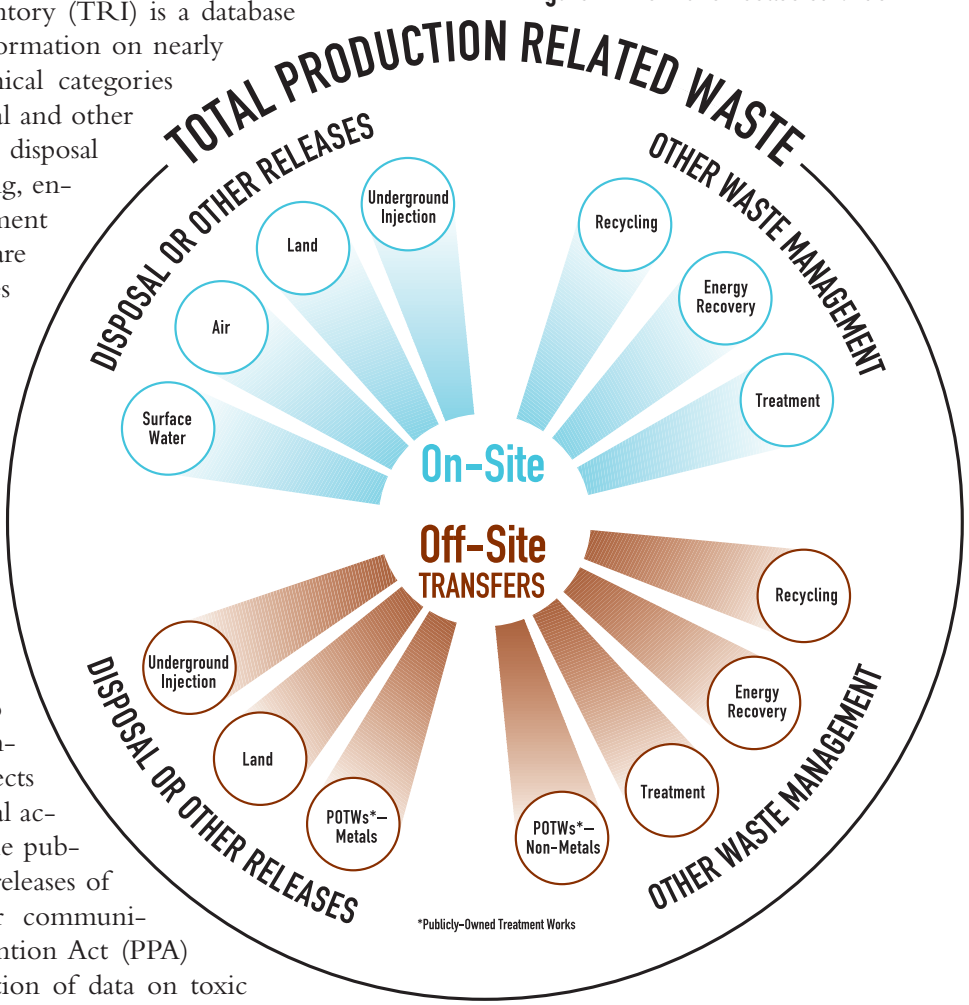
2004
Toxics Release Inventory (TRI) Public Data Release Report

EPA 260-R-06-001
April 2006

What is the Toxics Release Inventory?

Figure 1: Information Collected Under TRI



The Toxics Release Inventory (TRI) is a database that contains detailed information on nearly 650 chemicals and chemical categories that over 23,000 industrial and other facilities manage through disposal or other releases, recycling, energy recovery or treatment (see Figure 1). The data are collected from industries including manufacturing, metal and coal mining, electric utilities, commercial hazardous waste treatment, and other industrial sectors.

Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA) of 1986 was enacted to facilitate emergency planning, to minimize the effects of potential toxic chemical accidents, and to provide the public with information on releases of toxic chemicals in their communities. The Pollution Prevention Act (PPA) of 1990 mandates collection of data on toxic chemicals that are treated on-site, recycled, and combusted for energy recovery. Together, these laws require facilities in certain industries, which manufacture, process, or use toxic chemicals above specified amounts, to report annually on disposal or other releases and other waste management activities related to these chemicals.

The U.S. Environmental Protection Agency (EPA) maintains this information in a national database called the Toxics Release Inventory, which is available to the public via the Internet (**www.epa.gov/tri**).

What are the benefits of TRI data?

The TRI provides the public with unprecedented access to information about toxic chemical releases and other waste management activities on a local, state, regional and national level.

