037                                      | 399,464   |

Note: Data from Section 8 of Form R.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 33 (Primary metals) and SIC code 4931 (Electric utilities). For the purpose of this analysis, also includes one facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.



TRI On-site and Off-site Releases, by State, 1998  
COAL MINING (SIC CODE 12)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                                    |            | Off-site Releases             | Total On- and Off-site Releases Pounds |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------------|------------|-------------------------------|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                                    |            | Total On-site Releases Pounds |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | Other On-site Land Releases Pounds |            |                               |  |
| Alabama              | 1                       | 1                  | 0              | 87                         | 10,000                          | 0                     | 45,000                  | 0                                | 975,000                            | 1,030,087  | 0                             | 1,030,087                              |
| Alaska               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| American Samoa       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Arizona              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Arkansas             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| California           | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Colorado             | 2                       | 8                  | 0              | 419                        | 579                             | 0                     | 0                       | 0                                | 1,592,748                          | 1,593,746  | 0                             | 1,593,746                              |
| Connecticut          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Delaware             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| District of Columbia | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Florida              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Georgia              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Guam                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Hawaii               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Idaho                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Illinois             | 6                       | 55                 | 30             | 1,780                      | 4,843                           | 0                     | 0                       | 0                                | 2,708,418                          | 2,715,041  | 0                             | 2,715,041                              |
| Indiana              | 8                       | 8                  | 0              | 18,465                     | 0                               | 0                     | 480                     | 0                                | 56,426                             | 75,371     | 0                             | 75,371                                 |
| Iowa                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Kansas               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Kentucky             | 1                       | 2                  | 0              | 14,688                     | 0                               | 0                     | 0                       | 0                                | 4,900                              | 19,588     | 0                             | 19,588                                 |
| Louisiana            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Maine                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Maryland             | 2                       | 3                  | 0              | 13,313                     | 1,450                           | 0                     | 45,000                  | 0                                | 260                                | 60,023     | 0                             | 60,023                                 |
| Massachusetts        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Michigan             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Minnesota            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Mississippi          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Missouri             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Montana              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Nebraska             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Nevada               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| New Hampshire        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| New Jersey           | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| New Mexico           | 2                       | 24                 | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 5,620,000                          | 5,620,000  | 0                             | 5,620,000                              |
| New York             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| North Carolina       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| North Dakota         | 2                       | 2                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 96,707                             | 96,707     | 0                             | 96,707                                 |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Ohio                 | 4                       | 41                 | 37             | 2,390                      | 502                             | 0                     | 0                       | 0                                | 750                                | 3,642      | 0                             | 3,642                                  |
| Oklahoma             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Oregon               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Pennsylvania         | 6                       | 19                 | 0              | 36,853                     | 15                              | 0                     | 0                       | 0                                | 281,695                            | 318,563    | 0                             | 318,563                                |
| Puerto Rico          | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Rhode Island         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| South Carolina       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| South Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Tennessee            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Texas                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Utah                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Virgin Islands       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Virginia             | 1                       | 1                  | 0              | 1,630                      | 0                               | 0                     | 0                       | 0                                | 180                                | 1,810      | 0                             | 1,810                                  |
| Washington           | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| West Virginia        | 20                      | 28                 | 6              | 1,368,089                  | 288,838                         | 0                     | 0                       | 0                                | 134,539                            | 1,791,466  | 0                             | 1,791,466                              |
| Wisconsin            | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Wyoming              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0          | 0                             | 0                                      |
| Total                | 55                      | 192                | 73             | 1,457,714                  | 306,227                         | 0                     | 90,480                  | 0                                | 11,471,623                         | 13,326,044 | 0                             | 13,326,044                             |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State, 1998  
COAL MINING (SIC CODE 12)

| State                | Recycled          |                    | Energy Recovery   |                    | Treated           |                    | Quantity Released<br>On- and<br>Off-site<br>Pounds | Total<br>Production-<br>related<br>Waste<br>Pounds | Non-<br>Production-<br>related<br>Waste<br>Pounds |
|----------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--|--|---|
|                      | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds |  |  |   |
| Alabama              | 36,000            | 0                  | 0                 | 0                  | 0                 | 0                  | 1,000,000  | 1,036,000  | 0   |
| Alaska               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| American Samoa       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Arizona              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Arkansas             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| California           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Colorado             | 0                 | 0                  | 0                 | 43,735             | 0                 | 0                  | 1,591,774  | 1,635,509  | 0   |
| Connecticut          | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Delaware             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| District of Columbia | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Florida              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Georgia              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Guam                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Hawaii               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Idaho                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Illinois             | 0                 | 0                  | 0                 | 0                  | 116,300           | 0                  | 2,724,186  | 2,840,486  | 3   |
| Indiana              | 7,513             | 0                  | 0                 | 0                  | 0                 | 0                  | 75,371   | 82,884   | 5   |
| Iowa                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Kansas               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Kentucky             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 4,932  | 4,932  | 0   |
| Louisiana            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Maine                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Maryland             | 0                 | 0                  | 0                 | 0                  | 49,000            | 0                  | 59,812   | 108,812  | 1   |
| Massachusetts        | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Michigan             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Minnesota            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Mississippi          | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Missouri             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Montana              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Nebraska             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Nevada               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| New Hampshire        | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| New Jersey           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| New Mexico           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 5,620,000  | 5,620,000  | 12  |
| New York             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| North Carolina       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| North Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 96,707   | 96,707   | 0   |
| Northern Marianas    | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Ohio                 | 904               | 0                  | 0                 | 0                  | 5,500             | 0                  | 3,775  | 10,179   | 0   |
| Oklahoma             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Oregon               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Pennsylvania         | 0                 | 0                  | 0                 | 0                  | 158,100           | 0                  | 322,845  | 480,945  | 13  |
| Puerto Rico          | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Rhode Island         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| South Carolina       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| South Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Tennessee            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Texas                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Utah                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Vermont              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virgin Islands       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virginia             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 1,810  | 1,810  | 0   |
| Washington           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| West Virginia        | 0                 | 0                  | 0                 | 0                  | 129,644           | 0                  | 1,788,941  | 1,918,585  | 2   |
| Wisconsin            | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Wyoming              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Total                | 44,417            | 0                  | 0                 | 43,735             | 458,544           | 0                  | 13,290,153   | 13,836,849   | 36  |

Note: Data from Section 8 of Form R.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

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Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI On-site and Off-site Releases, by State, 1998  
ELECTRIC UTILITIES (SIC CODES 4911/4931/4939)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                          |                             |                              |                               | Off-site Releases                     |  |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|--------------------------|-----------------------------|------------------------------|-------------------------------|---------------------------------------|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | On-site Land Releases |                          |                             |                              | Total On-site Releases Pounds | Transfers Off-site to Disposal Pounds | Total On- and Off-site Releases Pounds |
|                      |                         |                    |                |                            |                                 | Underground Injection |                          | RCRA                        | Other                        |                               |                                       |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-IV Wells Pounds | Subtitle C Landfills Pounds | On-site Land Releases Pounds |                               |                                       |  |
| Alabama              | 11                      | 122                | 1              | 28,660,982                 | 211,735                         | 0                     | 0                        | 0                           | 16,841,649                   | 45,714,366                    | 366,780                               | 46,081,146                             |
| Alaska               | 1                       | 4                  | 0              | 567,100                    | 0                               | 0                     | 0                        | 0                           | 0                            | 567,100                       | 0                                     | 567,100                                |
| American Samoa       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                        | 0                           | 0                            | 0                             | 0                                     | 0                                      |
| Arizona              | 6                       | 56                 | 0              | 3,531,238                  | 955                             | 0                     | 0                        | 0                           | 5,994,157                    | 9,526,350                     | 6,708                                 | 9,533,058                              |
| Arkansas             | 4                       | 27                 | 0              | 1,248,681                  | 20,329                          | 0                     | 0                        | 0                           | 2,028,613                    | 3,297,623                     | 912                                   | 3,298,535                              |
| California           | 16                      | 44                 | 4              | 385,620                    | 17                              | 0                     | 0                        | 0                           | 147,300                      | 532,937                       | 45,823                                | 578,760                                |
| Colorado             | 14                      | 63                 | 2              | 1,912,616                  | 2,980                           | 0                     | 0                        | 0                           | 3,153,460                    | 5,069,056                     | 3,780,883                             | 8,849,939                              |
| Connecticut          | 7                       | 21                 | 0              | 1,259,018                  | 39                              | 0                     | 0                        | 0                           | 0                            | 1,259,057                     | 217,571                               | 1,476,628                              |
| Delaware             | 3                       | 27                 | 3              | 6,818,633                  | 59,740                          | 0                     | 0                        | 0                           | 590,579                      | 7,468,952                     | 263,696                               | 7,732,648                              |
| District of Columbia | 1                       | 1                  | 0              | 66,250                     | 0                               | 0                     | 0                        | 0                           | 0                            | 66,250                        | 0                                     | 66,250                                 |
| Florida              | 36                      | 218                | 9              | 57,697,392                 | 67,446                          | 0                     | 0                        | 934,073                     | 7,493,671                    | 66,192,582                    | 2,546,115                             | 68,738,697                             |
| Georgia              | 14                      | 114                | 0              | 47,191,872                 | 137,364                         | 0                     | 0                        | 0                           | 11,136,522                   | 58,465,758                    | 10                                    | 58,465,768                             |
| Guam                 | 1                       | 1                  | 1              | 0                          | 0                               | 0                     | 0                        | 0                           | 0                            | 0                             | 0                                     | 0                                      |
| Hawaii               | 10                      | 17                 | 1              | 3,133,022                  | 0                               | 0                     | 0                        | 0                           | 0                            | 3,133,022                     | 4,500                                 | 3,137,522                              |
| Idaho                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                        | 0                           | 0                            | 0                             | 0                                     | 0                                      |
| Illinois             | 25                      | 209                | 28             | 32,126,653                 | 40,697                          | 0                     | 0                        | 0                           | 4,752,045                    | 36,919,395                    | 1,671,753                             | 38,591,148                             |
| Indiana              | 23                      | 253                | 12             | 44,326,731                 | 312,566                         | 0                     | 0                        | 5,000                       | 16,405,667                   | 61,049,964                    | 838,007                               | 61,887,971                             |
| Iowa                 | 18                      | 98                 | 0              | 8,696,569                  | 14,967                          | 0                     | 0                        | 0                           | 3,945,293                    | 12,656,829                    | 1,036,473                             | 13,693,302                             |
| Kansas               | 8                       | 72                 | 4              | 5,113,220                  | 6,515                           | 0                     | 0                        | 0                           | 5,772,385                    | 10,892,120                    | 100,464                               | 10,992,584                             |
| Kentucky             | 19                      | 196                | 0              | 44,786,767                 | 788,373                         | 0                     | 0                        | 3                           | 12,744,983                   | 58,320,131                    | 493,973                               | 58,814,104                             |
| Louisiana            | 4                       | 37                 | 1              | 4,197,816                  | 79,231                          | 0                     | 0                        | 0                           | 4,520,798                    | 8,797,845                     | 2,149                                 | 8,799,994                              |
| Maine                | 2                       | 3                  | 0              | 43,001                     | 0                               | 0                     | 0                        | 0                           | 0                            | 43,001                        | 0                                     | 43,001                                 |
| Maryland             | 10                      | 59                 | 10             | 24,749,607                 | 129,725                         | 0                     | 0                        | 0                           | 147,282                      | 25,026,614                    | 509,100                               | 25,535,714                             |
| Massachusetts        | 13                      | 60                 | 11             | 5,639,923                  | 531                             | 0                     | 0                        | 0                           | 39,335                       | 5,679,789                     | 442,449                               | 6,122,238                              |
| Michigan             | 24                      | 173                | 5              | 33,812,186                 | 201,662                         | 0                     | 0                        | 0                           | 9,540,682                    | 43,554,530                    | 2,039,725                             | 45,594,255                             |
| Minnesota            | 13                      | 83                 | 1              | 1,751,834                  | 18,636                          | 0                     | 0                        | 0                           | 10,097,510                   | 11,867,980                    | 1,105,212                             | 12,973,192                             |
| Mississippi          | 5                       | 31                 | 0              | 9,271,476                  | 4,712                           | 0                     | 0                        | 0                           | 2,028,530                    | 11,304,718                    | 0                                     | 11,304,718                             |
| Missouri             | 18                      | 118                | 2              | 12,983,638                 | 130,117                         | 0                     | 0                        | 0                           | 19,316,590                   | 32,430,345                    | 290                                   | 32,430,635                             |
| Montana              | 4                       | 32                 | 0              | 950,655                    | 10                              | 0                     | 0                        | 0                           | 6,830,111                    | 7,780,776                     | 159,400                               | 7,940,176                              |
| Nebraska             | 7                       | 42                 | 0              | 4,086,255                  | 120,760                         | 0                     | 0                        | 0                           | 3,611,307                    | 7,818,322                     | 165,200                               | 7,983,522                              |
| Nevada               | 4                       | 24                 | 1              | 1,209,417                  | 0                               | 0                     | 0                        | 0                           | 1,661,938                    | 2,871,355                     | 10,087                                | 2,881,442                              |
| New Hampshire        | 3                       | 19                 | 0              | 4,026,179                  | 0                               | 0                     | 0                        | 0                           | 21,700                       | 4,047,879                     | 49,870                                | 4,097,749                              |
| New Jersey           | 15                      | 67                 | 11             | 7,529,062                  | 36,569                          | 0                     | 0                        | 0                           | 311,900                      | 7,877,531                     | 177,887                               | 8,055,418                              |
| New Mexico           | 2                       | 26                 | 0              | 711,363                    | 8,468                           | 0                     | 0                        | 0                           | 1,177,689                    | 1,897,520                     | 5,546,000                             | 7,443,520                              |
| New York             | 34                      | 108                | 2              | 16,100,838                 | 166,365                         | 0                     | 0                        | 0                           | 1,925,080                    | 18,192,283                    | 504,170                               | 18,696,453                             |
| North Carolina       | 21                      | 157                | 1              | 48,387,026                 | 99,731                          | 0                     | 0                        | 0                           | 8,304,875                    | 56,791,632                    | 157,242                               | 56,948,874                             |
| North Dakota         | 7                       | 83                 | 15             | 1,404,407                  | 59,011                          | 0                     | 0                        | 0                           | 8,069,360                    | 9,532,778                     | 11,302,469                            | 20,835,247                             |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                        | 0                           | 0                            | 0                             | 0                                     | 0                                      |
| Ohio*                | 27                      | 237                | 6              | 95,220,630                 | 386,974                         | 0                     | 0                        | 0                           | 14,008,971                   | 109,616,575                   | 4,307,068                             | 113,923,643                            |
| Oklahoma**           | 7                       | 52                 | 2              | 6,178,303                  | 61,874                          | 0                     | 0                        | 0                           | 1,839,091                    | 8,079,268                     | 1,628,650                             | 9,707,918                              |
| Oregon               | 2                       | 7                  | 0              | 127,585                    | 0                               | 0                     | 0                        | 0                           | 620,005                      | 747,590                       | 0                                     | 747,590                                |
| Pennsylvania         | 41                      | 332                | 12             | 58,894,300                 | 84,857                          | 0                     | 160,800                  | 94,000                      | 5,533,579                    | 64,767,536                    | 8,416,171                             | 73,183,707                             |
| Puerto Rico          | 10                      | 33                 | 10             | 9,857,078                  | 62,123                          | 0                     | 0                        | 0                           | 154,741                      | 10,073,942                    | 203,305                               | 10,277,247                             |
| Rhode Island         | 3                       | 3                  | 0              | 455,002                    | 5                               | 0                     | 0                        | 0                           | 0                            | 455,007                       | 0                                     | 455,007                                |
| South Carolina       | 14                      | 116                | 9              | 13,713,725                 | 7,925                           | 0                     | 0                        | 0                           | 2,387,888                    | 16,109,538                    | 20,623                                | 16,130,161                             |
| South Dakota         | 2                       | 14                 | 0              | 189,732                    | 56                              | 0                     | 0                        | 0                           | 1,625,000                    | 1,814,788                     | 96,990                                | 1,911,778                              |
| Tennessee            | 9                       | 101                | 1              | 26,657,215                 | 332,655                         | 0                     | 0                        | 0                           | 7,794,265                    | 34,784,135                    | 515,065                               | 35,299,200                             |
| Texas*               | 19                      | 185                | 3              | 8,138,409                  | 33,911                          | 0                     | 0                        | 0                           | 25,280,363                   | 33,452,683                    | 7,800,256                             | 41,252,939                             |
| Utah*                | 6                       | 59                 | 0              | 2,981,457                  | 198                             | 0                     | 0                        | 0                           | 6,031,746                    | 9,013,401                     | 211,971                               | 9,225,372                              |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                        | 0                           | 0                            | 0                             | 0                                     | 0                                      |
| Virgin Islands       | 2                       | 8                  | 0              | 81                         | 26,832                          | 0                     | 0                        | 0                           | 0                            | 26,913                        | 0                                     | 26,913                                 |
| Virginia             | 22                      | 172                | 3              | 17,440,563                 | 2,677,567                       | 0                     | 0                        | 0                           | 2,807,865                    | 22,925,995                    | 298,461                               | 23,224,456                             |
| Washington           | 4                       | 20                 | 0              | 1,139,941                  | 738                             | 0                     | 0                        | 0                           | 3,364,936                    | 4,505,615                     | 88,078                                | 4,593,693                              |
| West Virginia        | 14                      | 158                | 3              | 62,340,588                 | 81,669                          | 18                    | 0                        | 0                           | 11,500,597                   | 73,922,872                    | 1,958,941                             | 75,881,813                             |
| Wisconsin            | 20                      | 124                | 8              | 13,704,098                 | 25,853                          | 0                     | 0                        | 0                           | 1,758,842                    | 15,488,793                    | 2,280,962                             | 17,769,755                             |
| Wyoming*             | 7                       | 77                 | 2              | 2,270,618                  | 12,647                          | 0                     | 0                        | 0                           | 9,891,517                    | 12,174,782                    | 1,169,392                             | 13,344,174                             |
| Total                | 612                     | 4,363              | 184            | 783,686,372                | 6,515,135                       | 18                    | 160,800                  | 1,033,076                   | 263,210,422                  | 1,054,605,823                 | 62,540,851                            | 1,117,146,674                          |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.  
Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.  
Facilities/forms are included in the original industry category if they did not report a new industry SIC code.  
Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.  
If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.  
If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.  
\* Includes facilities/forms also reporting SIC code 12 (Coal mining).  
\*\* Includes facilities/forms also reporting SIC code 28 (Chemicals and allied products).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.  
Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State, 1998  
ELECTRIC UTILITIES (SIC CODES 4911/4931/4939)

| State                | Recycled       |                 | Energy Recovery |                 | Treated        |                 | Quantity Released On- and Off-site Pounds | Total Production-related Waste Pounds | Non-Production-related Waste Pounds |
|----------------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|---|---------------------------------------|-------------------------------------|
|                      | On-site Pounds | Off-site Pounds | On-site Pounds  | Off-site Pounds | On-site Pounds | Off-site Pounds |   |                                       |                                     |
| Alabama              | 0              | 8,700           | 8,057,169       | 0               | 6,458,000      | 670             | 46,084,997                                | 60,609,536                            | 0                                   |
| Alaska               | 0              | 0               | 0               | 0               | 0              | 0               | 567,100                                   | 567,100                               | 4                                   |
| American Samoa       | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Arizona              | 0              | 848             | 0               | 0               | 2,220,160      | 0               | 9,675,610                                 | 11,896,618                            | 21,009                              |
| Arkansas             | 0              | 0               | 0               | 0               | 72,900         | 0               | 3,307,911                                 | 3,380,811                             | 120                                 |
| California           | 0              | 0               | 0               | 0               | 0              | 395             | 308,069                                   | 308,464                               | 365                                 |
| Colorado             | 0              | 0               | 0               | 0               | 2,154,100      | 1,700           | 9,135,042                                 | 11,290,842                            | 4,900                               |
| Connecticut          | 0              | 0               | 0               | 0               | 0              | 0               | 1,477,400                                 | 1,477,400                             | 7                                   |
| Delaware             | 0              | 0               | 0               | 0               | 926,667        | 300             | 7,732,664                                 | 8,659,631                             | 2                                   |
| District of Columbia | 0              | 0               | 0               | 0               | 0              | 0               | 66,000                                    | 66,000                                | 295                                 |
| Florida              | 0              | 59              | 0               | 0               | 25,272,870     | 28,000          | 66,979,737                                | 92,278,666                            | 7,539                               |
| Georgia              | 0              | 0               | 0               | 0               | 0              | 0               | 58,466,081                                | 58,466,081                            | 0                                   |
| Guam                 | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Hawaii               | 0              | 0               | 0               | 0               | 0              | 0               | 3,137,487                                 | 3,137,487                             | 0                                   |
| Idaho                | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Illinois             | 0              | 77,000          | 0               | 0               | 26,304,728     | 0               | 38,360,789                                | 64,742,517                            | 142,254                             |
| Indiana              | 0              | 331,532         | 0               | 28              | 39,829,342     | 38              | 61,877,943                                | 102,038,883                           | 12,067                              |
| Iowa                 | 0              | 0               | 0               | 0               | 210,103        | 0               | 12,877,232                                | 13,087,335                            | 1,526                               |
| Kansas               | 0              | 475,991         | 0               | 0               | 1,179,500      | 414             | 11,081,439                                | 12,737,344                            | 2                                   |
| Kentucky             | 0              | 32,800          | 0               | 0               | 21,517,400     | 3               | 58,990,240                                | 80,540,443                            | 39                                  |
| Louisiana            | 0              | 0               | 0               | 0               | 1,058,750      | 0               | 8,921,510                                 | 9,980,260                             | 10                                  |
| Maine                | 0              | 0               | 0               | 0               | 0              | 0               | 43,002                                    | 43,002                                | 0                                   |
| Maryland             | 0              | 0               | 0               | 0               | 50,269,228     | 445             | 25,400,466                                | 75,670,139                            | 2                                   |
| Massachusetts        | 0              | 560             | 0               | 0               | 62,497         | 30              | 6,210,056                                 | 6,273,143                             | 91                                  |
| Michigan             | 0              | 189,206         | 0               | 0               | 9,924,390      | 0               | 45,430,946                                | 55,544,542                            | 12                                  |
| Minnesota            | 0              | 0               | 0               | 0               | 1,134,100      | 0               | 12,923,411                                | 14,057,511                            | 0                                   |
| Mississippi          | 0              | 0               | 0               | 0               | 0              | 0               | 11,304,718                                | 11,304,718                            | 4                                   |
| Missouri             | 656,527        | 656,527         | 0               | 0               | 7,078,716      | 0               | 31,898,437                                | 40,290,207                            | 0                                   |
| Montana              | 0              | 0               | 0               | 0               | 3,473,960      | 0               | 7,948,592                                 | 11,422,552                            | 0                                   |
| Nebraska             | 70,732         | 0               | 0               | 0               | 0              | 0               | 7,918,735                                 | 7,989,467                             | 20,000                              |
| Nevada               | 0              | 9,400           | 0               | 0               | 577,476        | 0               | 2,304,024                                 | 2,800,900                             | 2                                   |
| New Hampshire        | 0              | 30              | 0               | 0               | 110            | 0               | 4,114,210                                 | 4,114,350                             | 0                                   |
| New Jersey           | 0              | 14,506          | 0               | 0               | 3,683,265      | 481             | 8,049,512                                 | 11,747,764                            | 242                                 |
| New Mexico           | 0              | 0               | 0               | 0               | 3,350,000      | 0               | 7,392,310                                 | 10,742,310                            | 0                                   |
| New York             | 0              | 210,000         | 0               | 25,000          | 6,720,000      | 300             | 18,626,623                                | 25,581,923                            | 11                                  |
| North Carolina       | 0              | 0               | 0               | 0               | 3,209,200      | 0               | 56,989,360                                | 60,198,560                            | 531                                 |
| North Dakota         | 0              | 2,500           | 0               | 0               | 832,000        | 0               | 21,299,360                                | 22,133,860                            | 15                                  |
| Northern Marianas    | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Ohio*                | 0              | 309,000         | 0               | 0               | 62,611,060     | 0               | 114,379,417                               | 177,299,477                           | 101                                 |
| Oklahoma**           | 0              | 0               | 0               | 0               | 1,647,600      | 0               | 9,671,754                                 | 11,319,354                            | 15                                  |
| Oregon               | 0              | 0               | 0               | 0               | 0              | 0               | 747,560                                   | 747,560                               | 1                                   |
| Pennsylvania         | 0              | 185             | 0               | 0               | 24,393,772     | 0               | 73,701,915                                | 98,095,872                            | 30                                  |
| Puerto Rico          | 0              | 0               | 0               | 0               | 0              | 0               | 10,277,208                                | 10,277,208                            | 2                                   |
| Rhode Island         | 0              | 0               | 0               | 0               | 0              | 12              | 454,997                                   | 455,009                               | 0                                   |
| South Carolina       | 0              | 0               | 0               | 0               | 6,360,600      | 0               | 16,160,065                                | 22,520,665                            | 4                                   |
| South Dakota         | 0              | 0               | 0               | 0               | 282,192        | 0               | 1,896,082                                 | 2,178,274                             | 0                                   |
| Tennessee            | 0              | 892,886         | 0               | 0               | 27,593,000     | 0               | 35,277,247                                | 63,763,133                            | 0                                   |
| Texas*               | 0              | 13,591          | 0               | 0               | 16,237,218     | 230             | 41,188,118                                | 57,439,157                            | 9                                   |
| Utah*                | 0              | 0               | 0               | 0               | 44,138,500     | 0               | 10,014,733                                | 54,153,233                            | 7                                   |
| Vermont              | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Virgin Islands       | 0              | 0               | 0               | 0               | 0              | 0               | 26,863                                    | 26,863                                | 0                                   |
| Virginia             | 0              | 3,096,700       | 0               | 0               | 5,750,091      | 1               | 23,035,825                                | 31,882,617                            | 13                                  |
| Washington           | 0              | 0               | 0               | 0               | 83,365         | 0               | 4,647,336                                 | 4,730,701                             | 0                                   |
| West Virginia        | 0              | 324,506         | 0               | 0               | 6,510,000      | 0               | 75,860,713                                | 82,695,219                            | 0                                   |
| Wisconsin            | 0              | 0               | 0               | 0               | 2,207,268      | 355,783         | 17,720,952                                | 20,284,003                            | 6                                   |
| Wyoming*             | 0              | 307,000         | 0               | 0               | 1,560,100      | 0               | 13,758,563                                | 15,625,663                            | 0                                   |
| Total                | 727,259        | 6,953,527       | 8,057,169       | 25,028          | 416,894,228    | 386,802         | 1,115,720,361                             | 1,548,764,374                         | 211,237                             |

Note: Data from Section 8 of Form R

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 12 (Coal mining)

\*\* Includes facilities/forms also reporting SIC code 28 (Chemicals and allied products).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI On-site and Off-site Releases, by State, 1998  
 PETROLEUM BULK TERMINALS (SIC CODE 5171)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                                    |           |                               | Off-site Releases                     | Total On- and Off-site Releases Pounds |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------------|-----------|-------------------------------|---------------------------------------|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                                    |           | Total On-site Releases Pounds | Transfers Off-site to Disposal Pounds |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | Other On-site Land Releases Pounds |           |                               |                                       |  |
| Alabama              | 3                       | 19                 | 0              | 9,381                      | 78                              | 0                     | 0                       | 0                                | 20                                 | 9,479     | 51                            | 9,530                                 |  |
| Alaska               | 7                       | 40                 | 1              | 17,503                     | 0                               | 0                     | 0                       | 0                                | 38                                 | 17,541    | 325                           | 17,866                                |  |
| American Samoa       | 1                       | 6                  | 0              | 5,146                      | 1                               | 0                     | 0                       | 0                                | 0                                  | 5,147     | 0                             | 5,147                                 |  |
| Arizona              | 10                      | 68                 | 19             | 57,387                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 57,387    | 10                            | 57,397                                |  |
| Arkansas             | 1                       | 11                 | 3              | 24,216                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 24,216    | 0                             | 24,216                                |  |
| California           | 50                      | 362                | 13             | 470,307                    | 72                              | 0                     | 0                       | 0                                | 2,043                              | 472,422   | 24,421                        | 496,843                               |  |
| Colorado             | 5                       | 39                 | 0              | 79,668                     | 515                             | 0                     | 0                       | 0                                | 34,390                             | 114,573   | 0                             | 114,573                               |  |
| Connecticut          | 7                       | 52                 | 0              | 177,468                    | 45                              | 0                     | 0                       | 0                                | 0                                  | 177,513   | 25,880                        | 203,393                               |  |
| Delaware             | 6                       | 41                 | 37             | 2,100                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 2,100     | 0                             | 2,100                                 |  |
| District of Columbia | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Florida              | 21                      | 130                | 5              | 151,682                    | 389                             | 0                     | 0                       | 0                                | 1,810                              | 153,881   | 236                           | 154,117                               |  |
| Georgia              | 10                      | 72                 | 1              | 34,607                     | 545                             | 0                     | 0                       | 0                                | 0                                  | 35,152    | 516                           | 35,668                                |  |
| Guam                 | 1                       | 5                  | 0              | 9,783                      | 1,275                           | 0                     | 0                       | 0                                | 0                                  | 11,058    | 0                             | 11,058                                |  |
| Hawaii               | 5                       | 34                 | 0              | 56,407                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 56,407    | 0                             | 56,407                                |  |
| Idaho                | 2                       | 15                 | 8              | 30,224                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 30,224    | 0                             | 30,224                                |  |
| Illinois             | 14                      | 81                 | 3              | 108,246                    | 120                             | 0                     | 0                       | 0                                | 1,609                              | 109,975   | 4,514                         | 114,489                               |  |
| Indiana              | 14                      | 98                 | 0              | 175,042                    | 1,227                           | 0                     | 0                       | 0                                | 15                                 | 176,284   | 5,574                         | 181,858                               |  |
| Iowa                 | 2                       | 12                 | 0              | 9,935                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 9,935     | 43                            | 9,978                                 |  |
| Kansas               | 4                       | 24                 | 6              | 28,055                     | 1,020                           | 0                     | 0                       | 0                                | 0                                  | 29,075    | 0                             | 29,075                                |  |
| Kentucky             | 12                      | 70                 | 30             | 33,309                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 33,309    | 114                           | 33,423                                |  |
| Louisiana            | 4                       | 26                 | 7              | 9,394                      | 3                               | 0                     | 0                       | 0                                | 250                                | 9,647     | 0                             | 9,647                                 |  |
| Maine                | 4                       | 26                 | 2              | 50,787                     | 2                               | 0                     | 0                       | 0                                | 0                                  | 50,789    | 17,164                        | 67,953                                |  |
| Maryland             | 8                       | 51                 | 0              | 89,175                     | 1,600                           | 0                     | 0                       | 0                                | 116                                | 90,891    | 226                           | 91,117                                |  |
| Massachusetts        | 11                      | 75                 | 0              | 237,434                    | 9,468                           | 0                     | 0                       | 0                                | 0                                  | 246,902   | 40,008                        | 286,910                               |  |
| Michigan             | 20                      | 126                | 9              | 130,038                    | 31                              | 0                     | 0                       | 0                                | 0                                  | 130,069   | 0                             | 130,069                               |  |
| Minnesota            | 2                       | 12                 | 0              | 3,110                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 3,110     | 707                           | 3,817                                 |  |
| Mississippi          | 11                      | 76                 | 41             | 28,585                     | 36                              | 0                     | 0                       | 0                                | 0                                  | 28,621    | 751                           | 29,372                                |  |
| Missouri             | 9                       | 61                 | 0              | 67,900                     | 30                              | 0                     | 0                       | 0                                | 0                                  | 67,930    | 3,160                         | 71,090                                |  |
| Montana              | 2                       | 16                 | 0              | 23,586                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 23,586    | 0                             | 23,586                                |  |
| Nebraska             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Nevada               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| New Hampshire        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| New Jersey*          | 25                      | 153                | 3              | 296,064                    | 537                             | 0                     | 0                       | 0                                | 0                                  | 296,601   | 13,537                        | 310,138                               |  |
| New Mexico           | 2                       | 16                 | 0              | 42,055                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 42,055    | 0                             | 42,055                                |  |
| New York             | 51                      | 359                | 88             | 302,030                    | 658                             | 0                     | 0                       | 0                                | 169                                | 302,857   | 22,265                        | 325,122                               |  |
| North Carolina       | 21                      | 146                | 34             | 153,474                    | 1,048                           | 0                     | 0                       | 0                                | 0                                  | 154,522   | 1,287                         | 155,809                               |  |
| North Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Northern Marianas    | 2                       | 10                 | 0              | 3,086                      | 20                              | 0                     | 0                       | 0                                | 0                                  | 3,086     | 0                             | 3,086                                 |  |
| Ohio                 | 31                      | 213                | 20             | 107,514                    | 709                             | 0                     | 0                       | 0                                | 3,164                              | 111,387   | 10,454                        | 121,841                               |  |
| Oklahoma             | 3                       | 23                 | 0              | 49,020                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 49,020    | 0                             | 49,020                                |  |
| Oregon               | 5                       | 46                 | 0              | 60,199                     | 38                              | 0                     | 0                       | 0                                | 0                                  | 60,237    | 1,370                         | 61,607                                |  |
| Pennsylvania         | 42                      | 292                | 13             | 216,632                    | 2,149                           | 0                     | 0                       | 0                                | 0                                  | 218,781   | 3,242                         | 222,023                               |  |
| Puerto Rico          | 5                       | 32                 | 7              | 21,796                     | 0                               | 0                     | 0                       | 0                                | 0                                  | 21,796    | 555                           | 22,351                                |  |
| Rhode Island         | 4                       | 22                 | 0              | 48,113                     | 356                             | 0                     | 0                       | 0                                | 0                                  | 48,469    | 35,646                        | 84,115                                |  |
| South Carolina       | 6                       | 46                 | 0              | 27,662                     | 561                             | 0                     | 0                       | 0                                | 0                                  | 28,223    | 11                            | 28,234                                |  |
| South Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Tennessee            | 15                      | 105                | 46             | 45,312                     | 394                             | 0                     | 0                       | 0                                | 0                                  | 45,706    | 510                           | 46,216                                |  |
| Texas                | 40                      | 273                | 2              | 522,883                    | 1,558                           | 0                     | 0                       | 0                                | 1,500                              | 525,941   | 4,070                         | 530,011                               |  |
| Utah                 | 1                       | 8                  | 0              | 5,988                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 5,988     | 0                             | 5,988                                 |  |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Virgin Islands       | 2                       | 19                 | 6              | 3,641                      | 0                               | 0                     | 0                       | 0                                | 0                                  | 3,641     | 35                            | 3,676                                 |  |
| Virginia*            | 27                      | 184                | 55             | 127,367                    | 113,127                         | 0                     | 0                       | 0                                | 0                                  | 240,494   | 4,062                         | 244,556                               |  |
| Washington*          | 7                       | 57                 | 1              | 73,452                     | 0                               | 0                     | 0                       | 0                                | 7,063                              | 80,515    | 11,653                        | 92,168                                |  |
| West Virginia        | 3                       | 24                 | 2              | 12,119                     | 280                             | 0                     | 0                       | 0                                | 1,505                              | 13,904    | 0                             | 13,904                                |  |
| Wisconsin            | 8                       | 72                 | 28             | 24,885                     | 55                              | 0                     | 0                       | 0                                | 0                                  | 24,940    | 1,090                         | 26,030                                |  |
| Wyoming              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                                  | 0         | 0                             | 0                                     |  |
| Total                | 546                     | 3,748              | 490            | 4,263,747                  | 137,947                         | 0                     | 0                       | 0                                | 53,692                             | 4,455,386 | 233,487                       | 4,688,873                             |  |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
 Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.  
 Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.  
 Facilities/forms are included in the original industry category if they did not report a new industry SIC code.  
 Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.  
 If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.  
 If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.  
 \* Includes facilities/forms also reporting SIC code 29 (Petroleum refining).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.  
 Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State, 1998  
 PETROLEUM BULK TERMINALS (SIC CODE 5171)