TRI data help the public, government officials and industry:

- identify potential concerns and gain a better understanding of potential risks;
- identify priorities and opportunities to work with industry and government to reduce toxic chemical disposal or other releases and potential risks associated with them; and
- establish reduction targets and measure progress toward reduction goals.

TRI data are widely used across EPA programs. For example, the National Partnership for Environmental Priorities, an element of the Resource Conservation Challenge (RCC), uses TRI data to identify facilities that may present pollution prevention opportunities. EPA also uses TRI data in the Risk Screening Environmental Indicator (RSEI) tool, which provides users with additional understanding of chronic human health and potential exposures associated with TRI chemicals. You can search for other EPA programs and tools that utilize TRI data by visiting EPA's Web Site at **www.epa.gov** or from EPA's publication *How are the Toxics Release Inventory Data Used?* at **www.epa.gov/tri/guide_docs/2003_datausepaper.pdf**.

What are the limitations of the TRI data?

Users of TRI data should be aware that TRI data reflect disposal or other releases and other waste management of chemicals, not whether (or to what degree) the public has been exposed to them. Both the toxicity of a chemical and exposure considerations should be taken into account when using the data.

- TRI chemicals vary widely in **toxicity**, or their potential to produce toxic effects. Some high-volume releases of less toxic chemicals may appear to be more serious than lower-volume releases of highly toxic chemicals, when just the opposite may be true.
- The potential for **exposure** may be greater the longer the chemical remains unchanged in the environment. Sunlight, heat, or microorganisms may or may not decompose the chemical. Smaller releases of a persistent, highly toxic chemical may create a more serious problem than larger releases of a chemical that is rapidly converted to a less toxic form.

For more detailed information on this subject refer to the *Toxics Release Inventory (TRI) and Factors to Consider When Using TRI Data* document at **www.epa.gov/tri/tridata**.

What should I know about the different types of disposal or other releases?

The TRI Program collects data on a number of different types of disposal or other releases, as well as on certain waste management and recycling practices. Disposal or other releases of chemicals into the environment occur through a range of practices that may ultimately affect the potential for human exposure to the toxic chemicals. Facility releases may include discharges to air, water, and land. Facilities limit contamination and human exposure by disposing of or otherwise releasing waste in certain ways. For example:

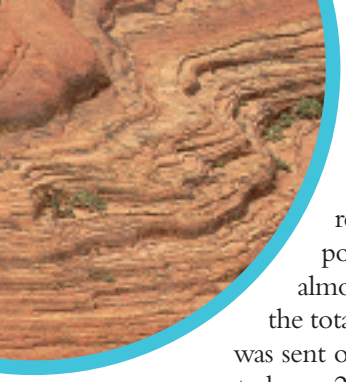
- Disposal of harmful materials to Class I Underground Injection wells located in isolated formations beneath the lowermost underground source of drinking water, which limits potential for contamination; and
- Disposal to landfills that are designed with liners, covers, leak-detection systems, and groundwater monitoring systems also limit the potential for human exposure to the contents of the landfill.

Most disposal or other release practices are subject to a variety of regulatory requirements designed to limit environmental harm. Please refer to the *Toxics Release Inventory (TRI) and Factors to Consider When Using TRI Data* (**www.epa.gov/tri/tridata**) for more information on the differences of these data elements.

What should I know about persistent bioaccumulative toxic (PBT) chemicals?

Starting in 2000, EPA established more stringent reporting thresholds for persistent bioaccumulative toxic (PBT) chemicals originally on, or added to, the TRI chemical list. PBT chemicals are of particular concern not only because they are toxic but also because they remain in the environment for long periods of time, are not readily destroyed, and build up or accumulate in body tissue. The TRI PBT chemicals include dioxin and dioxin-like compounds, lead and lead compounds, mercury and mercury compounds, polycyclic aromatic compounds (PACs), polychlorinated biphenyls (PCBs), and certain pesticides, among other chemicals.

For more detailed information about the Agency's multimedia strategy for priority PBT chemicals, visit EPA's Office of Prevention, Pesticides, and Toxic Substances web site at **www.epa.gov/opptintr/pbt/pbtstrat.htm**.



What do TRI data show for reporting year (RY) 2004?

For RY 2004, 23,675 facilities, including federal facilities, reported to EPA's TRI Program. They reported 4.24 billion pounds of on-site and off-site disposal or other releases of the almost 650 toxic chemicals, as shown in Table 1. Over 87% of the total was disposed of or otherwise released on-site; almost 13% was sent off-site for disposal or other releases. Metal mining facilities reported over 25% and electric utilities reported almost 25% of the total in 2004, as shown in Figure 2.