| State                | Recycled       |                 | Energy Recovery |                 | Treated        |                 | Quantity Released On- and Off-site Pounds | Total Production-related Waste Pounds | Non-Production-related Waste Pounds |
|----------------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|---|---------------------------------------|-------------------------------------|
|                      | On-site Pounds | Off-site Pounds | On-site Pounds  | Off-site Pounds | On-site Pounds | Off-site Pounds |   |                                       |                                     |
| Alabama              | 0              | 634             | 0               | 0               | 1              | 0               | 7,074                                     | 7,709                                 | 0                                   |
| Alaska               | 16,075         | 0               | 0               | 269             | 8,659          | 2,565           | 16,285                                    | 43,853                                | 18                                  |
| American Samoa       | 0              | 0               | 0               | 4,796           | 0              | 0               | 5,148                                     | 9,944                                 | 0                                   |
| Arizona              | 0              | 202             | 0               | 0               | 0              | 2,135           | 55,673                                    | 58,010                                | 23                                  |
| Arkansas             | 17,780         | 0               | 0               | 0               | 0              | 0               | 24,216                                    | 41,996                                | 0                                   |
| California           | 0              | 45,457          | 6               | 0               | 2,645,538      | 392,328         | 482,305                                   | 3,566,634                             | 100,969                             |
| Colorado             | 3,830          | 55              | 0               | 0               | 143,990        | 0               | 75,426                                    | 223,301                               | 41,289                              |
| Connecticut          | 0              | 0               | 0               | 0               | 4,198          | 24,341          | 159,892                                   | 188,431                               | 0                                   |
| Delaware             | 0              | 210             | 0               | 0               | 0              | 0               | 2,100                                     | 2,310                                 | 1                                   |
| District of Columbia | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Florida              | 1,144,000      | 33,043          | 0               | 12,178          | 84,901         | 154             | 148,194                                   | 1,422,470                             | 175                                 |
| Georgia              | 538,000        | 3,453           | 0               | 0               | 5              | 522             | 25,545                                    | 567,525                               | 2,383                               |
| Guam                 | 0              | 0               | 0               | 0               | 0              | 0               | 11,624                                    | 11,624                                | 0                                   |
| Hawaii               | 0              | 0               | 0               | 10              | 0              | 64              | 53,304                                    | 53,378                                | 6                                   |
| Idaho                | 0              | 0               | 0               | 0               | 157,400        | 699             | 30,240                                    | 188,339                               | 99                                  |
| Illinois             | 581,822        | 9,557           | 0               | 21              | 600,700        | 14,115          | 114,567                                   | 1,320,782                             | 206,300                             |
| Indiana              | 1,319,937      | 12,013          | 0               | 727             | 223,046        | 1,290           | 175,881                                   | 1,732,894                             | 1,211                               |
| Iowa                 | 4,520          | 0               | 0               | 0               | 1              | 43              | 9,935                                     | 14,499                                | 135,000                             |
| Kansas               | 16,503         | 5               | 0               | 0               | 43,937         | 5               | 27,519                                    | 87,969                                | 0                                   |
| Kentucky             | 1,093,674      | 0               | 0               | 2,974           | 0              | 2,228           | 33,276                                    | 1,132,152                             | 0                                   |
| Louisiana            | 2,770,000      | 610,000         | 0               | 0               | 0              | 0               | 9,401                                     | 3,389,401                             | 0                                   |
| Maine                | 0              | 0               | 0               | 0               | 0              | 23,972          | 59,961                                    | 83,933                                | 0                                   |
| Maryland             | 2,043          | 22,863          | 0               | 635             | 81,100         | 1,040           | 76,911                                    | 184,592                               | 125                                 |
| Massachusetts        | 427,375        | 0               | 0               | 0               | 1,000          | 97,041          | 361,177                                   | 886,593                               | 5,715                               |
| Michigan             | 2,953,703      | 10,491          | 0               | 5,642           | 1,264,058      | 1,964           | 127,205                                   | 4,363,063                             | 284                                 |
| Minnesota            | 932            | 102             | 0               | 0               | 322,835        | 0               | 3,046                                     | 326,915                               | 251                                 |
| Mississippi          | 0              | 2               | 0               | 0               | 0              | 4               | 28,717                                    | 28,723                                | 0                                   |
| Missouri             | 930            | 24,400          | 0               | 51,698          | 705,355        | 4,325           | 103,225                                   | 889,933                               | 10,927                              |
| Montana              | 0              | 0               | 0               | 0               | 0              | 45,566          | 20,752                                    | 66,318                                | 0                                   |
| Nebraska             | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Nevada               | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| New Hampshire        | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| New Jersey*          | 1,307          | 6,028           | 0               | 35,068          | 46,395         | 12,937          | 346,800                                   | 448,535                               | 4,284                               |
| New Mexico           | 0              | 0               | 0               | 0               | 0              | 0               | 39,605                                    | 39,605                                | 0                                   |
| New York             | 236,300        | 7,055           | 0               | 5,089           | 266,514        | 9,567           | 343,584                                   | 868,109                               | 51,649                              |
| North Carolina       | 0              | 2,928           | 0               | 15,293          | 0              | 12,024          | 275,428                                   | 305,673                               | 3,307                               |
| North Dakota         | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Northern Marianas    | 0              | 0               | 0               | 0               | 0              | 0               | 3,091                                     | 3,091                                 | 1                                   |
| Ohio                 | 2,905,029      | 39,930          | 0               | 326             | 516,483        | 3,416           | 104,671                                   | 3,569,855                             | 3,898                               |
| Oklahoma             | 0              | 0               | 0               | 0               | 29,820         | 21              | 46,497                                    | 76,338                                | 0                                   |
| Oregon               | 0              | 29              | 0               | 8,239           | 1,455          | 401,774         | 59,447                                    | 470,944                               | 1                                   |
| Pennsylvania         | 153,713        | 9,829,142       | 0               | 1,612           | 18,955         | 1,327           | 10,038,394                                | 20,043,143                            | 1,346                               |
| Puerto Rico          | 0              | 0               | 0               | 15,577          | 0              | 2,061           | 20,448                                    | 38,086                                | 0                                   |
| Rhode Island         | 0              | 0               | 0               | 307             | 124,573        | 985             | 84,202                                    | 210,067                               | 0                                   |
| South Carolina       | 1,396          | 169             | 0               | 0               | 0              | 11              | 24,072                                    | 25,648                                | 80                                  |
| South Dakota         | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Tennessee            | 2,049          | 5,146           | 0               | 0               | 0              | 10,401          | 34,580                                    | 52,176                                | 75                                  |
| Texas                | 8,604,505      | 424,810         | 0               | 172,530         | 1,872,022      | 15,537          | 780,920                                   | 11,870,325                            | 259,743                             |
| Utah                 | 0              | 0               | 0               | 0               | 0              | 6,297           | 4,776                                     | 11,073                                | 0                                   |
| Vermont              | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Virgin Islands       | 0              | 0               | 0               | 0               | 0              | 0               | 2,055                                     | 2,055                                 | 0                                   |
| Virginia*            | 2,952          | 45,321          | 0               | 1               | 197            | 4,563           | 133,488                                   | 186,522                               | 111,913                             |
| Washington*          | 0              | 425             | 0               | 397             | 645,162        | 70,164          | 90,699                                    | 806,847                               | 0                                   |
| West Virginia        | 0              | 0               | 0               | 3,417           | 0              | 129             | 6,861                                     | 10,407                                | 40                                  |
| Wisconsin            | 932            | 3,516           | 0               | 410             | 0              | 866             | 25,093                                    | 30,817                                | 1,373                               |
| Wyoming              | 0              | 0               | 0               | 0               | 0              | 0               | 0   | 0                                     | 0                                   |
| Total                | 22,799,308     | 11,136,986      | 6               | 337,216         | 9,808,300      | 1,166,481       | 14,713,310                                | 59,961,607                            | 942,486                             |

Note: Data from Section 8 of Form R.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 29 (Petroleum refining).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI On-site and Off-site Releases, by State, 1998  
CHEMICAL WHOLESALERS (SIC CODE 5169)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                              |           | Off-site Releases | Total On- and Off-site Releases |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------|-----------|-------------------|---------------------------------|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                              |           |                   |                                 |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | On-site Land Releases Pounds |           |                   |                                 |
|                      |                         |                    |                |                            |                                 |                       |                         |                                  |                              |           |                   |                                 |
| Alabama*             | 11                      | 74                 | 33             | 25,916                     | 0                               | 0                     | 0                       | 0                                | 0                            | 25,916    | 0                 | 25,916                          |
| Alaska               | 1                       | 4                  | 2              | 1,255                      | 0                               | 0                     | 0                       | 0                                | 0                            | 1,255     | 0                 | 1,255                           |
| American Samoa       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Arizona              | 8                       | 43                 | 18             | 12,249                     | 0                               | 0                     | 0                       | 0                                | 0                            | 12,249    | 0                 | 12,249                          |
| Arkansas             | 2                       | 6                  | 5              | 985                        | 0                               | 0                     | 0                       | 0                                | 0                            | 985       | 0                 | 985                             |
| California*          | 33                      | 254                | 83             | 108,745                    | 536                             | 0                     | 0                       | 0                                | 0                            | 109,281   | 10,845            | 120,126                         |
| Colorado             | 4                       | 34                 | 29             | 4,092                      | 0                               | 0                     | 0                       | 0                                | 0                            | 4,092     | 0                 | 4,092                           |
| Connecticut*         | 5                       | 17                 | 6              | 7,408                      | 0                               | 0                     | 0                       | 0                                | 0                            | 7,408     | 0                 | 7,408                           |
| Delaware             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| District of Columbia | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Florida*             | 18                      | 100                | 54             | 84,042                     | 50                              | 0                     | 0                       | 0                                | 10                           | 84,102    | 0                 | 84,102                          |
| Georgia              | 8                       | 120                | 63             | 35,448                     | 0                               | 0                     | 0                       | 0                                | 0                            | 35,448    | 2,250             | 37,698                          |
| Guam                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Hawaii               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Idaho                | 1                       | 3                  | 3              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Illinois* †          | 13                      | 123                | 40             | 36,143                     | 36                              | 0                     | 0                       | 0                                | 0                            | 36,179    | 17,200            | 53,379                          |
| Indiana              | 18                      | 167                | 101            | 37,540                     | 0                               | 0                     | 0                       | 0                                | 0                            | 37,540    | 1,505             | 39,045                          |
| Iowa                 | 6                       | 72                 | 3              | 13,902                     | 0                               | 0                     | 0                       | 0                                | 2,219                        | 16,121    | 4,440             | 20,561                          |
| Kansas               | 4                       | 43                 | 1              | 5,350                      | 0                               | 0                     | 0                       | 0                                | 0                            | 5,350     | 5,226             | 10,576                          |
| Kentucky             | 7                       | 82                 | 43             | 29,946                     | 0                               | 0                     | 0                       | 0                                | 0                            | 29,946    | 242               | 30,188                          |
| Louisiana*           | 15                      | 104                | 48             | 42,310                     | 0                               | 0                     | 0                       | 0                                | 0                            | 42,310    | 3,879             | 46,189                          |
| Maine                | 1                       | 2                  | 0              | 347                        | 0                               | 0                     | 0                       | 0                                | 0                            | 347       | 0                 | 347                             |
| Maryland             | 2                       | 17                 | 16             | 260                        | 0                               | 0                     | 0                       | 0                                | 0                            | 260       | 0                 | 260                             |
| Massachusetts*       | 10                      | 99                 | 30             | 24,402                     | 0                               | 0                     | 0                       | 0                                | 0                            | 24,402    | 1,294             | 25,696                          |
| Michigan             | 8                       | 104                | 39             | 28,177                     | 0                               | 0                     | 0                       | 0                                | 0                            | 28,177    | 0                 | 28,177                          |
| Minnesota            | 9                       | 89                 | 59             | 17,798                     | 5                               | 0                     | 0                       | 0                                | 5                            | 17,808    | 20                | 17,828                          |
| Mississippi          | 4                       | 25                 | 7              | 7,961                      | 0                               | 0                     | 0                       | 0                                | 0                            | 7,961     | 0                 | 7,961                           |
| Missouri*            | 21                      | 171                | 78             | 63,269                     | 5                               | 0                     | 0                       | 0                                | 18                           | 63,292    | 2,433             | 65,725                          |
| Montana              | 1                       | 7                  | 0              | 1,907                      | 0                               | 0                     | 0                       | 0                                | 0                            | 1,907     | 0                 | 1,907                           |
| Nebraska             | 2                       | 10                 | 9              | 34                         | 0                               | 0                     | 0                       | 0                                | 0                            | 34        | 2,150             | 2,184                           |
| Nevada               | 1                       | 1                  | 0              | 475                        | 0                               | 0                     | 0                       | 0                                | 0                            | 475       | 0                 | 475                             |
| New Hampshire        | 2                       | 2                  | 1              | 504                        | 0                               | 0                     | 0                       | 0                                | 0                            | 504       | 0                 | 504                             |
| New Jersey           | 17                      | 162                | 67             | 144,514                    | 5                               | 0                     | 0                       | 0                                | 0                            | 144,519   | 7,065             | 151,584                         |
| New Mexico           | 3                       | 6                  | 4              | 25                         | 0                               | 0                     | 0                       | 0                                | 0                            | 25        | 1,140             | 1,165                           |
| New York*            | 15                      | 100                | 62             | 16,473                     | 0                               | 0                     | 0                       | 0                                | 0                            | 16,473    | 0                 | 16,473                          |
| North Carolina       | 13                      | 129                | 69             | 26,311                     | 0                               | 0                     | 0                       | 0                                | 77,829                       | 104,140   | 11,545            | 115,685                         |
| North Dakota         | 1                       | 5                  | 0              | 772                        | 0                               | 0                     | 0                       | 0                                | 0                            | 772       | 0                 | 772                             |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Ohio† ‡              | 22                      | 263                | 116            | 83,073                     | 30                              | 0                     | 0                       | 0                                | 0                            | 83,103    | 103,697           | 186,800                         |
| Oklahoma             | 11                      | 68                 | 44             | 11,281                     | 0                               | 0                     | 0                       | 0                                | 0                            | 11,281    | 0                 | 11,281                          |
| Oregon*              | 8                       | 55                 | 25             | 25,327                     | 0                               | 0                     | 0                       | 0                                | 70                           | 25,397    | 10,450            | 35,847                          |
| Pennsylvania         | 20                      | 202                | 131            | 41,652                     | 9                               | 0                     | 1                       | 0                                | 0                            | 41,662    | 1,361             | 43,023                          |
| Puerto Rico          | 3                       | 18                 | 6              | 23,617                     | 10,789                          | 0                     | 0                       | 0                                | 0                            | 34,406    | 0                 | 34,406                          |
| Rhode Island         | 2                       | 5                  | 2              | 250                        | 0                               | 0                     | 0                       | 0                                | 0                            | 250       | 0                 | 250                             |
| South Carolina       | 6                       | 33                 | 19             | 12,990                     | 0                               | 0                     | 0                       | 0                                | 1,493                        | 14,483    | 500               | 14,983                          |
| South Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Tennessee*           | 15                      | 116                | 49             | 28,104                     | 0                               | 0                     | 0                       | 0                                | 310                          | 28,414    | 0                 | 28,414                          |
| Texas*               | 57                      | 513                | 255            | 214,272                    | 13                              | 0                     | 0                       | 0                                | 0                            | 214,285   | 26,667            | 240,952                         |
| Utah                 | 6                       | 47                 | 15             | 4,718                      | 0                               | 0                     | 0                       | 0                                | 0                            | 4,718     | 0                 | 4,718                           |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Virgin Islands       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Virginia‡            | 8                       | 65                 | 28             | 25,787                     | 0                               | 0                     | 0                       | 0                                | 0                            | 25,787    | 1,371             | 27,158                          |
| Washington           | 6                       | 41                 | 29             | 16,565                     | 125                             | 0                     | 0                       | 0                                | 14,600                       | 31,290    | 0                 | 31,290                          |
| West Virginia        | 3                       | 18                 | 13             | 2,200                      | 0                               | 0                     | 0                       | 0                                | 0                            | 2,200     | 100               | 2,300                           |
| Wisconsin‡           | 7                       | 76                 | 40             | 15,636                     | 0                               | 0                     | 0                       | 0                                | 700                          | 16,336    | 0                 | 16,336                          |
| Wyoming              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0         | 0                 | 0                               |
| Total                | 438                     | 3,695              | 1,745          | 1,284,032                  | 11,603                          | 0                     | 1                       | 0                                | 97,254                       | 1,392,890 | 215,380           | 1,608,270                       |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 28 (Chemicals and allied products).

† Includes facilities/forms also reporting SIC code 5171 (Petroleum bulk terminals).

‡ Includes facilities/forms also reporting SIC code 7389 (RCRA/Solvent recovery).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste, by State, 1998  
CHEMICAL WHOLESALERS (SIC CODE 5169)

| State                | Recycled          |                    | Energy Recovery   |                    | Treated           |                    | Quantity Released<br>On- and<br>Off-site<br>Pounds | Total<br>Production-<br>related<br>Waste<br>Pounds | Non-<br>Production-<br>related<br>Waste<br>Pounds |
|----------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--|--|---|
|                      | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds |  |  |   |
| Alabama*             | 5,219             | 0                  | 0                 | 45,030             | 3                 | 65                 | 25,150   | 75,467   | 265   |
| Alaska               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 580  | 580  | 0   |
| American Samoa       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Arizona              | 10,000            | 0                  | 0                 | 9,262              | 161,980           | 187                | 11,547   | 192,976  | 0   |
| Arkansas             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 985  | 985  | 0   |
| California*          | 712               | 25,516             | 0                 | 677,873            | 22,786            | 79,806             | 203,618  | 1,010,311  | 1,550   |
| Colorado             | 0                 | 0                  | 0                 | 878                | 0                 | 56                 | 3,828  | 4,762  | 0   |
| Connecticut*         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 7,402  | 7,402  | 1   |
| Delaware             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| District of Columbia | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Florida*             | 500               | 0                  | 0                 | 58,753             | 1,171             | 910                | 80,369   | 141,703  | 3,961   |
| Georgia              | 0                 | 1,300              | 0                 | 95,515             | 0                 | 4,120              | 35,611   | 136,546  | 260   |
| Guam                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Hawaii               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Idaho                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Illinois* †          | 0                 | 510                | 0                 | 214,483            | 1,002             | 33,854             | 51,414   | 301,263  | 10  |
| Indiana              | 58,500            | 19,133             | 0                 | 305,458            | 39,875            | 128,801            | 33,290   | 585,057  | 3,080   |
| Iowa                 | 54,744            | 211,132            | 0                 | 71,671             | 0                 | 4,581              | 15,959   | 358,087  | 0   |
| Kansas               | 19,185            | 0                  | 0                 | 44,326             | 0                 | 6,466              | 5,333  | 75,310   | 0   |
| Kentucky             | 0                 | 0                  | 0                 | 8,310              | 2,143             | 279                | 27,718   | 38,450   | 167   |
| Louisiana*           | 0                 | 4                  | 54,418            | 110,272            | 2,277             | 5,297              | 127,282  | 299,550  | 199   |
| Maine                | 0                 | 0                  | 0                 | 0                  | 4,940             | 0                  | 347  | 5,287  | 2   |
| Maryland             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 260  | 260  | 0   |
| Massachusetts*       | 233,000           | 18,506             | 0                 | 33,396             | 2,806             | 9,658              | 27,980   | 325,346  | 1,323   |
| Michigan             | 0                 | 0                  | 0                 | 238,402            | 2,652             | 15,351             | 27,534   | 283,939  | 56  |
| Minnesota            | 0                 | 10,187             | 0                 | 105,123            | 4,280             | 1,625              | 17,599   | 138,814  | 0   |
| Mississippi          | 0                 | 0                  | 0                 | 111,993            | 0                 | 188,090            | 7,399  | 307,482  | 0   |
| Missouri*            | 0                 | 0                  | 0                 | 254,293            | 2,545             | 71,136             | 64,048   | 392,022  | 64  |
| Montana              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 1,907  | 1,907  | 0   |
| Nebraska             | 0                 | 0                  | 0                 | 0                  | 2,500             | 2,160              | 34   | 4,694  | 0   |
| Nevada               | 75                | 0                  | 0                 | 0                  | 0                 | 0                  | 540  | 615  | 0   |
| New Hampshire        | 0                 | 0                  | 0                 | 0                  | 0                 | 18                 | 504  | 522  | 0   |
| New Jersey           | 0                 | 4,120              | 0                 | 59,736             | 6,354             | 32,083             | 196,448  | 298,741  | 3,042   |
| New Mexico           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 1,160  | 1,160  | 0   |
| New York*            | 0                 | 0                  | 0                 | 35,227             | 0                 | 5,625              | 14,765   | 55,617   | 11  |
| North Carolina       | 0                 | 201,200            | 0                 | 104,070            | 16,940            | 834,883            | 26,265   | 1,183,358  | 140   |
| North Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 772  | 772  | 0   |
| Northern Mariana     | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Ohio ‡               | 17,218,400        | 23,887             | 0                 | 19,168,062         | 6,241             | 1,235,900          | 204,667  | 37,857,157   | 6,182   |
| Oklahoma             | 0                 | 0                  | 0                 | 6,670              | 34                | 250                | 11,288   | 18,242   | 34  |
| Oregon*              | 0                 | 0                  | 0                 | 26,045             | 9,704             | 1,151              | 36,974   | 73,874   | 1,095   |
| Pennsylvania         | 100               | 1,218              | 0                 | 67,644             | 0                 | 67,045             | 39,589   | 175,596  | 4,845   |
| Puerto Rico          | 0                 | 0                  | 0                 | 0                  | 2,979             | 0                  | 24,635   | 27,614   | 4   |
| Rhode Island         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 400  | 400  | 0   |
| South Carolina       | 0                 | 0                  | 0                 | 6,459              | 0                 | 1,493              | 12,977   | 20,929   | 0   |
| South Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Tennessee*           | 3,361             | 4,358              | 0                 | 9,569              | 10,972            | 1,076              | 36,183   | 65,519   | 557   |
| Texas*               | 0                 | 205,130            | 0                 | 665,408            | 1,273,217         | 332,610            | 272,948  | 2,749,313  | 25,534  |
| Utah                 | 0                 | 0                  | 0                 | 15,603             | 12,425            | 19,764             | 4,270  | 52,062   | 4   |
| Vermont              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virgin Islands       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Virginia ‡           | 1,219,208         | 243                | 0                 | 1,378,381          | 180               | 0                  | 24,045   | 2,622,057  | 18  |
| Washington           | 0                 | 0                  | 0                 | 35                 | 0                 | 580                | 29,075   | 29,690   | 0   |
| West Virginia        | 0                 | 3,200              | 0                 | 0                  | 0                 | 100                | 1,725  | 5,025  | 0   |
| Wisconsin ‡          | 3,200,186         | 670                | 0                 | 2,624,421          | 827               | 1,152              | 16,412   | 5,843,668  | 133   |
| Wyoming              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0  | 0  | 0   |
| Total                | 22,023,190        | 730,314            | 54,418            | 26,552,368         | 1,590,833         | 3,086,172          | 1,732,836  | 55,770,131   | 52,537  |

Note: Data from Section 8 of Form R.

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 28 (Chemicals and allied products).

† Includes facilities/forms also reporting SIC code 5171 (Petroleum bulk terminals).

‡ Includes facilities/forms also reporting SIC code 7389 (RCRA/Solvent recovery).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

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TRI On-site and Off-site Releases, by State, 1998  
RCRASOLVENT RECOVERY (SIC CODES 4953/7389)

| State                | On-site Releases        |                    |                |                            |                                 |                       |                         |                                  |                              |              |                               | Off-site Releases | Total On- and Off-site Releases Pounds |
|----------------------|-------------------------|--------------------|----------------|----------------------------|---------------------------------|-----------------------|-------------------------|----------------------------------|------------------------------|--------------|-------------------------------|-------------------|--|
|                      | Total Facilities Number | Total Forms Number | Form As Number | Total Air Emissions Pounds | Surface Water Discharges Pounds | Underground Injection |                         | On-site Land Releases            |                              |              | Total On-site Releases Pounds |                   |  |
|                      |                         |                    |                |                            |                                 | Class I Wells Pounds  | Class II-V Wells Pounds | RCRA Subtitle C Landfills Pounds | On-site Land Releases Pounds | Other Pounds |                               |                   |  |
| Alabama              | 6                       | 43                 | 0              | 13,838                     | 0                               | 0                     | 0                       | 12,060,964                       | 0                            | 12,074,802   | 165,104                       | 12,239,906        |  |
| Alaska               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| American Samoa       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Arizona              | 2                       | 6                  | 0              | 997                        | 0                               | 0                     | 0                       | 0                                | 0                            | 997          | 5                             | 1,002             |  |
| Arkansas             | 3                       | 140                | 0              | 22,492                     | 49                              | 0                     | 0                       | 22,800                           | 0                            | 45,341       | 212,836                       | 258,177           |  |
| California           | 16                      | 158                | 3              | 53,196                     | 0                               | 0                     | 0                       | 19,813,437                       | 308,756                      | 20,175,389   | 155,642                       | 20,331,031        |  |
| Colorado             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Connecticut          | 3                       | 16                 | 6              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 739,191                       | 739,191           |  |
| Delaware             | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| District of Columbia | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Florida              | 4                       | 6                  | 0              | 18,109                     | 0                               | 0                     | 0                       | 0                                | 9,840                        | 27,949       | 0                             | 27,949            |  |
| Georgia              | 3                       | 6                  | 2              | 17,488                     | 0                               | 0                     | 0                       | 0                                | 0                            | 17,488       | 0                             | 17,488            |  |
| Guam                 | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Hawaii               | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Idaho                | 1                       | 17                 | 0              | 12,465                     | 0                               | 0                     | 0                       | 31,641,000                       | 0                            | 31,653,465   | 40                            | 31,653,505        |  |
| Illinois             | 11                      | 147                | 2              | 82,283                     | 10                              | 0                     | 0                       | 21,607,926                       | 173,297                      | 21,863,516   | 2,908,792                     | 24,772,308        |  |
| Indiana              | 8                       | 127                | 0              | 38,667                     | 1,345                           | 0                     | 0                       | 1,257,263                        | 0                            | 1,297,275    | 11,103,121                    | 12,400,396        |  |
| Iowa                 | 2                       | 2                  | 0              | 10                         | 0                               | 0                     | 0                       | 0                                | 0                            | 10           | 0                             | 10                |  |
| Kansas               | 2                       | 13                 | 0              | 17,113                     | 0                               | 0                     | 0                       | 0                                | 0                            | 17,113       | 7,564                         | 24,677            |  |
| Kentucky*            | 6                       | 83                 | 0              | 41,604                     | 15                              | 0                     | 0                       | 0                                | 1,100,084                    | 1,141,703    | 1,573,146                     | 2,714,849         |  |
| Louisiana            | 4                       | 51                 | 0              | 1,583                      | 2                               | 530,351               | 0                       | 3,803,510                        | 0                            | 4,335,446    | 122,371                       | 4,457,817         |  |
| Maine                | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Maryland             | 1                       | 1                  | 0              | 6                          | 0                               | 0                     | 0                       | 0                                | 0                            | 6            | 0                             | 6                 |  |
| Massachusetts**      | 4                       | 12                 | 0              | 4,986                      | 5                               | 0                     | 0                       | 0                                | 0                            | 4,991        | 1,231,461                     | 1,236,452         |  |
| Michigan             | 10                      | 155                | 6              | 126,173                    | 0                               | 0                     | 0                       | 8,258,900                        | 0                            | 8,385,073    | 3,693,902                     | 12,078,975        |  |
| Minnesota            | 2                       | 8                  | 0              | 345                        | 0                               | 0                     | 0                       | 0                                | 0                            | 345          | 1,000                         | 1,345             |  |
| Mississippi          | 1                       | 1                  | 0              | 2                          | 0                               | 0                     | 0                       | 0                                | 0                            | 2            | 0                             | 2                 |  |
| Missouri             | 8                       | 11                 | 0              | 11,552                     | 75                              | 0                     | 0                       | 17,494                           | 0                            | 29,121       | 0                             | 29,121            |  |
| Montana              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Nebraska             | 5                       | 56                 | 0              | 16,003                     | 0                               | 0                     | 0                       | 0                                | 168,694                      | 184,697      | 25,034                        | 209,731           |  |
| Nevada               | 1                       | 18                 | 0              | 1,865                      | 0                               | 0                     | 0                       | 1,321,200                        | 0                            | 1,323,065    | 69,232                        | 1,392,297         |  |
| New Hampshire        | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| New Jersey           | 1                       | 12                 | 0              | 25,429                     | 741                             | 0                     | 0                       | 0                                | 0                            | 26,170       | 2,326,678                     | 2,352,848         |  |
| New Mexico           | 1                       | 1                  | 1              | 5,990                      | 0                               | 0                     | 0                       | 0                                | 0                            | 5,990        | 0                             | 5,990             |  |
| New York             | 4                       | 22                 | 2              | 922                        | 816                             | 0                     | 0                       | 6,231,080                        | 0                            | 6,232,818    | 50,822                        | 6,283,640         |  |
| North Carolina       | 7                       | 16                 | 0              | 66,755                     | 43                              | 0                     | 0                       | 0                                | 0                            | 66,798       | 480,157                       | 546,955           |  |
| North Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Northern Marianas    | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Ohio                 | 12                      | 373                | 140            | 304,834                    | 1,028                           | 17,841,000            | 0                       | 50,522,000                       | 0                            | 68,668,862   | 9,029,601                     | 77,698,463        |  |
| Oklahoma             | 2                       | 21                 | 0              | 1,737                      | 0                               | 1,109,751             | 0                       | 6,642,012                        | 0                            | 7,753,500    | 130,236                       | 7,883,736         |  |
| Oregon               | 1                       | 35                 | 0              | 4,265                      | 0                               | 0                     | 0                       | 6,105,389                        | 6,723,810                    | 12,833,464   | 9,851                         | 12,843,315        |  |
| Pennsylvania         | 14                      | 57                 | 2              | 5,452                      | 556,760                         | 0                     | 0                       | 1,116,200                        | 2,824,100                    | 4,502,512    | 1,893,158                     | 6,395,670         |  |
| Puerto Rico          | 1                       | 6                  | 0              | 264,929                    | 0                               | 0                     | 0                       | 0                                | 0                            | 264,929      | 59,843                        | 324,772           |  |
| Rhode Island         | 1                       | 4                  | 0              | 422                        | 0                               | 0                     | 0                       | 0                                | 0                            | 422          | 863                           | 1,285             |  |
| South Carolina       | 1                       | 154                | 0              | 42,891                     | 0                               | 0                     | 0                       | 5,145,517                        | 2                            | 5,188,410    | 9,019,382                     | 14,207,792        |  |
| South Dakota         | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Tennessee            | 5                       | 47                 | 3              | 7,364                      | 7,039                           | 0                     | 0                       | 0                                | 0                            | 14,403       | 64,219                        | 78,622            |  |
| Texas                | 16                      | 388                | 3              | 59,572                     | 12,474                          | 3,943,904             | 0                       | 5,482,518                        | 107                          | 9,498,575    | 1,144,534                     | 10,643,109        |  |
| Utah                 | 3                       | 71                 | 0              | 3,237                      | 0                               | 0                     | 0                       | 15,535,167                       | 858,502                      | 16,396,906   | 50,623                        | 16,447,529        |  |
| Vermont              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Virgin Islands       | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Virginia             | 1                       | 1                  | 0              | 4,937                      | 0                               | 0                     | 0                       | 0                                | 0                            | 4,937        | 0                             | 4,937             |  |
| Washington           | 1                       | 1                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 1,469,733                     | 1,469,733         |  |
| West Virginia        | 1                       | 1                  | 0              | 6                          | 0                               | 0                     | 0                       | 0                                | 0                            | 6            | 0                             | 6                 |  |
| Wisconsin            | 7                       | 15                 | 0              | 26,286                     | 0                               | 0                     | 0                       | 0                                | 0                            | 26,286       | 14,967                        | 41,253            |  |
| Wyoming              | 0                       | 0                  | 0              | 0                          | 0                               | 0                     | 0                       | 0                                | 0                            | 0            | 0                             | 0                 |  |
| Total                | 207                     | 2,495              | 170            | 1,305,805                  | 580,402                         | 23,425,006            | 0                       | 196,584,377                      | 12,167,192                   | 234,062,782  | 47,753,108                    | 281,815,890       |  |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.  
Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.  
Facilities/forms are included in the original industry category if they did not report a new industry SIC code.  
Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.  
If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.  
If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.  
\* Includes facilities/forms also reporting SIC code 34 (Fabricated metals).  
\*\* Includes facilities/forms also reporting SIC code 5189 (Chemical wholesalers).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.  
Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

TRI Chemicals in Waste by State, 1998  
RCRA/SOLVENT RECOVERY (SIC CODES 4953/7389)

| State                | Recycled          |                    | Energy Recovery   |                    | Treated           |                    | Quantity Released<br>On- and Off-site<br>Pounds | Total<br>Production-<br>related<br>Waste<br>Pounds | Non-<br>Production-<br>related<br>Waste<br>Pounds |
|----------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|---|--|---|
|                      | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds | On-site<br>Pounds | Off-site<br>Pounds |   |  |   |
| Alabama              | 4 153 054         | 252 789            | 0                 | 29 555 869         | 3 873             | 214 508            | 12 359 925                                      | 46 540 018   | 282   |
| Alaska               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| American Samoa       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Arizona              | 2 667 961         | 0                  | 0                 | 9 756              | 14 656            | 2                  | 881   | 2 693 256  | 1   |
| Arkansas             | 400 082           | 434 534            | 3 164 825         | 4 402 565          | 25 563 977        | 68 112             | 486 945   | 34 521 040   | 2   |
| California           | 2 369 984         | 1 051 356          | 0                 | 7 532 021          | 1 788 348         | 929 085            | 20 981 539                                      | 34 652 333   | 173   |
| Colorado             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Connecticut          | 0                 | 0                  | 0                 | 0                  | 234 487           | 32 407             | 1 063 530                                       | 1 330 424  | 9   |
| Delaware             | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| District of Columbia | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Florida              | 443 479           | 195 333            | 0                 | 702 177            | 692 337           | 0                  | 768 411   | 2 801 737  | 0   |
| Georgia              | 0                 | 180 764            | 0                 | 0                  | 354 728           | 0                  | 16 928  | 552 420  | 0   |
| Guam                 | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Hawaii               | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Idaho                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Illinois             | 7 687 441         | 874 085            | 0                 | 13 345 080         | 15 714 874        | 3 310 657          | 25 051 641                                      | 65 983 778   | 0   |
| Indiana              | 8 904 600         | 436 723            | 0                 | 80 645 915         | 2 815 172         | 131 905            | 14 107 071                                      | 107 101 386  | 76  |
| Iowa                 | 0                 | 309 122            | 0                 | 0                  | 0                 | 0                  | 10  | 309 132  | 0   |
| Kansas               | 135 823           | 312 550            | 0                 | 0                  | 795 198           | 29 630             | 25 561  | 1 298 762  | 27  |
| Kentucky*            | 0                 | 191 900            | 0                 | 10 433 058         | 5 652 855         | 2 211 127          | 1 139 787                                       | 19 628 727   | 5   |
| Louisiana            | 0                 | 70 816             | 0                 | 910                | 173 123           | 412 223            | 4 337 150                                       | 4 994 222  | 0   |
| Maine                | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Maryland             | 0                 | 192 574            | 0                 | 0                  | 0                 | 0                  | 6   | 192 580  | 0   |
| Massachusetts**      | 56 820            | 261 113            | 0                 | 260 070            | 0                 | 116 244            | 2 102 808                                       | 2 796 865  | 6   |
| Michigan             | 32 450 225        | 537 155            | 0                 | 130 002 805        | 1 300 655         | 43 963 197         | 11 415 455                                      | 219 720 262  | 17  |
| Minnesota            | 4 030 951         | 1 152 410          | 0                 | 0                  | 78 543            | 11 698             | 969   | 5 274 609  | 0   |
| Mississippi          | 0                 | 78 962             | 0                 | 0                  | 0                 | 0                  | 2   | 78 964   | 0   |
| Missouri             | 0                 | 572 702            | 0                 | 0                  | 96 384            | 0                  | 30 818  | 709 459  | 28 903  |
| Montana              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Nebraska             | 0                 | 65 559             | 0                 | 84 564             | 10 095 636        | 53 224             | 291 764   | 10 590 747   | 0   |
| Nevada               | 0                 | 1 290 407          | 0                 | 0                  | 1 571 156         | 420 409            | 1 323 054                                       | 4 605 026  | 0   |
| New Hampshire        | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| New Jersey           | 0                 | 389 444            | 0                 | 22 213 059         | 19 852 587        | 628 929            | 2 480 949                                       | 53 775 599   | 42  |
| New Mexico           | 0                 | 0                  | 0                 | 0                  | 440 000           | 0                  | 6 000   | 446 000  | 0   |
| New York             | 0                 | 265 146            | 0                 | 0                  | 286 000           | 56 831             | 6 283 396                                       | 6 891 373  | 1   |
| North Carolina       | 0                 | 836 851            | 0                 | 0                  | 256 000           | 12 500             | 611 133   | 1 716 484  | 4   |
| North Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Northern Marianas    | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Ohio                 | 0                 | 1 719 734          | 0                 | 23 890 411         | 17 253 160        | 26 325 028         | 77 250 474                                      | 152 215 656  | 83 025  |
| Oklahoma             | 0                 | 0                  | 0                 | 0                  | 154 000           | 1 995              | 7 880 837                                       | 8 036 832  | 21  |
| Oregon               | 0                 | 56 569             | 0                 | 0                  | 364 676           | 559 298            | 23 928 531                                      | 24 909 074   | 47  |
| Pennsylvania         | 0                 | 1 182 151          | 0                 | 0                  | 4 288 778         | 358 704            | 6 392 516                                       | 12 222 149   | 0   |
| Puerto Rico          | 0                 | 1 875 384          | 0                 | 8 545 872          | 114 191           | 2 068 828          | 332 578   | 16 797 272   | 1   |
| Rhode Island         | 0                 | 108 500            | 0                 | 0                  | 0                 | 768 783            | 846   | 999 103  | 0   |
| South Carolina       | 0                 | 2 014 279          | 0                 | 25 180 268         | 12 355 884        | 1 387 001          | 14 747 731                                      | 59 633 250   | 0   |
| South Dakota         | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Tennessee            | 0                 | 143 759            | 122 783           | 3 726 163          | 217 574           | 10                 | 73 842  | 4 284 131  | 2 691   |
| Texas                | 14 643 111        | 1 262 388          | 0                 | 30 371 704         | 37 725 162        | 1 232 927          | 8 737 439                                       | 93 877 931   | 9 818   |
| Utah                 | 0                 | 0                  | 0                 | 0                  | 16 322 054        | 46 445             | 16 618 938                                      | 32 987 437   | 30  |
| Vermont              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Virgin Islands       | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Virginia             | 0                 | 763 195            | 0                 | 0                  | 216 611           | 0                  | 4 937   | 989 743  | 0   |
| Washington           | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 338   | 338  | 0   |
| West Virginia        | 0                 | 200 269            | 0                 | 0                  | 0                 | 0                  | 6   | 200 275  | 0   |
| Wisconsin            | 0                 | 463 044            | 0                 | 1 808 900          | 0                 | 1 811 160          | 41 585  | 13 290 879   | 0   |
| Wyoming              | 0                 | 0                  | 0                 | 0                  | 0                 | 0                  | 0   | 0  | 0   |
| Total                | 106 937 054       | 12 861 567         | 3 287 608         | 392 711 167        | 176 792 679       | 87 162 867         | 292 537 331                                     | 1 081 290 273                                      | 125 181   |

Note: Data from Section 8 of Form R

Facilities/forms are included in the original industry category if they did not report a new industry SIC code.

Facilities/forms are included in the new industry category if the facility/form has a new industry SIC code and no SIC code in 20-39.

If the facility reported in any year prior to 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the original industry category.

If the facility reported for the first time in 1998 and the facility/form has a combination of original and new industry SIC codes, then the facility/form is included in the new industry category.

\* Includes facilities/forms also reporting SIC code 34 (Fabricated metals).

\*\* Includes facilities/forms also reporting SIC code 5169 (Chemical wholesalers).

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals.

Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

Top Facilities with Largest Total On-site and Off-site Releases, 1998  
ORIGINAL INDUSTRIES

| Rank | Facility                               | County          | State | Total Forms | Total Air Emissions | Surface          |               |                  | Underground Injection |                  |                  | RCRA Subtitle C Landfills | On-site Land Releases |                |                      | Off-site Releases |                        |                         |
|------|--|-----------------|-------|-------------|---------------------|------------------|---------------|------------------|-----------------------|------------------|------------------|---------------------------|-----------------------|----------------|----------------------|-------------------|------------------------|-------------------------|
|      |  |                 |       |             |                     | Water Discharges | Class I Wells | Class II-V Wells | Class I Wells         | Class II-V Wells | Class II-V Wells |                           | Other Landfills       | Land Treatment | Surface Impoundments | Other Disposal    | Total On-site Releases | Total Off-site Releases |
| 1    | MAGNESIUM CORP. OF AMERICA             | TOOELE          | UT    | 6           | 57,891,080          | 0                | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 57,891,080             | 0                       |
| 2    | ASARCO INC.                            | LEWIS AND CLARK | MT    | 10          | 105,525             | 1,612            | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 42,082,359             | 4,816,020               |
| 3*   | ASARCO INC. RAY COMPLEX/HAYDEN SMELTER | GILA            | AZ    | 11          | 157,531             | 0                | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 45,835,850             | 45,993,381              |
| 4    | KENNECOTT UTAH COPPER SMELTER & REFY.  | SALT LAKE       | UT    | 18          | 314,180             | 8,305            | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 45,835,850             | 305                     |
| 5    | ARMCO INC. BUTLER OPS. (RTE 88)        | BUTLER          | PA    | 15          | 316,108             | 31,059,449       | 0             | 0                | 0                     | 0                | 0                | 0                         | 8,425,550             | 0              | 0                    | 500               | 33,924,485             | 570,910                 |
| 6    | SOLVITA INC.                           | ESCAMBIA        | FL    | 23          | 187,061             | 1,717            | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 31,195,557             | 34,495,395              |
| 7    | DUPONT VICTORIA PLANT                  | VICTORIA        | TX    | 36          | 450,754             | 2,942            | 26,937,419    | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 27,136,197             | 489,533                 |
| 8    | PHILIPS DODGE HIDALGO INC.             | HIDALGO         | NM    | 17          | 281,020             | 12,495           | 24,371,111    | 0                | 0                     | 0                | 0                | 15,116                    | 0                     | 0              | 0                    | 0                 | 24,840,926             | 27,138,898              |
| 9    | PCS NITROGEN FERTILIZER L.P.           | ASCENSION       | LA    | 13          | 1,823,800           | 19,702,087       | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 21,952,000             | 134                     |
| 10   | ZINC CORP. OF AMERICA MONACA SMELTER   | BEAVER          | PA    | 14          | 941,193             | 2,851            | 0             | 0                | 0                     | 0                | 0                | 0                         | 591,634               | 0              | 0                    | 2,100             | 22,119,671             | 0                       |
| 11   | CYTEC INDS. INC. FORTIER PLANT         | JEFFERSON       | LA    | 29          | 250,413             | 49,593           | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 944,044                | 19,998,263              |
| 12   | NUCOR STEEL                            | MONTGOMERY      | IN    | 10          | 37,008              | 36               | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 19,904,896             | 38,215                  |
| 13   | BAF CORP.                              | BRAZORIA        | TX    | 32          | 775,592             | 15,017,735       | 2,836,174     | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 19,522,282             | 19,559,326              |
| 14   | LENZING FIBERS CORP.                   | HAMLEN          | TN    | 6           | 17,365,760          | 19,964           | 0             | 0                | 0                     | 0                | 0                | 0                         | 260,100               | 0              | 0                    | 0                 | 18,627,491             | 30,180                  |
| 15   | ROUGE STEEL CO.                        | WAYNE           | MI    | 10          | 49,525              | 1,332            | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 17,645,824             | 0                       |
| 16   | ELEMENTIS CHROMIUM L.P.                | WAYNE           | MI    | 3           | 89,800              | 6,250            | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 50,857                 | 15,074,800              |
| 17   | USS GARY WORKS                         | LAKE            | TX    | 40          | 3,427,294           | 28,402           | 0             | 0                | 0                     | 0                | 0                | 0                         | 11,220,372            | 0              | 0                    | 0                 | 15,296,050             | 821,005                 |
| 18   | ELKEM METALS CO.                       | WASHINGTON      | OH    | 8           | 3,954,177           | 773,000          | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 14,677,859             | 817,565                 |
| 19   | BP CHEMICALS INC.                      | ALLEN           | OH    | 34          | 563,709             | 0                | 13,323,037    | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 14,591,177             | 76,000                  |
| 20   | NORTHWESTERN STEEL & WIRE CO.          | WHITESIDE       | IL    | 6           | 124,640             | 18,410           | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 13,896,746             | 780                     |
| 21   | MMC-AGRIC CO. FAUSTINA PLANT           | ST JAMES        | LA    | 8           | 6,552,618           | 5,804,650        | 0             | 0                | 0                     | 0                | 9,140,000        | 0                         | 3,513,000             | 0              | 0                    | 0                 | 12,796,050             | 186,000                 |
| 22   | BP CHEMICALS INC. GREEN LAKE FACILITY  | CALHOUN         | TX    | 22          | 151,535             | 880              | 12,244,878    | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 12,804,512             | 0                       |
| 23   | NUCOR-YAMATO STEEL CO.                 | MISSISSIPPI     | AR    | 8           | 18,760              | 5                | 0             | 0                | 0                     | 0                | 551              | 0                         | 0                     | 0              | 0                    | 0                 | 12,397,944             | 6,997                   |
| 24   | NATL. STEEL CORP., GREAT LAKES DIV.    | WAYNE           | MI    | 21          | 314,891             | 41,350           | 0             | 0                | 0                     | 0                | 0                | 0                         | 0                     | 0              | 0                    | 0                 | 18,765                 | 11,234,837              |
| 25   | ACORDIS CELLULOSIC FIBERS INC.         | MOBILE          | AL    | 4           | 10,662,000          | 16,200           | 0             | 0                | 0                     | 0                | 0                | 0                         | 391,000               | 0              | 0                    | 0                 | 356,241                | 10,828,423              |
|      |  |                 |       |             |                     |                  |               |                  |                       |                  |                  |                           |                       |                |                      |                   | 11,098,200             | 0                       |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site for disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including POTWs.

\* Facility also reported SIC Code 10 (Metal mining)

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

Top Facilities with Largest Total On-site and Off-site Releases 1993  
METAL MINING (SIC CODE 10)

| Rank | Facility   | County            | State | Total<br>Forms | Total Air<br>Emissions | Surface<br>Water<br>Discharges | Underground Injection |                   |                    | RCRA<br>Subpart C<br>Landfills |                   |                         | On-site Land Releases |             |             |             | Total<br>On-site<br>Releases | Off-site<br>Releases<br>Transfers<br>Off-site to<br>Disposal | Total On-<br>and Off-site<br>Releases |
|------|--|-------------------|-------|----------------|------------------------|--------------------------------|-----------------------|-------------------|--------------------|--------------------------------|-------------------|-------------------------|-----------------------|-------------|-------------|-------------|------------------------------|--|---------------------------------------|
|      |  |                   |       |                |                        |                                | Class I<br>Wells      | Class II<br>Wells | Class III<br>Wells | Other<br>Landfills             | Land<br>Treatment | Surface<br>Impoundments | Other<br>Disposal     |             |             |             |                              |  |                                       |
| 1    | KENNECOTT UTAH COPPER MINE CONCENTRATORS & POWER PLANT | SALT LAKE         | UT    | 18             | 25,576                 | 14,735                         | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 67,351,455  | 337,993,000 | 405,384,766 | 3,450                        | 405,388,216  |                                       |
| 2    | BARICK GOLDSTRIKE MINE                                 | ELKO              | NV    | 23             | 84,450                 | 49,812                         | 0                     | 0                 | 0                  | 0                              | 7,583             | 0                       | 0                     | 19,549,400  | 378,352,700 | 398,053,945 | 375                          | 398,054,320  |                                       |
| 3    | ASARCO INC. MISSOURI COMPLEX                           | PIMA              | AZ    | 5              | 5,188                  | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 52,062,763  | 284,480,480 | 336,572,439 | 0                            | 336,572,439  |                                       |
| 4    | NEWMONT GOLD COMPANY TYNN CREEKS MINE                  | HUMBOLDT          | NV    | 21             | 108,106                | 2,815                          | 0                     | 0                 | 0                  | 0                              | 3,038             | 0                       | 0                     | 65,892,070  | 263,575,065 | 269,670,834 | 2                            | 269,670,836  |                                       |
| 5    | RED DOG OPS  | NORTHWEST ARIZONA | AK    | 11             | 478,688                | 719                            | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 225,327,887 | 23,875,028  | 249,693,402 | 21                           | 249,693,423  |                                       |
| 6    | CHINO MINES CO.  | GRANT             | CA    | 45             | 311,480                | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 124,923,868 | 160,742,968 | 185,978,208 | 0                            | 185,978,208  |                                       |
| 7    | BHP COPPER ROBINSON OPS.                               | WHITE PINE        | NV    | 5              | 2,895                  | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 167,733,163 | 0           | 167,736,058 | 0                            | 167,736,058  |                                       |
| 8    | PHILIPS DODGE MORENICO INC                             | GREENLEE          | AZ    | 18             | 84,834                 | 10                             | 0                     | 0                 | 0                  | 0                              | 0                 | 177                     | 0                     | 132,650,171 | 8,897,100   | 141,722,062 | 0                            | 141,722,062  |                                       |
| 9    | CITRUS SIERRITA CORP.                                  | PIMA              | AZ    | 13             | 19,570                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 25                      | 0                     | 128,924,015 | 129,943,620 | 129,943,620 | 0                            | 129,943,620  |                                       |
| 10** | CITRUS MIAMI MINING CORP.                              | GLA               | AZ    | 17             | 324,785                | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 123,067,010 | 123,391,775 | 123,391,775 | 5,885                        | 123,397,640  |                                       |
| 11   | ASARCO INC. RAY COMPLEX/RAY OPS. MINE                  | PINAL             | AZ    | 8              | 30,378                 | 183                            | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 20,116,260  | 85,970,383  | 116,117,202 | 0                            | 116,117,202  |                                       |
| 12   | ECHO BAY MINERALS CO. - MCCOY/COVE MINE                | LANDER            | NV    | 14             | 44,940                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 54,189,423  | 57,786,814  | 112,020,179 | 0                            | 112,020,179  |                                       |
| 13   | NEWMONT GOLD CO. CARLIN SOUTH AREA                     | EUREKA            | NV    | 21             | 173,883                | 7,088                          | 0                     | 0                 | 0                  | 0                              | 747               | 638                     | 0                     | 42,142,060  | 64,987,000  | 107,311,416 | 1                            | 107,311,417  |                                       |
| 14   | CITRUS BAGDAD COPPER CORP.                             | YAVAPAI           | AZ    | 9              | 5,317                  | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 30,311,515  | 63,170,025  | 93,486,877  | 0                            | 93,486,877   |                                       |
| 15   | NEWMONT GOLD CO. - LONE TREE MINE                      | HUMBOLDT          | NV    | 18             | 53,089                 | 113,750                        | 0                     | 0                 | 0                  | 0                              | 115               | 0                       | 0                     | 11,625,000  | 42,035,150  | 53,827,084  | 0                            | 53,827,084   |                                       |
| 16   | KENNECOTT GREENS CREEK MINING CO.                      | JUNEAU            | AK    | 13             | 16,956                 | 616                            | 0                     | 0                 | 29,024,000         | 0                              | 0                 | 0                       | 0                     | 19,403,300  | 4,646,400   | 53,091,272  | 0                            | 53,091,272   |                                       |
| 17** | BHP COPPER N.A. SAN MANUEL MINING                      | PINAL             | NV    | 12             | 89,985                 | 763                            | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 51,860,626  | 0           | 51,950,611  | 1,013                        | 51,951,624   |                                       |
| 18   | GETCHELL GOLD CORP.                                    | HUMBOLDT          | NV    | 21             | 17,310                 | 0                              | 0                     | 0                 | 0                  | 0                              | 486,147           | 0                       | 0                     | 32,466,846  | 11,449,188  | 44,489,449  | 9,410                        | 44,469,859   |                                       |
| 19   | KENNECOTT BARNEY'S CANYON MINING CO.                   | SALT LAKE         | UT    | 4              | 17,510                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 37,000,000  | 37,017,510  | 37,017,510  | 0                            | 37,017,510   |                                       |
| 20   | CORTEZ GOLD MINES PIPELINE MINE, MILL #2               | LANDER            | NV    | 9              | 161,984                | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 396,600     | 35,624,500  | 36,183,084  | 0                            | 36,183,084   |                                       |
| 21   | PHILIPS DODGE TYRONE INC                               | GRANT             | NM    | 7              | 19,231                 | 2                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 0           | 28,180,000  | 28,189,233  | 0                            | 28,189,233   |                                       |
| 22   | MONTANA TUNNELS MINING INC.                            | JEFFERSON         | MT    | 9              | 18,175                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 9,228,500   | 0           | 25,955,175  | 0                            | 25,955,175   |                                       |
| 23   | GOLDEN SUNLIGHT MINES INC.                             | JEFFERSON         | MT    | 9              | 122,909                | 0                              | 0                     | 0                 | 0                  | 0                              | 16,707,500        | 0                       | 0                     | 688,000     | 25,000,000  | 25,790,909  | 0                            | 25,790,909   |                                       |
| 24   | NEWMONT GOLD CO. - CARLIN NORTH AREA                   | EUREKA            | NV    | 11             | 33,271                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 34                      | 0                     | 282,380     | 24,500,037  | 24,815,732  | 0                            | 24,815,732   |                                       |
| 25   | KENNECOTT RIDGEWAY MINING CO.                          | FAIRFIELD         | SC    | 10             | 24,000                 | 0                              | 0                     | 0                 | 0                  | 0                              | 0                 | 0                       | 0                     | 7,029,000   | 15,964,000  | 23,017,000  | 0                            | 23,017,000   |                                       |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

\* Facility also reported SIC code 4931 (Electric Utilities)  
\*\* Facility also reported SIC code 33 (Primary Metals)

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment.  
TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

Top Facilities with Largest Total On-site and Off-site Releases, 1998  
COAL MINING (SIC CODE 10)

| Rank | Facility  | County     | State | Total<br>Forms | Total Air<br>Emissions | Surface             |                  | Underground Injection |                    | RCRA              |                         |                   | On-site Land Releases |           |         |           | Total<br>On-site<br>Releases | Off-site<br>Releases<br>Transfers<br>Off-site to<br>Disposal | Total On-<br>site and<br>Off-site to<br>Releases |
|------|---|------------|-------|----------------|------------------------|---------------------|------------------|-----------------------|--------------------|-------------------|-------------------------|-------------------|-----------------------|-----------|---------|-----------|------------------------------|--|--|
|      |   |            |       |                |                        | Water<br>Discharges | Class I<br>Wells | Class II/V<br>Wells   | Other<br>Landfills | Land<br>Treatment | Surface<br>Impoundments | Other<br>Disposal |                       |           |         |           |                              |  |  |
| 1    | SAN JUAN MINE   | SAN JUAN   | NM    | 12             | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 3,113,000         | 0                     | 0         | 0       | 3,113,000 | 0                            | 3,113,000  |  |
| 2    | BHP NAVAJO COAL CO                                    | SAN JUAN   | NM    | 12             | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 2,507,000         | 0                     | 0         | 0       | 2,507,000 | 0                            | 2,507,000  |  |
| 3    | TRAPPER MINING INC                                    | MOFFAT     | CO    | 7              | 419                    | 579                 | 0                | 0                     | 0                  | 0                 | 0                       | 1,562,000         | 0                     | 0         | 0       | 1,564,972 | 0                            | 1,564,972  |  |
| 4    | FREEMAN UNITED COAL MINING CO. INDUSTRY MINE          | MC DONOUGH | IL    | 10             | 20                     | 0                   | 0                | 0                     | 0                  | 0                 | 17,910                  | 1,335,642         | 0                     | 1,974     | 0       | 1,353,572 | 0                            | 1,353,572  |  |
| 5    | U.S. STEEL MINING CO. L.L.C. OAK GROVE SYSTEM         | JEFFERSON  | AL    | 1              | 87                     | 10,000              | 0                | 45,000                | 0                  | 0                 | 0                       | 950,000           | 0                     | 25,000    | 0       | 1,030,087 | 0                            | 1,030,087  |  |
| 6    | FREEMAN UNITED COAL MINING CO. CROWN 3 MINE           | MONTGOMERY | IL    | 7              | 10                     | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 1,026,335 | 0       | 1,026,345 | 0                            | 1,026,345  |  |
| 7    | GREEN VALLEY COAL CO.                                 | NICHOLAS   | WV    | 2              | 552,941                | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 552,941   | 0                            | 552,941  |  |
| 8    | KEYSTONE PLANT # 1                                    | MC DOWELL  | WV    | 2              | 382,942                | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 382,942   | 0                            | 382,942  |  |
| 9    | ELKHART MINE  | LOGAN      | IL    | 4              | 50                     | 3,350               | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 282,000 | 0         | 285,400                      |  |  |
| 10   | BOBET MINING INC.                                     | BOONE      | WV    | 1              | 191,653                | 21,295              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 212,948   | 0                            | 212,948  |  |
| 11   | CATENARY COAL CO.                                     | KANAWHA    | WV    | 1              | 157,059                | 17,451              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 174,510   | 0                            | 174,510  |  |
| 12   | SWAMP POODLE OPERATION LARSON ENTERPRISES INC.        | CLEARFIELD | PA    | 8              | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 171,616   | 0                            | 171,616  |  |
| 13   | BUFFALO COAL CO. INC., PREP PLANT                     | GRANT      | WV    | 1              | 34,621                 | 64,735              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 99,356    | 0                            | 99,356   |  |
| 14   | FALKIRK MINING CO.                                    | MC LEAN    | ND    | 1              | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 75,220    | 0                            | 75,220   |  |
| 15   | KEPLER PROCESSING COMPANY-POCAHONTAS NO 51 PREP PLANT | WYOMING    | WV    | 1              | 0                      | 70,301              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 70,301    | 0                            | 70,301   |  |
| 16   | ELK RUN COAL CO. STOKER PLANT                         | BOONE      | WV    | 1              | 0                      | 3,511               | 0                | 0                     | 0                  | 0                 | 247                     | 0                 | 0                     | 63,568    | 0       | 67,326    | 0                            | 67,326   |  |
| 17   | MILLER CREEK MINE                                     | GREENE     | IN    | 1              | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 56,426                  | 0                 | 0                     | 0         | 0       | 56,426    | 0                            | 56,426   |  |
| 18   | OWAR MINING CO.                                       | BOONE      | WV    | 1              | 0                      | 54,378              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 54,378    | 0                            | 54,378   |  |
| 19   | METITKI COAL CORP.                                    | GARRETT    | MD    | 2              | 7,001                  | 1,450               | 0                | 45,000                | 0                  | 0                 | 200                     | 60                | 0                     | 0         | 0       | 53,711    | 0                            | 53,711   |  |
| 20   | PATRIOT MINING CO. INC. - OSAGE MINE                  | MONONGALIA | WV    | 5              | 0                      | 2,413               | 0                | 0                     | 0                  | 0                 | 50,661                  | 0                 | 0                     | 0         | 0       | 53,274    | 0                            | 53,274   |  |
| 21   | CEDAR CREEK MINE                                      | SCHUYLER   | IL    | 3              | 0                      | 1,493               | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 46,531  | 48,024    | 0                            | 48,024   |  |
| 22   | PEERLESS EAGLE PLANT NO. 1                            | NICHOLAS   | WV    | 1              | 0                      | 43,598              | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 43,598    | 0                            | 43,598   |  |
| 23   | TDK COAL SALES INC.                                   | JEFFERSON  | PA    | 2              | 0                      | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 41,225  | 0         | 41,225                       |  |  |
| 24   | C & K COAL CO. - SMP #16703008                        | CLARION    | PA    | 3              | 3                      | 15                  | 0                | 0                     | 0                  | 0                 | 34,264                  | 0                 | 0                     | 0         | 3,217   | 37,469    | 0                            | 37,469   |  |
| 25   | BALLEY/ENLOW FORK MINING COMPLEX                      | WASHINGTON | PA    | 3              | 36,850                 | 0                   | 0                | 0                     | 0                  | 0                 | 0                       | 0                 | 0                     | 0         | 0       | 37,040    | 0                            | 37,040   |  |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