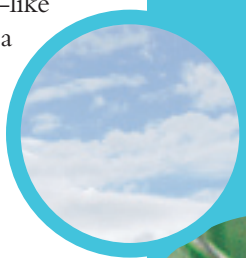
Persistent bioaccumulative toxic (PBT) chemicals accounted for 455.0 million pounds or 11% of reported on- and off-site disposal or other releases in 2004. Of that total, lead and lead compounds accounted for 98% or 445.0 million pounds. Total disposal or other releases for mercury and mercury compounds were 4.8 million pounds and, for dioxin and dioxin-like compounds, they were 111,472 grams (246 pounds).

All federal facilities, whether operated by federal agencies or contractors (e.g. some military bases), are required to report to EPA's TRI Program. For RY 2004, a total of 313 federal facilities submitted 1,007 forms and reported 90.4 million pounds of total on- and off-site disposal or other releases and 218.3 million pounds of production-related waste managed.

How did the TRI data change over time?

From 2003 to 2004, total disposal or other releases on- and off-site decreased by 171.3 million pounds or 4%. On-site disposal or other releases decreased by 5%, while off-site disposal or other releases increased by 5%. Total production-related waste managed increased by 4% over that same time period. Both recycling and treatment increased, while energy recovery and the quantity disposed of or otherwise released decreased from 2003 to 2004.

Disposal or other releases of PBT chemicals decreased by 1% in 2004. However, disposal or other releases for lead and lead compounds increased 4% from 2003 to 2004. Without metal mining, disposal or other releases of lead and lead compounds decreased by 11%. Total disposal or other releases of mercury and mercury compounds decreased by 16% from 2003 to 2004, although air emissions of mercury and its compounds increased by 2%. Total disposal or other releases of dioxin and dioxin-like compounds decreased by 58% from 2003 to 2004. One facility reported a decrease of 137,087 grams (302 pounds) from 2003 to 2004.



Federal facilities showed an overall increase in disposal or other releases of 12.7 million pounds or 16% from 2003 to 2004. Total production-related waste managed at federal facilities increased by 19.7 million pounds or 10%.

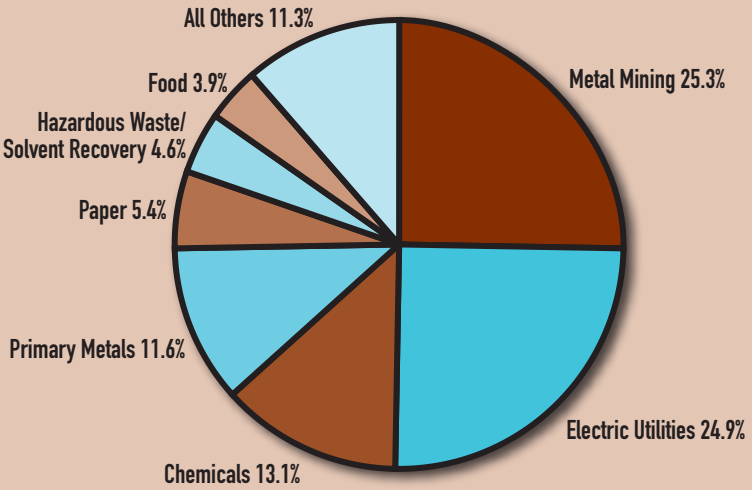
Starting in 1998, additional industries were required to report, including electric utilities, metal and coal mines, commercial hazardous waste treatment facilities and solvent recovery facilities, chemical wholesale distributors and petroleum terminals and bulk stations. From 1998 to 2004, all TRI facilities, including those from the sectors added in 1998, have reported a 10% reduction in total production-related waste managed, including a 45% reduction in the quantity disposed of or otherwise released, as shown in Figure 3.

Manufacturing facilities have been required to report to EPA's TRI Program since 1987. From 1988 to 2004, manufacturing facilities decreased their on- and off-site disposal or other releases by 57%.

Toxics Release Inventory, 2004

23,675 TRI facilities reported 4.24 billion pounds of on- and off-site disposal or other releases for RY 2004

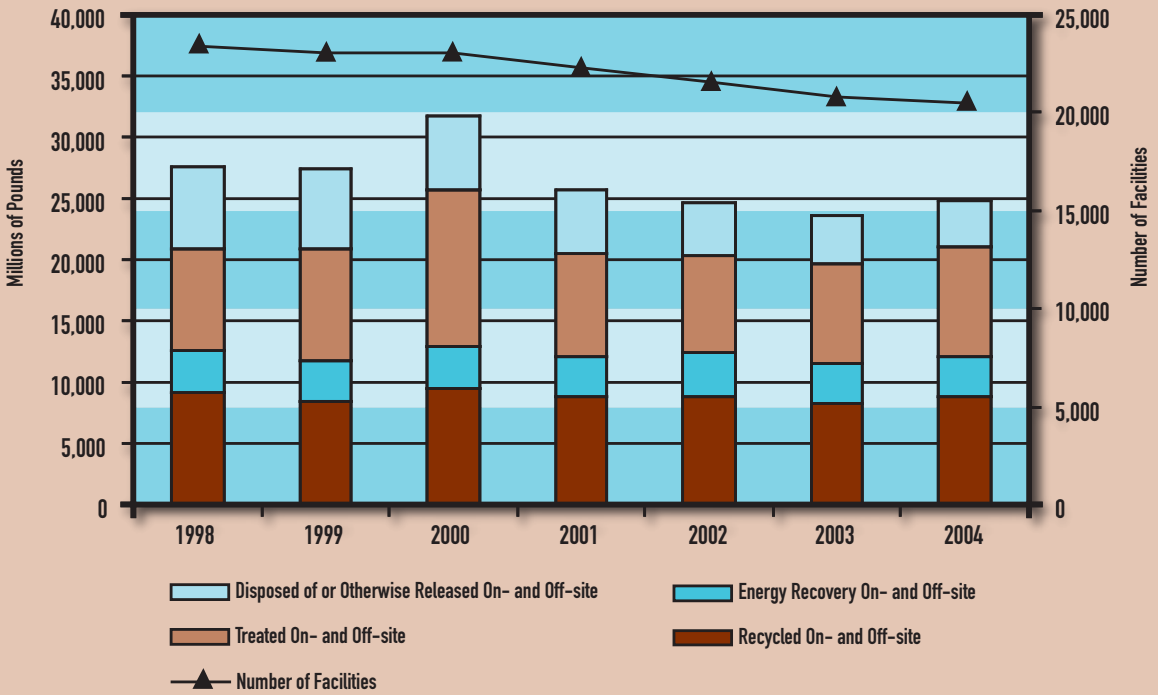
Figure 2: 2004 TRI Total Disposal or Other Releases
4.24 billion pounds



Note: Data are from TRI Form R, Section 5 (all parts) and 6.1 (metals and metal compounds only) and 6.2 (Disposal codes only and metals and metal compounds reported under codes M40 and M61) as of April 2006.

What do TRI data show over a longer period of time?

Figure 3: Total Production-related Waste Managed, 1998-2004



Note: Data are from TRI Form, Section 8, for year indicated. Does not include delisted chemicals, chemicals added in 1990, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, PBT chemicals, sulfuric acid, vanadium and vanadium compounds.Data as of April 2006.

From 1998-2004, total production-related waste managed decreased by 10% and number of facilities reporting decreased by 13%.

TABLE 1: TRI ON-SITE AND OFF-SITE DISPOSAL OR OTHER RELEASES, 2004

ON-SITE DISPOSAL OR OTHER RELEASES	POUNDS	PERCENT
Air	1,548,867,382	36.5
Water	241,075,887	5.7
Underground Injection	237,966,075	5.6
Land	1,680,179,382	39.6
TOTAL ON-SITE DISPOSAL OR OTHER RELEASES	3,708,088,727	87.4
OFF-SITE DISPOSAL OR OTHER RELEASES		
Underground Injection	12,145,713	0.3
Land	496,555,111	11.7
POTWs and Wastewater Treatment	7,790,919	0.2
Other	19,797,536	0.5
TOTAL OFF-SITE DISPOSAL OR OTHER RELEASES	536,289,279	12.6
TOTAL ON- AND OFF-SITE DISPOSAL OR OTHER RELEASES	4,244,378,005	100.0

Note: Data are from TRI Form, Sections 5 (all parts) and 6.1 (metals and metal compounds only) and 6.2 (Disposal codes only and metals and metal compounds reported under codes M40 and M61). Does not include transfers to disposal or other releases sent to other TRI facilities that reported the amounts as on-site disposal or other releases. Data as of April 2006.

These 23,675 facilities reported 26.1 billion pounds of TRI chemicals in waste managed during 2004. Over 36% was recycled, 34% was treated, 16% was disposed of or otherwise released on- and off-site, and 12% was used for energy recovery, as shown in Table 2.