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Top Facilities with Largest Total On-site and Off-site Releases 1998  
ELECTRIC UTILITIES - SIC CODES 4911/4931/4939

| Rank | Facility   | County       | State | Total<br>Forms | Total Air<br>Emissions | Surface<br>Water<br>Discharges | Underground Injection |                     | RCRA<br>Suble C<br>Landfills | On-site Land Releases |                   |                         |                   | Total<br>On-site<br>Releases | Off-site<br>Releases | Total On-<br>and Off-site<br>Disposal<br>Releases |
|------|--|--------------|-------|----------------|------------------------|--------------------------------|-----------------------|---------------------|------------------------------|-----------------------|-------------------|-------------------------|-------------------|------------------------------|----------------------|---|
|      |  |              |       |                |                        |                                | Class I<br>Wells      | Class II-V<br>Wells |                              | Other<br>Landfills    | Land<br>Treatment | Surface<br>Impoundments | Other<br>Disposal |                              |                      |   |
| 1    | BOWEN STEAM ELECTRIC GENERATING PLANT              | BARTOW       | GA    | 14             | 18 052 259             | 18 589                         | 0                     | 0                   | 0                            | 0                     | 0                 | 1 430 077               | 0                 | 19 500 925                   | 18                   | 19 500 943  |
| 2    | AMERICAN ELECTRIC POWER, JOHN E. AMOS PLANT        | PUTNAM       | WV    | 14             | 16 708 646             | 7 865                          | 0                     | 0                   | 0                            | 0                     | 0                 | 791 400                 | 55                | 17 508 966                   | 1 489 488            | 18 998 464  |
| 3    | ROXBORO STEAM ELECTRIC PLANT                       | PERSON       | NC    | 15             | 15 148 574             | 7 803                          | 0                     | 0                   | 0                            | 1 721 000             | 0                 | 413 500                 | 0                 | 17 280 877                   | 0                    | 17 280 877  |
| 4    | DAYTON POWER & LIGHT CO. J.M. STUART STATION       | ADAMS        | OH    | 18             | 12 078 594             | 12 778                         | 0                     | 0                   | 0                            | 0                     | 0                 | 3 270 000               | 0                 | 16 081 282                   | 10                   | 16 081 292  |
| 5    | AMERICAN ELECTRIC POWER MITCHELL PLANT             | MARSHALL     | WV    | 15             | 13 075 320             | 13 766                         | 0                     | 0                   | 0                            | 0                     | 0                 | 1 404 700               | 549               | 14 484 335                   | 5 609                | 14 500 144  |
| 6    | FIRSTENERGY, W.H. SAMMIS PLANT                     | JEFFERSON    | OH    | 18             | 12 115 408             | 11 273                         | 0                     | 0                   | 0                            | 0                     | 2 148             | 0                       | 0                 | 12 128 827                   | 2 134 500            | 14 263 327  |
| 7    | SCHERER STEAM ELECTRIC GENERATING PLANT            | MONROE       | GA    | 17             | 8 917 133              | 28 293                         | 0                     | 0                   | 0                            | 0                     | 0                 | 5 008 931               | 0                 | 13 950 362                   | 0                    | 13 950 362  |
| 8    | CARDINAL PLANT                                     | JEFFERSON    | OH    | 15             | 11 323 277             | 156 890                        | 0                     | 0                   | 0                            | 1 420 700             | 0                 | 4 538 000               | 275 560           | 13 178 247                   | 7 587                | 13 185 834  |
| 9    | DETROIT EDISON MONROE POWER PLANT                  | MONROE       | MI    | 15             | 8 059 508              | 11 622                         | 0                     | 0                   | 0                            | 0                     | 0                 | 4 538 000               | 272               | 12 608 402                   | 57                   | 12 608 459  |
| 10   | PSI GIBSON GENERATING STATION                      | GIBSON       | IN    | 17             | 8 128 647              | 0                              | 0                     | 0                   | 0                            | 4 156 000             | 0                 | 110 650                 | 60                | 12 395 357                   | 2                    | 12 395 359  |
| 11   | BRANDON SHORES & WAGNER COMPLEX                    | ANNE ARUNDEL | MD    | 16             | 11 434 848             | 5 065                          | 0                     | 0                   | 0                            | 0                     | 0                 | 3 032                   | 0                 | 11 442 845                   | 7 100                | 11 450 045  |
| 12   | KENTUCKY UTILITIES CO. - GHENT STATION             | CARROLL      | KY    | 15             | 8 471 776              | 104 750                        | 0                     | 0                   | 0                            | 0                     | 0                 | 2 388 500               | 0                 | 10 865 028                   | 0                    | 10 865 028  |
| 13   | U.S. TVA PARADISE FOSSIL PLANT                     | MUHLBERG     | KY    | 17             | 9 065 350              | 80 550                         | 0                     | 0                   | 0                            | 0                     | 0                 | 675 000                 | 10                | 9 850 910                    | 0                    | 9 850 910   |
| 14   | GULF POWER CO. - PLANT CRIST                       | ESCAMBIA     | FL    | 12             | 9 275 450              | 1 621                          | 0                     | 0                   | 0                            | 480 033               | 0                 | 1 646                   | 0                 | 9 758 750                    | 0                    | 9 758 750   |
| 15   | SEMINOLE GENERATING STATION                        | PUTNAM       | FL    | 12             | 8 386 772              | 3 582                          | 0                     | 0                   | 0                            | 1 184 350             | 0                 | 24 297                  | 0                 | 9 599 001                    | 0                    | 9 599 001   |
| 16   | BALDWIN POWER STATION                              | ROANOLPH     | IL    | 26             | 8 450 555              | 0                              | 0                     | 0                   | 0                            | 0                     | 0                 | 1 146 900               | 0                 | 9 597 455                    | 0                    | 9 597 455   |
| 17   | U.S. TVA KINGSTON FOSSIL PLANT                     | ARMSTRONG    | TN    | 15             | 7 817 950              | 54 750                         | 0                     | 0                   | 0                            | 0                     | 0                 | 1 286 100               | 264 400           | 9 423 200                    | 25                   | 9 423 225   |
| 18   | KEYSTONE STATION                                   | ARMSTRONG    | PA    | 12             | 8 730 083              | 17 385                         | 0                     | 0                   | 0                            | 654 600               | 0                 | 0                       | 0                 | 9 402 073                    | 0                    | 9 402 073   |
| 19   | AMERICAN ELECTRIC POWER MOUNTAINEER PLANT          | MASON        | PA    | 15             | 8 552 993              | 4 454                          | 0                     | 0                   | 0                            | 1 128 300             | 0                 | 34 123                  | 55                | 9 219 835                    | 1 060                | 9 220 895   |
| 20   | EME HOMER CITY GENERATION L.P.                     | INDIANA      | PA    | 13             | 8 558 289              | 13 633                         | 0                     | 0                   | 0                            | 324 500               | 0                 | 0                       | 0                 | 9 194 422                    | 0                    | 9 194 422   |
| 21   | AMERICAN ELECTRIC POWER CO. MUSKINGUM RIVER PLANT  | WASHINGTON   | OH    | 13             | 7 930 873              | 23 399                         | 0                     | 0                   | 0                            | 7 700                 | 0                 | 859 000                 | 84 320            | 8 905 292                    | 4 039                | 8 909 331   |
| 22   | FLORIDA POWER CORP. - CRYSTAL RIVER ENERGY COMPLEX | CITRUS       | FL    | 17             | 8 440 499              | 18 900                         | 0                     | 0                   | 0                            | 0                     | 0                 | 333 900                 | 0                 | 8 793 299                    | 178                  | 8 793 477   |
| 23   | OHIO VALLEY ELECTRIC CORP. KYGER CREEK STATION     | GALLIA       | OH    | 12             | 7 707 645              | 15 331                         | 0                     | 0                   | 0                            | 0                     | 0                 | 1 005 000               | 3 100             | 8 731 076                    | 10                   | 8 731 086   |
| 24   | ALABAMA POWER CO. - PLANT BARRY                    | MOBILE       | AL    | 13             | 5 637 540              | 21 099                         | 0                     | 0                   | 0                            | 0                     | 0                 | 2 927 925               | 0                 | 8 586 564                    | 0                    | 8 586 564   |
| 25   | TAMPA ELECTRIC CO. - GANNON STATION                | HILLSBOROUGH | FL    | 12             | 8 000 790              | 2 600                          | 0                     | 0                   | 0                            | 0                     | 0                 | 128 100                 | 9                 | 8 131 499                    | 0                    | 8 131 499   |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

\* Facility also reported SIC code 12 (Coal Mining)

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Top Facilities with Largest Total On-site and Off-site Releases, 1998  
 PETROLEUM BULK TERMINALS - SIC CODE 5171

| Rank | Facility  | County      | State | Total<br>Forms | Total Air<br>Emissions | Surface<br>Water<br>Discharges | Underground Injection |                     |                                | On-site Land Releases |                   |                         |                   | Off-site<br>Releases<br>Transfers<br>Off-site to<br>Disposal | Total On-<br>site and Off-site<br>Releases |
|------|---|-------------|-------|----------------|------------------------|--------------------------------|-----------------------|---------------------|--------------------------------|-----------------------|-------------------|-------------------------|-------------------|--|--|
|      |   |             |       |                |                        |                                | Class I<br>Wells      | Class II/V<br>Wells | RCRA<br>Subsite C<br>Landfills | Other<br>Landfills    | Land<br>Treatment | Surface<br>Impoundments | Other<br>Disposal |  |  |
| 1    | ODGEN AVIATION FUELING CO. INC.                         | ARLINGTON   | VA    | 12             | 970                    | 111,760                        | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 112,730                                    |
| 2    | KOCH PETROLEUM GROUP L.P.                               | NEW HAVEN   | NC    | 11             | 106,832                | 6                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 106,838                                    |
| 3    | NORTHHEAST PETROLEUM NEW HAVEN TERMINAL                 | NEW HAVEN   | CT    | 10             | 80,223                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 22,207   | 102,430                                    |
| 4    | MOTIVA SEAWARD TERMINAL                                 | MIDDLESEX   | NJ    | 7              | 85,215                 | 23                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 1,252  | 86,460                                     |
| 5    | EQUILON CARSON TERMINAL                                 | LOS ANGELES | CA    | 18             | 64,365                 | 10                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 2,070  | 66,465                                     |
| 6    | CLARK REFINING & MARKETING INC.                         | LAKE        | IN    | 8              | 61,300                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 61,300                                     |
| 7    | PHILLIPS PIPE LINE CO. - DENVER TERMINAL                | ADAMS       | CO    | 10             | 19,940                 | 515                            | 0                     | 0                   | 0                              | 0                     | 10                | 0                       | 34,390            | 0  | 54,845                                     |
| 8    | CITGO PETROLEUM CORP.                                   | LAKE        | IN    | 9              | 53,787                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 769  | 54,556                                     |
| 9    | AMOCO PIPELINE CO. - BEAUMONT TERMINAL                  | JEFFERSON   | TX    | 8              | 52,020                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 52,020                                     |
| 10   | PHILLIPS PIPE LINE CO. - PASADENA TERMINAL              | HARRIS      | TX    | 9              | 50,300                 | 770                            | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 51,070                                     |
| 11   | GULF OIL LTD. PTNR. NEW HAVEN TERMINAL                  | NEW HAVEN   | CT    | 8              | 46,795                 | 40                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 3,000  | 49,835                                     |
| 12   | CLARK REFINING & MARKETING INC.                         | WAYNE       | MI    | 7              | 48,100                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 48,100                                     |
| 13   | NORTHVILLE INDS. CORP.                                  | UNION       | NJ    | 7              | 47,704                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 47,704                                     |
| 14   | MOBIL OIL EAST PROVIDENCE TERMINAL                      | PROVIDENCE  | RI    | 6              | 18,881                 | 30                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 27,591   | 46,502                                     |
| 15   | GULF OIL LTD. PTNR. CHELSEA TERMINAL                    | SUFFOLK     | MA    | 8              | 41,098                 | 40                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 4,137  | 45,275                                     |
| 16   | PHILLIPS PIPE LINE CO. EAST ST. LOUIS TERMINAL          | ST. CLAIR   | IL    | 7              | 41,954                 | 35                             | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 1,800             | 0  | 43,589                                     |
| 17   | MOBIL OIL SPRINGFIELD TERMINAL                          | HAMPDEN     | MA    | 6              | 13,723                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 7,063             | 28,311   | 42,034                                     |
| 18   | TIDEWATER TERMINAL CO. SNAKE RIVER TERMINAL             | FRANKLIN    | WA    | 12             | 24,585                 | 328                            | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 10,072   | 41,720                                     |
| 19   | GLOBAL PETROLEUM CORP.                                  | SUFFOLK     | MA    | 7              | 40,608                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 40,608                                     |
| 20   | ARCO PRODS. CO. HATHAWAY TERMINAL                       | LOS ANGELES | CA    | 8              | 40,888                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 40,888                                     |
| 21   | GULF OIL LTD. PTNR. SOUTH PORTLAND TERMINAL             | CUMBERLAND  | ME    | 8              | 24,427                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 24,427   | 40,091                                     |
| 22   | GLOBAL REVOO TERMINAL L.L.C.                            | SUFFOLK     | MA    | 7              | 30,220                 | 8,801                          | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 39,021   | 39,021                                     |
| 23   | CARLOS R. LEFFLER INC. TUCKERTON FACILITY               | BERKS       | PA    | 8              | 38,136                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 38,136                                     |
| 24   | COASTAL FUELS MARKETING INC. - PORT EVERGLADES TERMINAL | BROWARD     | FL    | 13             | 36,870                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 1,035             | 0  | 37,905                                     |
| 25   | TOSCO DISTRIBUTION WEST HONOLULU TERMINAL               | HONOLULU    | HI    | 9              | 37,140                 | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0  | 37,140                                     |

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Top Facilities with Largest Total On-site and Off-site Releases 1993  
CHEMICAL WHOLESALERS - SIC CODE 5199

| Rank | Facility                                 | County       | State | Total<br>Farms | Total Air<br>Emissions | Surface<br>Water<br>Discharges | Underground Injection |                      | On-site Land Releases           |                    |                   |                         | Total<br>On-site<br>Releases | Off-site<br>Releases<br>Transfers<br>to Off-site<br>Disposal | Total On-<br>site and Off-site<br>Releases |                   |
|------|--|--------------|-------|----------------|------------------------|--------------------------------|-----------------------|----------------------|---------------------------------|--------------------|-------------------|-------------------------|------------------------------|--|--|-------------------|
|      |  |              |       |                |                        |                                | Class I<br>Wells      | Class II/IV<br>Wells | ECRA<br>Subclass C<br>Landfills | Other<br>Landfills | Land<br>Treatment | Surface<br>Impoundments |                              |  |  | Other<br>Disposal |
| 1*   | IXIUL CHEMICAL CORP                      | CITY/HOGA    | OH    | 25             | 20,124                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 20,124   | 108,710                                    | 128,834           |
| 2    | HAUL REFRIGERANTS INC                    | CUMBERLAND   | IL    | 7              | 112,079                | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 112,079  | 0  | 112,079           |
| 3    | CELAHESE LTD BAYPORT TERMINAL            | HARRIS       | TX    | 13             | 83,541                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 83,541   | 18,531                                     | 102,072           |
| 4    | SOUTHCHEM INC                            | DURHAM       | NC    | 23             | 5,528                  | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 77,829                  | 0                            | 83,357   | 12,045                                     | 95,402            |
| 5    | FARMLAND HYDRO L P                       | HILLSBOROUGH | FL    | 1              | 37,000                 | 30                             | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 37,000   | 0  | 37,000            |
| 6    | UNION CARBIDE CARIBE L L C               | PENNELAS     | PR    | 3              | 13,851                 | 10,789                         | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 24,640   | 0  | 24,640            |
| 7    | UNOCAL AGRICULTURAL PRODS                | BENTON       | WA    | 1              | 8,820                  | 125                            | 0                     | 0                    | 0                               | 0                  | 0                 | 14,000                  | 0                            | 23,545   | 0  | 23,545            |
| 8    | G J CHEMICAL                             | ESSEX        | NJ    | 16             | 22,074                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 22,074   | 0  | 22,074            |
| 9    | DOW CHEMICAL CO LONG BEACH TERMINAL      | LOS ANGELES  | CA    | 10             | 21,530                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 21,530   | 0  | 21,530            |
| 10   | COLEMAN CHEMICAL INC                     | WILL         | IL    | 16             | 2,957                  | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 2,957  | 16,950                                     | 19,907            |
| 11   | ASHLAND DISTRIBUTION CO                  | LOS ANGELES  | CA    | 23             | 19,845                 | 1                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 19,846   | 0  | 19,846            |
| 12*  | PRILLAMAN CHEMICAL CORP MARTINSVILLE DIV | HENRY        | VA    | 15             | 16,378                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 16,376   | 1,121                                      | 17,497            |
| 13   | CF INDS INC TAMPA TERMINAL               | HILLSBOROUGH | FL    | 1              | 17,000                 | 20                             | 0                     | 0                    | 0                               | 0                  | 0                 | 10                      | 0                            | 17,030   | 0  | 17,030            |
| 14   | GREAT WESTERN CHEMICAL CO - RICHMOND     | CONTRA COSTA | CA    | 13             | 2,045                  | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 2,045  | 13,950                                     | 15,995            |
| 15   | ASHLAND DISTRIBUTION CO                  | COOK         | IL    | 24             | 14,839                 | 6                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 14,845   | 0  | 14,845            |
| 16   | SUPERIOR SOLVENTS & CHEMICALS            | ST LOUIS     | MO    | 14             | 14,204                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 14,204   | 0  | 14,204            |
| 17   | HCI CHEMTECH INDS INC                    | MECKLENBURG  | NC    | 25             | 13,785                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 13,785   | 0  | 13,785            |
| 18   | ASHLAND DISTRIBUTION CO                  | MULTNOMAH    | OR    | 9              | 2,785                  | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 2,785  | 10,450                                     | 13,235            |
| 19   | GREAT WESTERN CHEMICAL CO - PORTLAND     | SUFFOLK      | MA    | 14             | 13,181                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 13,181   | 0  | 13,181            |
| 20** | HOUGHTON CHEMICAL CORP                   | POTTER       | TX    | 3              | 11,750                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,750   | 0  | 11,750            |
| 21   | TECH SPRAY INC                           | SUMMIT       | OH    | 19             | 11,483                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,483   | 0  | 11,483            |
| 22   | ASHLAND DISTRIBUTION CO                  | DALLAS       | TX    | 19             | 11,446                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,446   | 0  | 11,446            |
| 23   | CHEMCENTRAL/DALLAS                       | MULTNOMAH    | OR    | 18             | 11,072                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,072   | 0  | 11,072            |
| 24   | VAN WATERS & ROGERS INC                  | MULTNOMAH    | OR    | 14             | 11,048                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,048   | 0  | 11,048            |
| 25   | CHEMCENTRAL/PORTLAND                     | MULTNOMAH    | OR    | 14             | 11,048                 | 0                              | 0                     | 0                    | 0                               | 0                  | 0                 | 0                       | 0                            | 11,048   | 0  | 11,048            |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.  
Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

\* Facility also reported SIC code 7389 (RCRA/Solvent Recovery)

\*\* Facility also reported SIC code 28 (Chemicals and Allied Products)

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.