TABLE 2: QUANTITIES OF TRI CHEMICALS IN WASTE BY WASTE MANAGEMENT ACTIVITY, 2004

WASTE MANAGEMENT ACTIVITY	POUNDS	PERCENT
Quantity Recycled On- and Off-site	9,526,403,262	36.5
Quantity Treated On- and Off-site	9,002,539,771	34.5
Quantity Disposed of or Otherwise Released On- and Off-site	4,335,768,911	16.6
Quantity Used for Energy Recovery On- and Off-site	3,256,798,226	12.5
TOTAL PRODUCTION-RELATED WASTE MANAGED	26,121,510,170	100.0
Non-production-related Waste Managed	21,520,859	

Note: Data are from TRI Form R, Section 8, as of April 2006. The quantity disposed of or otherwise released on- and off-site differs slightly from total on- and off-site disposal or other releases due to the differences in reporting requirements for Section 5 and 6 and Section 8.

What other information is available on the Public Data Release?

EPA has also developed an electronic report (eReport) for the 2004 Public Data Release. This report offers detailed information on the 2004 Public Data release and is available on the TRI Web site. The eReport includes:

- a summary of key findings which provides a detailed look at the 2004 data; and
- additional tables and charts which provide a look at the top chemicals, industries, and facilities for 2004.

To access this report and other information on the TRI the TRI Program, please visit our Web site at **www.epa.gov/tri**.

How can I access TRI data?

TRI Explorer: It's On-line! It's Easy! It's Your Right to Know!

TRI Explorer provides fast and easy access to the TRI data and can answer your questions about a chemical, facility, geographic area, or industry sector. It also provides further details and breakdown on the type of disposal or other releases reported. Find out what chemicals are released to the air by facilities in your state in 2004, what facilities reported in your zip code, or what progress has been made in reducing TRI chemicals since 1988. TRI Explorer provides customized reports on these and many other topics from the TRI data. Users of TRI data can also customize maps of states or counties within a state to their preferences. Each report can be quickly and easily sorted by total disposal or other releases, by fugitive air emissions, by surface water discharges, by disposal to RCRA Subtitle C landfills, etc. Electronic state fact sheets with 2004 data are also available for each state. Visit the TRI Explorer home page to begin creating your own report on TRI data at **www.epa.gov/triexplorer**.

Customize reports,

research data

quickly and easily

from your own computer:

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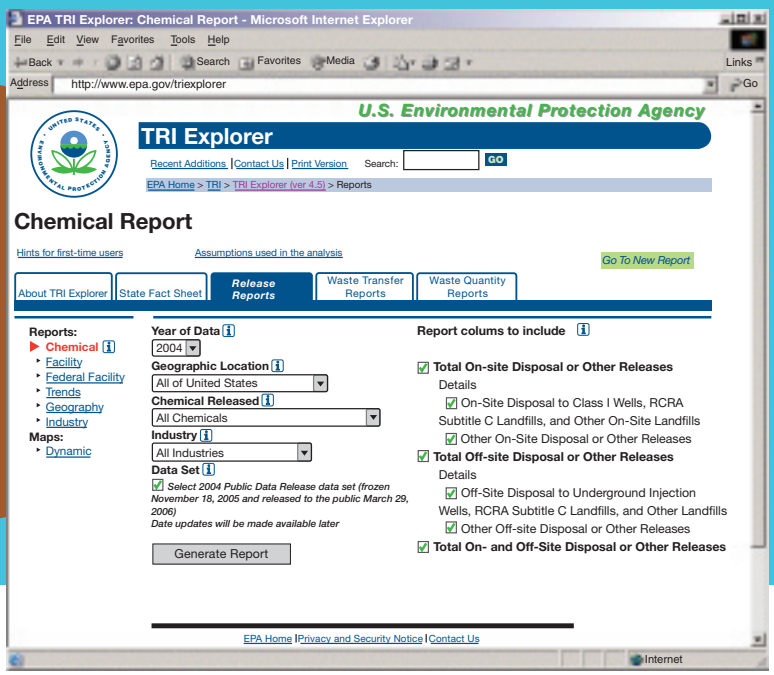

Where can I find contact information?

There are three other options for finding more detailed information:

- You can find out more information about the TRI program by contacting the toll-free Emergency Planning and Community Right-to-Know (EPCRA) Call Center at 1-800-424-9346, or
- You can seek assistance in accessing and using TRI data by contacting the TRI User Support Service 202-566-0250 or e-mailing your questions to **tri.us@epa.gov**, or
- You can find your state or regional TRI coordinator by visiting EPA's TRI web site at **www.epa.gov/tri**.