| Rank | Facility  | County       | State | Total<br>Forms | Total Air<br>Emissions | Surface<br>Water<br>Discharges | Underground Injection |                     |                                | On-site Land Releases |                   |                         |                   | Off-site<br>Releases         |   |
|------|---|--------------|-------|----------------|------------------------|--------------------------------|-----------------------|---------------------|--------------------------------|-----------------------|-------------------|-------------------------|-------------------|------------------------------|---|
|      |   |              |       |                |                        |                                | Class I<br>Wells      | Class II/V<br>Wells | RCRA<br>Subsite C<br>Landfills | Other<br>Landfills    | Land<br>Treatment | Surface<br>Impoundments | Other<br>Disposal | Total<br>On-site<br>Releases | Total On-<br>site and<br>Off-site<br>Releases |
| 1    | ENVIROSAFE SERVICES OF OHIO INC.                        | LUCAS        | OH    | 12             | 1,143                  | 0                              | 0                     | 0                   | 50,522,000                     | 0                     | 0                 | 0                       | 0                 | 50,523,143                   | 80,895  |
| 2    | ENVIROSAFE SERVICES OF IDAHO INC.                       | OWYHEE       | ID    | 17             | 12,465                 | 0                              | 0                     | 0                   | 31,641,000                     | 0                     | 0                 | 0                       | 0                 | 31,653,465                   | 40  |
| 3    | PEORIA DISPOSAL CO. #1                                  | PEORIA       | IL    | 12             | 542                    | 10                             | 0                     | 0                   | 21,600,700                     | 0                     | 0                 | 0                       | 0                 | 21,601,252                   | 6,815   |
| 4    | WASTE MANAGEMENT OF OHIO INC.                           | SANDUSKY     | OH    | 18             | 7                      | 0                              | 17,841,000            | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 17,841,007                   | 69,264  |
| 5    | SAFETY KLEEN (LONE & GRASSY) INC. GMF                   | TOOELE       | UT    | 28             | 688                    | 0                              | 0                     | 0                   | 14,428,767                     | 858,502               | 0                 | 0                       | 0                 | 15,287,269                   | 15,298  |
| 6    | CHEMICAL WASTE MANAGEMENT OF THE NORTHWEST INC.         | GILLIAM      | OR    | 34             | 4,263                  | 0                              | 0                     | 0                   | 6,105,389                      | 6,688,106             | 0                 | 0                       | 0                 | 12,833,492                   | 15,303,255                                    |
| 7    | CHEMICAL WASTE MANAGEMENT INC.                          | KINGS        | CA    | 24             | 7,944                  | 0                              | 0                     | 0                   | 12,503,177                     | 0                     | 0                 | 35,704                  | 0                 | 12,833,462                   | 9,851   |
| 8    | CHEMICAL WASTE MANAGEMENT                               | SUMTER       | AL    | 19             | 350                    | 0                              | 0                     | 0                   | 12,080,964                     | 0                     | 0                 | 0                       | 0                 | 12,511,127                   | 3,545   |
| 9    | WAYNE DISPOSAL INC.                                     | WAYNE        | MI    | 30             | 8,760                  | 0                              | 0                     | 0                   | 8,258,900                      | 0                     | 0                 | 0                       | 0                 | 12,061,314                   | 167,026                                       |
| 10   | SOUTHEASTERN CHEMICAL & SOLVENT CO. INC.                | SUMTER       | SC    | 52             | 4,710                  | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 12,061,314                   | 167,026                                       |
| 11   | ENVIROSAFE OF OHIO INC.                                 | STARK        | OH    | 10             | 1,030                  | 1,015                          | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 8,267,660                    | 1,067,659                                     |
| 12   | SAFETY-KLEEN (LONE & GRASSY) MTN. INC. - LONE MTN. FAC. | MAJOR        | OK    | 18             | 1,737                  | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 8,129,875                    | 8,983,615                                     |
| 13   | CWM CHEMICAL SERVICES L.L.C.                            | NIAGARA      | NY    | 17             | 13                     | 816                            | 0                     | 0                   | 6,642,012                      | 0                     | 0                 | 0                       | 0                 | 6,643,748                    | 10,525  |
| 14   | HERITAGE ENVIRONMENTAL SERVICES L.L.C.                  | MARION       | IN    | 15             | 795                    | 165                            | 0                     | 0                   | 6,231,080                      | 0                     | 0                 | 0                       | 0                 | 6,231,093                    | 41,380  |
| 15   | CRYSTAL CLEAN SERVICES L.L.C.                           | MARION       | IN    | 15             | 795                    | 165                            | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 0                            | 980   |
| 16   | SAFETY-KLEEN (PINWOOD)                                  | SUMTER       | SC    | 31             | 1,628                  | 0                              | 0                     | 0                   | 5,145,517                      | 0                     | 0                 | 0                       | 0                 | 5,147,147                    | 5,695,792                                     |
| 17   | MILL SERVICE INC.                                       | WESTMORELAND | PA    | 12             | 3,500                  | 556,260                        | 0                     | 0                   | 1,118,200                      | 0                     | 0                 | 2,824,100               | 0                 | 4,500,060                    | 93,910  |
| 18   | WASTE CONTROL SPECIALIST L.L.C.                         | ANDREWS      | TX    | 11             | 4,982                  | 0                              | 0                     | 0                   | 4,442,731                      | 0                     | 0                 | 0                       | 0                 | 4,447,883                    | 0   |
| 19   | SAFETY-KLEEN (WESTMORELAND) INC.                        | IMPERIAL     | CA    | 13             | 181                    | 0                              | 0                     | 0                   | 4,076,110                      | 0                     | 0                 | 0                       | 0                 | 4,076,304                    | 33  |
| 20   | DISPOSAL SYS. INC.                                      | HARRIS       | TX    | 35             | 189                    | 0                              | 3,832,444             | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 3,832,633                    | 242,649                                       |
| 21   | CHEMICAL WASTE MANAGEMENT - LAKE CHARLES FACILITY       | CALCASIEU    | LA    | 23             | 285                    | 0                              | 0                     | 0                   | 3,803,510                      | 0                     | 0                 | 0                       | 0                 | 3,803,805                    | 12,037  |
| 22   | SAFETY-KLEEN (BUTTERWORTH) INC.                         | KERN         | CA    | 15             | 8,050                  | 0                              | 0                     | 0                   | 3,234,150                      | 296,040               | 0                 | 12,710                  | 0                 | 3,550,950                    | 25  |
| 23   | ENVCYCLE TEXAS INC.                                     | NUJES        | TX    | 7              | 3,285                  | 1,260                          | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 4,632                        | 2,905,734                                     |
| 24   | S&W WASTE INC.  | HUDSON       | NJ    | 26             | 4,285                  | 741                            | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 5,005                        | 2,190,181                                     |
| 25   | ENVIROSAFE OF ILLINOIS INC.                             | COOK         | IL    | 9              | 94                     | 0                              | 0                     | 0                   | 0                              | 0                     | 0                 | 0                       | 0                 | 94                           | 2,077,320                                     |
|      |   |              |       |                |                        |                                |                       |                     |                                |                       |                   |                         |                   |                              | 2,077,414                                     |

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

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Top 20 Chemicals with Largest On-site and Off-site Releases, 1998  
ORIGINAL INDUSTRIES

| CAS<br>Number Chemical           | Total Air<br>Emissions<br>Pounds | Surface<br>Water<br>Discharges<br>Pounds | Underground Injection      |                               | On-site Land Releases                     |                                    |                                     | Off-site<br>Releases                   |  |   |
|----------------------------------|----------------------------------|--|----------------------------|-------------------------------|---|------------------------------------|-------------------------------------|--|--|---|
|                                  |                                  |  | Class I<br>Wells<br>Pounds | Class II-V<br>Wells<br>Pounds | RCRA<br>Subtitle C<br>Landfills<br>Pounds | On-site Land<br>Releases<br>Pounds | Other<br>Land<br>Releases<br>Pounds | Total<br>On-site<br>Releases<br>Pounds | Transfers<br>Off-site to<br>Disposal<br>Pounds | Total On-<br>and Off-site<br>Releases<br>Pounds |
|                                  |                                  |  |                            |                               |   |                                    |                                     |  |  |   |
| -- Zinc compounds                | 6,814,092                        | 1,224,399                                | 241,925                    | 250                           | 7,525,224                                 | 108,863,136                        |                                     | 124,669,026                            | 109,306,567                                    | 233,975,593                                     |
| -- Nitrate compounds             | 638,444                          | 170,668,882                              | 48,677,319                 | 250                           | 5   | 3,271,171                          |                                     | 223,256,071                            | 3,353,061                                      | 226,609,132                                     |
| 67-56-1 Methanol                 | 189,081,882                      | 5,891,181                                | 16,592,794                 | 12,001                        | 16,718                                    | 1,781,957                          |                                     | 213,376,533                            | 1,408,331                                      | 214,784,864                                     |
| 7664-41-7 Ammonia                | 147,704,529                      | 7,136,859                                | 25,247,154                 | 40,854                        | 4,156                                     | 3,303,051                          |                                     | 183,436,603                            | 1,990,966                                      | 185,427,569                                     |
| -- Manganese compounds           | 1,566,352                        | 4,471,582                                | 7,755,610                  | 0                             | 3,708,736                                 | 49,111,842                         |                                     | 66,614,122                             | 39,350,264                                     | 105,964,386                                     |
| 108-88-3 Toluene                 | 97,287,386                       | 38,270                                   | 589,431                    | 500                           | 13,525                                    | 57,945                             |                                     | 97,987,057                             | 1,340,500                                      | 99,327,557                                      |
| 1330-20-7 Xylene (mixed isomers) | 67,821,611                       | 50,450                                   | 120,335                    | 750                           | 645                                       | 39,234                             |                                     | 68,033,025                             | 874,303  | 68,907,328                                      |
| 110-54-3 n-Hexane                | 66,865,261                       | 13,904                                   | 26,006                     | 500                           | 287                                       | 19,550                             |                                     | 66,925,508                             | 88,903   | 67,014,411                                      |
| -- Copper compounds              | 3,527,756                        | 92,518                                   | 187,150                    | 250                           | 88,468                                    | 51,935,641                         |                                     | 55,831,783                             | 8,389,933                                      | 64,221,716                                      |
| 7782-50-5 Chlorine               | 59,750,572                       | 232,817                                  | 61,632                     | 5                             | 5   | 56,117                             |                                     | 60,101,148                             | 26,435   | 60,127,583                                      |
| 100-42-5 Styrene                 | 53,704,396                       | 13,437                                   | 345,945                    | 0                             | 64,668                                    | 258,068                            |                                     | 54,386,514                             | 1,998,942                                      | 56,385,456                                      |
| 7647-01-0 Hydrochloric acid      | 53,980,140                       | 2,575                                    | 100,099                    | 0                             | 0   | 21,860                             |                                     | 54,104,674                             | 1,313,970                                      | 55,418,644                                      |
| 7664-38-2 Phosphoric acid        | 1,220,514                        | 27,703,308                               | 14,201                     | 0                             | 15,819                                    | 21,113,970                         |                                     | 50,067,812                             | 4,899,557                                      | 54,967,369                                      |
| 78-93-3 Methyl ethyl ketone      | 46,364,260                       | 54,800                                   | 343,413                    | 5                             | 9,150                                     | 71,531                             |                                     | 46,843,159                             | 899,080  | 47,742,239                                      |
| -- Chromium compounds            | 351,838                          | 112,325                                  | 874,795                    | 0                             | 439,441                                   | 29,830,307                         |                                     | 31,608,706                             | 14,024,492                                     | 45,633,198                                      |
| 75-15-0 Carbon disulfide         | 43,442,463                       | 4,687                                    | 16,599                     | 0                             | 0   | 1,651                              |                                     | 43,465,400                             | 5,801  | 43,471,201                                      |
| 75-09-2 Dichloromethane          | 39,928,870                       | 15,489                                   | 456,962                    | 0                             | 167,615                                   | 6,153                              |                                     | 40,575,089                             | 253,059  | 40,828,148                                      |
| -- Glycol ethers                 | 37,257,860                       | 192,191                                  | 1,370                      | 0                             | 16,705                                    | 28,366                             |                                     | 37,496,492                             | 834,835  | 38,331,327                                      |
| -- Lead compounds                | 848,992                          | 37,272                                   | 171,660                    | 0                             | 610,217                                   | 15,633,568                         |                                     | 17,301,709                             | 16,944,241                                     | 34,245,950                                      |
| 74-85-1 Ethylene                 | 30,716,905                       | 3,059                                    | 4,217                      | 0                             | 3   | 80                                 |                                     | 30,724,264                             | 1,815  | 30,726,079                                      |
| Subtotal                         | 948,874,123                      | 217,960,005                              | 101,828,617                | 55,365                        | 12,681,387                                | 285,405,198                        |                                     | 1,566,804,695                          | 207,305,055                                    | 1,774,109,750                                   |
| Total                            | 1,256,951,444                    | 223,365,762                              | 210,544,864                | 94,525                        | 15,339,494                                | 340,335,380                        |                                     | 2,046,631,469                          | 332,213,128                                    | 2,378,844,597                                   |

Note: On-site Releases from Section 5 of Form R. Off-site Releases from Section 6 (off-site transfers to disposal) of Form R.

Off-site releases transferred to other TRI facilities reporting such transfers as on-site releases are not included.

Original Industries include forms with only SIC Codes 20-39, forms with no SIC codes in new industries, and

forms with a combination of SIC codes in the range 20-39 and in the new industries from facilities reporting before 1998.

However, forms from one facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years have been included in the new industry category SIC code 10 for the purpose of this analysis.

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Top 20 Chemicals with Largest On-site and Off-site Releases, 1998  
NEW INDUSTRIES

| CAS<br>Number Chemical        | Total Air<br>Emissions<br>Pounds | Surface<br>Water<br>Discharges<br>Pounds | Underground Injection      |                 |                 | On-site Land Releases                     |                                    |                             | Off-site<br>Releases                   |  |   |
|-------------------------------|----------------------------------|--|----------------------------|-----------------|-----------------|---|------------------------------------|-----------------------------|--|--|---|
|                               |                                  |  | Class I<br>Wells<br>Pounds | Class II-V      |                 | RCRA<br>Subtitle C<br>Landfills<br>Pounds | On-site Land<br>Releases<br>Pounds | Other<br>Releases<br>Pounds | Total<br>On-site<br>Releases<br>Pounds | Transfers<br>Off-site to<br>Disposal<br>Pounds | Total On-<br>and Off-site<br>Releases<br>Pounds |
|                               |                                  |  |                            | Wells<br>Pounds | Wells<br>Pounds |   |                                    |                             |  |  |   |
| -- Copper compounds           | 587,519                          | 368,012                                  | 170,262                    | 1,212,884       | 7,291,241       | 1,226,216,319                             |                                    | 1,235,846,237               | 3,991,921                              | 1,239,838,158                                  |   |
| -- Zinc compounds             | 1,905,903                        | 553,785                                  | 350,016                    | 21,411,070      | 31,633,627      | 623,370,970                               |                                    | 679,225,371                 | 12,226,422                             | 691,451,793                                    |   |
| 7647-01-0 Hydrochloric acid   | 535,682,717                      | 11                                       | 0                          | 0               | 358             | 364,060                                   |                                    | 536,047,146                 | 510                                    | 536,047,656                                    |   |
| -- Arsenic compounds          | 199,163                          | 159,587                                  | 0                          | 760,075         | 2,989,099       | 517,851,754                               |                                    | 521,959,678                 | 1,336,267                              | 523,295,945                                    |   |
| -- Manganese compounds        | 529,560                          | 1,008,009                                | 85,000                     | 782,400         | 4,658,489       | 443,269,263                               |                                    | 450,332,721                 | 7,411,062                              | 457,743,783                                    |   |
| 7440-50-8 Copper              | 118,502                          | 17,215                                   | 23,211                     | 0               | 1,565,629       | 276,989,914                               |                                    | 278,714,471                 | 2,997,467                              | 281,711,938                                    |   |
| -- Lead compounds             | 348,276                          | 77,079                                   | 1,005                      | 7,279,134       | 14,889,429      | 209,383,618                               |                                    | 231,978,541                 | 5,242,672                              | 237,221,213                                    |   |
| -- Barium compounds           | 2,197,288                        | 989,273                                  | 250                        | 1,327,000       | 5,448,059       | 159,638,038                               |                                    | 169,599,908                 | 36,692,329                             | 206,292,237                                    |   |
| 7664-93-9 Sulfuric acid       | 167,137,095                      | 2,400,001                                | 0                          | 0               | 65,501          | 20,000                                    |                                    | 169,622,597                 | 20,000                                 | 169,642,597                                    |   |
| 7440-38-2 Arsenic             | 40,471                           | 1,340                                    | 269,393                    | 0               | 1,963,851       | 74,562,786                                |                                    | 76,837,841                  | 304,021                                | 77,141,862                                     |   |
| 7440-66-6 Zinc (fume or dust) | 2,673,274                        | 31,273                                   | 294,942                    | 0               | 66,622,097      | 271,689                                   |                                    | 69,893,275                  | 300,945                                | 70,194,220                                     |   |
| 7664-39-3 Hydrogen fluoride   | 64,851,687                       | 636                                      | 2,900,000                  | 0               | 1,600           | 587,642                                   |                                    | 68,341,565                  | 55,247                                 | 68,396,812                                     |   |
| -- Chromium compounds         | 302,049                          | 114,308                                  | 660,355                    | 14,800          | 3,124,300       | 54,931,529                                |                                    | 59,147,341                  | 5,461,238                              | 64,608,579                                     |   |
| -- Nickel compounds           | 661,549                          | 291,208                                  | 310,005                    | 32,408          | 3,073,025       | 47,340,080                                |                                    | 51,708,275                  | 5,808,154                              | 57,516,429                                     |   |
| -- Antimony compounds         | 11,854                           | 22,136                                   | 0                          | 170,062         | 561,538         | 22,910,406                                |                                    | 23,675,996                  | 150,536                                | 23,826,532                                     |   |
| 7440-47-3 Chromium            | 7,755                            | 25,225                                   | 248,448                    | 12,000          | 1,564,343       | 13,318,790                                |                                    | 15,176,561                  | 1,915,109                              | 17,091,670                                     |   |
| 1332-21-4 Asbestos (friable)  | 138                              | 0  | 0                          | 0               | 6,364,715       | 7,162,791                                 |                                    | 13,527,644                  | 2,142,048                              | 15,669,692                                     |   |
| 7439-92-1 Lead                | 4,837                            | 139                                      | 23,068                     | 0               | 11,949,854      | 755,185                                   |                                    | 12,733,083                  | 1,158,533                              | 13,891,616                                     |   |
| -- Nitrate compounds          | 5,995                            | 907,006                                  | 5,935,087                  | 1,200           | 42,590          | 6,088,363                                 |                                    | 12,980,241                  | 732,694                                | 13,712,935                                     |   |
| -- Cobalt compounds           | 54,897                           | 24,067                                   | 5                          | 12,001          | 164,984         | 12,351,869                                |                                    | 12,607,823                  | 443,633                                | 13,051,456                                     |   |
| Subtotal                      | 777,320,529                      | 6,990,310                                | 11,271,047                 | 33,015,034      | 163,974,329     | 3,697,385,066                             |                                    | 4,689,956,315               | 88,390,808                             | 4,778,347,123                                  |   |
| Total                         | 796,550,006                      | 8,074,161                                | 23,425,024                 | 33,252,393      | 197,617,507     | 3,757,524,074                             |                                    | 4,816,443,165               | 112,049,461                            | 4,928,492,626                                  |   |

Note: On-site Releases from Section 5 of Form R. Off-site Releases from Section 6 (off-site transfers to disposal) of Form R.

Off-site releases transferred to other TRI facilities reporting such transfers as on-site releases are not included.

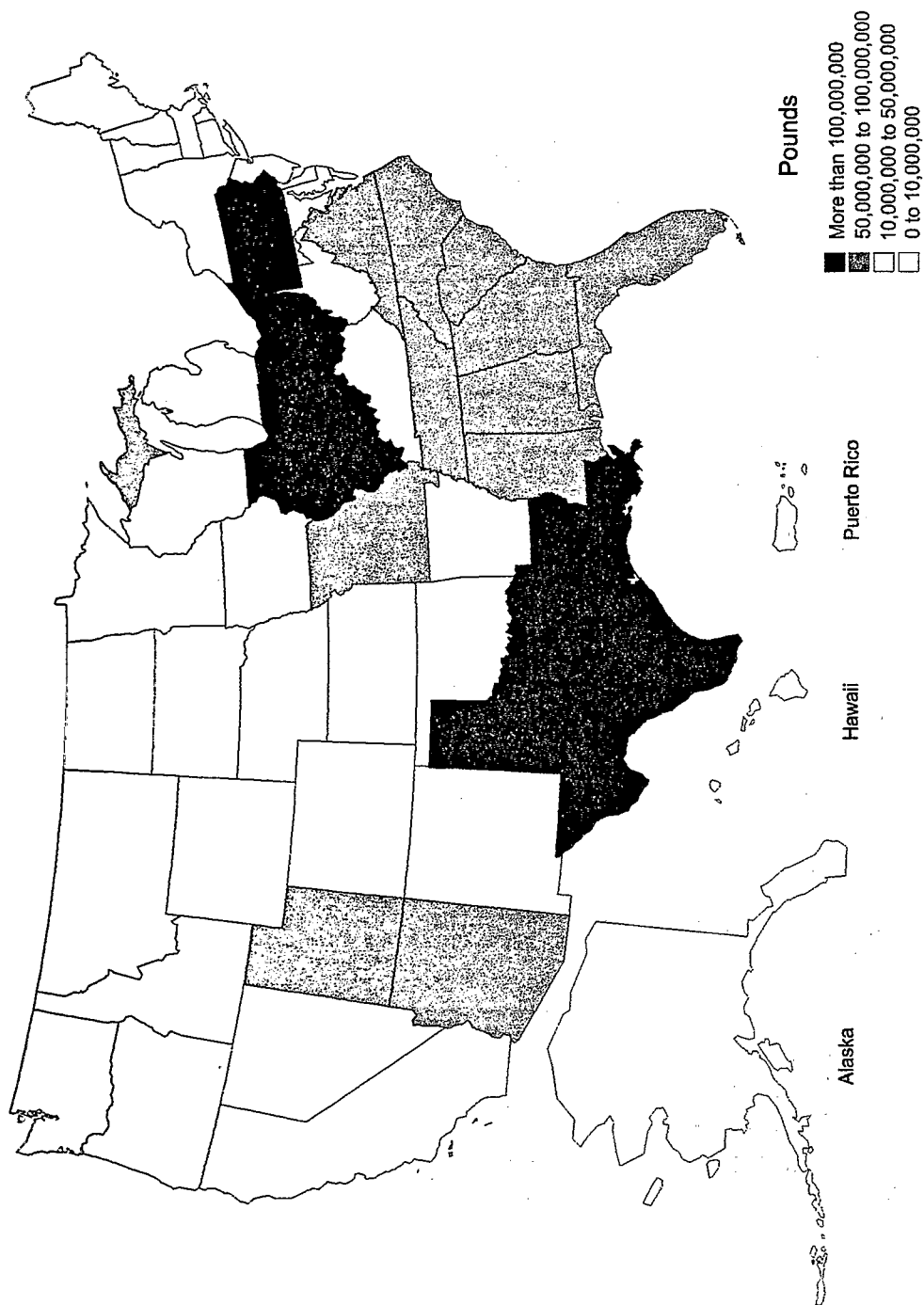
Original Industries include forms with only SIC Codes 20-39, forms with no SIC codes in new industries, and

forms with a combination of SIC codes in the range 20-39 and in the new industries from facilities reporting before 1998.

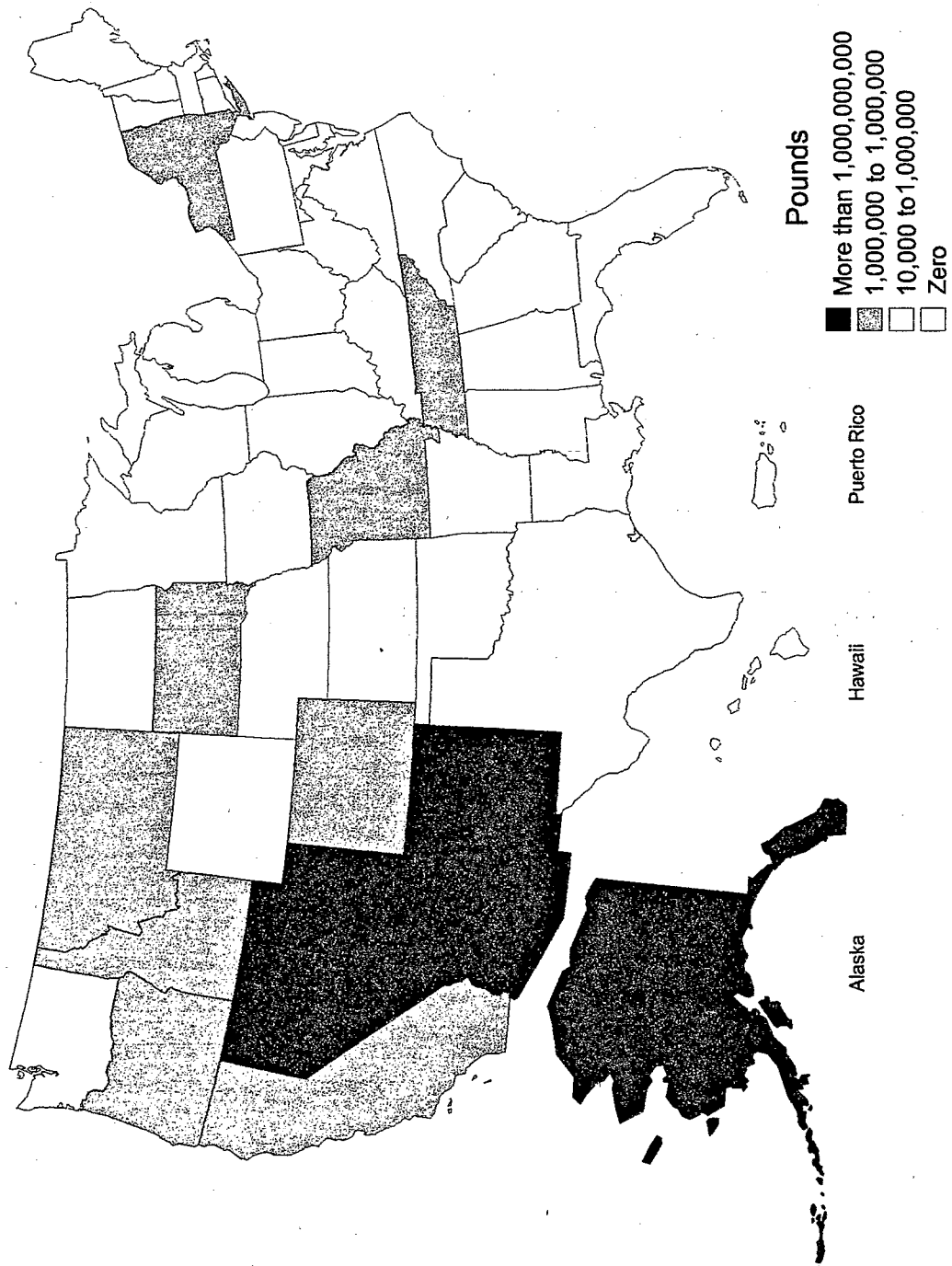
However, forms from one facility, Cyprus Miami Mining in Claypool, AZ, that reported under SIC code 33 and SIC code 10 in 1998 and previous years have been included in the new industry category SIC code 10 for the purpose of this analysis.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities which involve toxic chemicals.

Releases by Manufacturers, by State, 1998

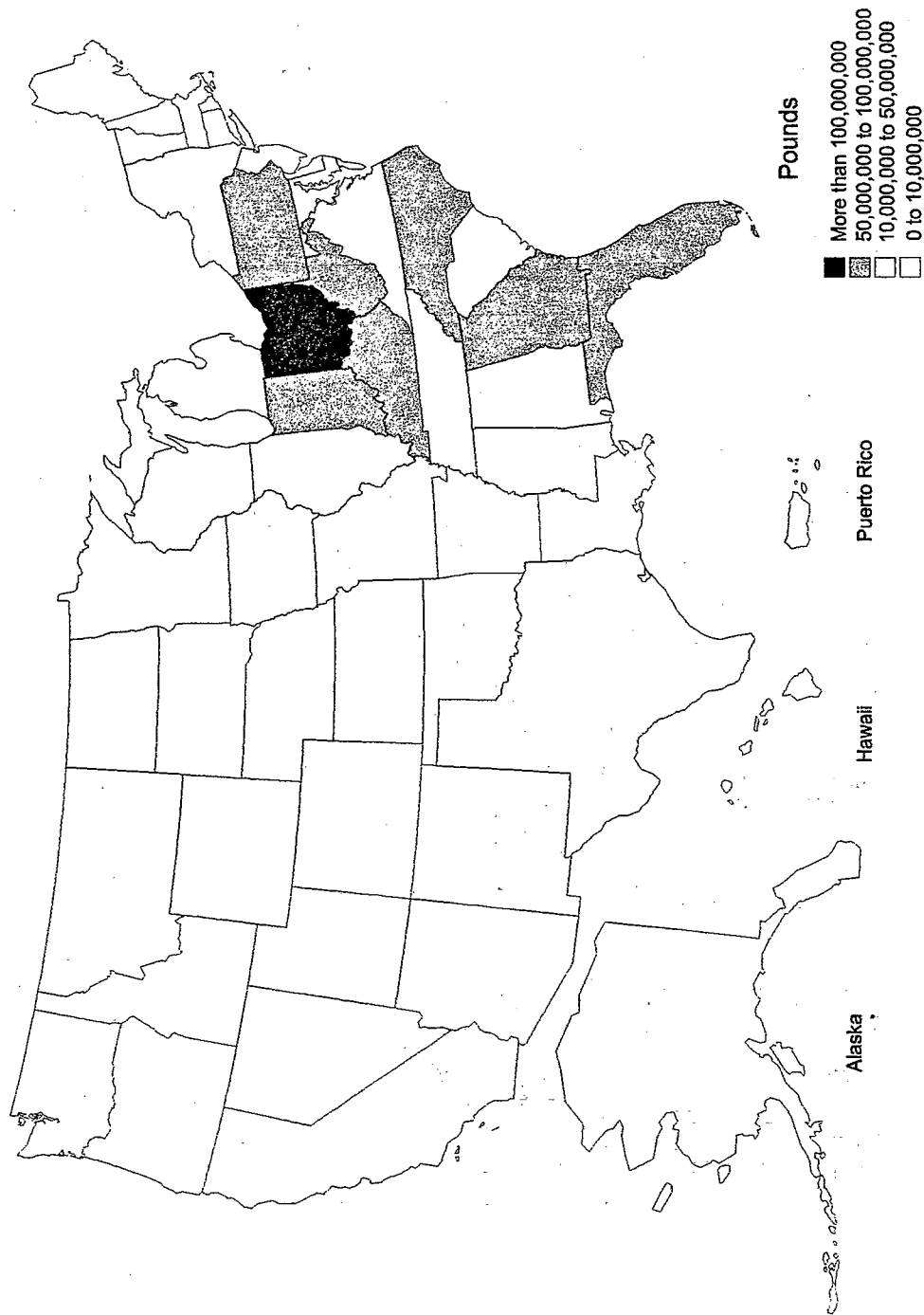


Releases by Metal Mines, by State, 1998

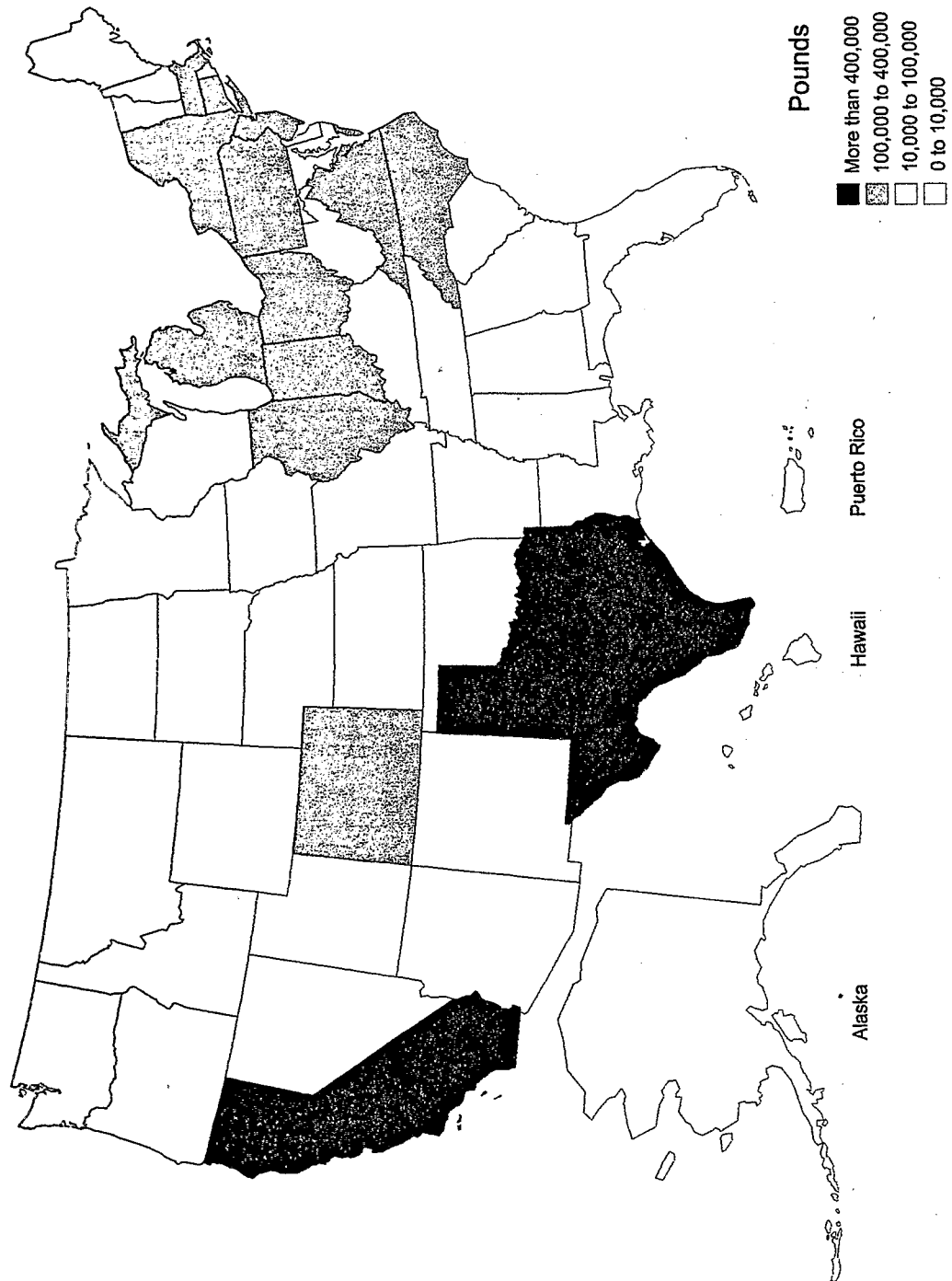




Releases by Electric Utilities, by State, 1998

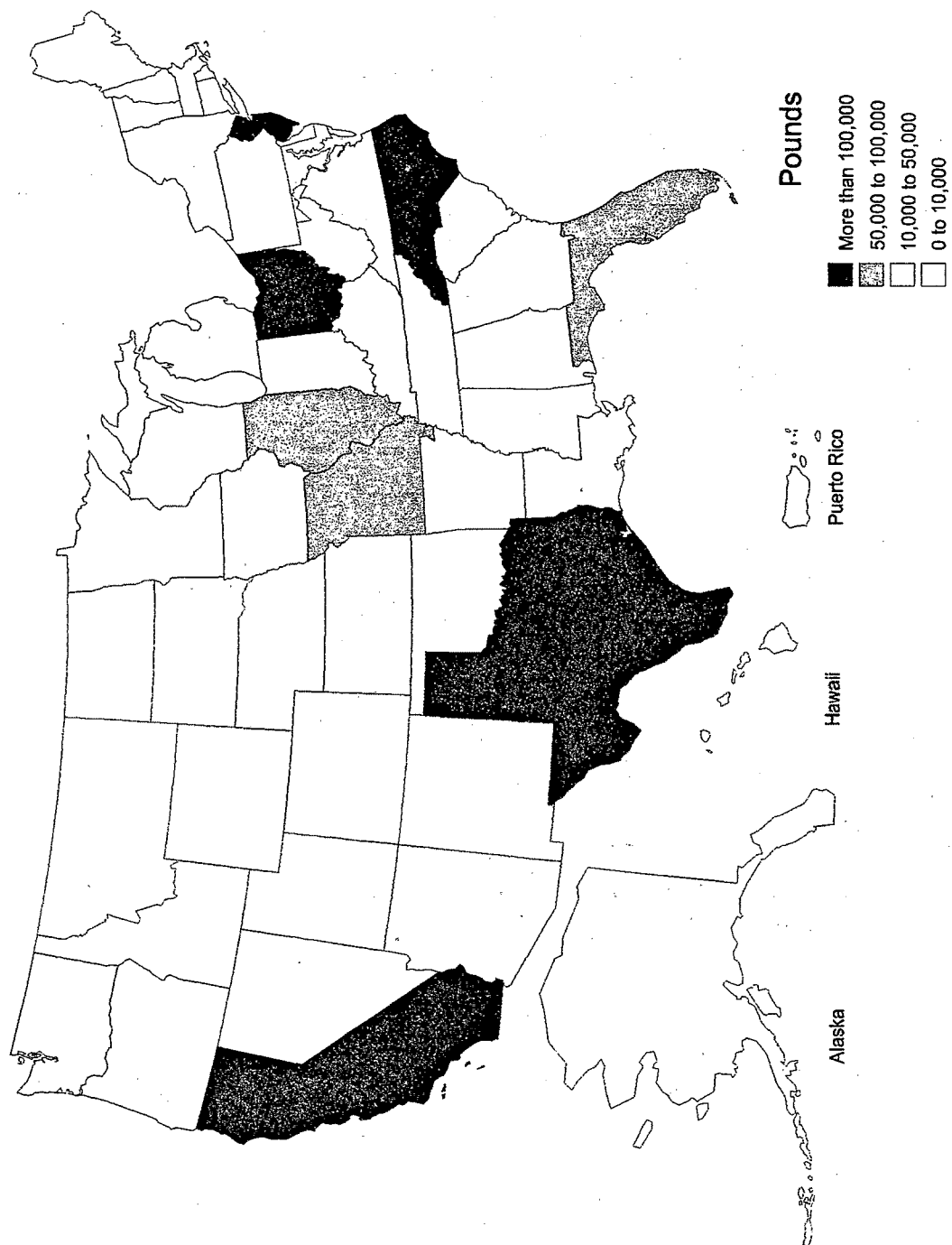


Releases by Petroleum Bulk Terminals, by State, 1998





Releases by Chemical Wholesalers, by State, 1998



Releases by RCRA TSDs and Solvent Recovery Facilities, by State, 1998

