



Toxic Release Inventory

2007
Annual Report

Ohio Environmental Protection Agency
Division of Air Pollution Control
April, 2009

Executive Summary

Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) provides for the collection and public release of annual Toxic Release Inventory (TRI) reports regarding the release and/or waste management activities of toxic chemicals within the community. Since the first TRI reports were made available to the public in 1987, TRI has expanded to include information on waste generation, additional reportable chemicals and new industrial sectors (based on Standard Industrial Classification (SIC) codes).

USEPA enacted the “TRI Burden Reduction Final Rule” that became in effect for the 2006 reporting year. The rule expanded eligibility for the Form A Certification Statement for Persistent Bioaccumulative Toxic (PBT) chemicals and Non-PBT chemicals. For PBT Chemicals, the rule allowed the use of Form A for facilities with zero releases (both on-site and off-site) and 500 pounds or less of treatment, recycling, and/or energy recovery of PBT chemicals. The rule applied to all PBT chemicals except dioxin and dioxin-like compounds. For non-PBT Chemicals, the rule allowed the use of Form A for a non-PBT chemical with 5000 pounds or less of releases (both on-site and off-site), treatment, recycling, and/or energy recovery, and the contribution of on-site and off-site releases is limited to 2,000 pounds or less.

The Federal 2009 Omnibus Appropriations Act (March 2009) included language that overturned the “TRI Burden Reduction Rule” of 2006. This Act reverted the TRI reporting requirements back to the rules that were in effect prior to December 22, 2006. This change shall be in effect for the Reporting Year 2008 TRI reports that are due July 1, 2009.

Table 1: Comparison of 2006 and 2007 TRI Data

Comparison	2006 Amount	2007 Amount*	Change
Releases to Air	120,232,805	114,805,186	-4.51%
Releases to Water	8,333,519	9,302,383	11.63%
Deepwell Injection	22,499,123	22,254,022	-1.09%
Releases to Land On-Site	79,519,700	74,158,751	-6.74%
Discharges to POTW	16,589,331	17,466,502	5.29%
Off-Site Disposal / Treatment	97,282,387	79,721,526	-18.1%
Total Releases and Transfers	312,944,196	270,862,917	-13.44%
Energy Recovery On-Site	97,525,800	73,855,323	-24.3%
Energy Recovery Off-Site	34,861,022	31,624,617	-9.28%
Recycling On-Site	98,109,569	108,882,369	10.98%
Recycling Off-Site	160,311,904	163,185,689	1.79%
Treatment On-Site	351,236,487	388,475,187	10.60%
Number of Chemicals Reported	312	313	0.30%
Number of Reporting Facilities	1,572	1,477	-6.04%
Number of Form Rs	5,358	5,129	-4.27%
Number of Form As	820	757	-7.68%

* Does not include releases that were transferred off-site to facilities that reported the same chemical under TRI.

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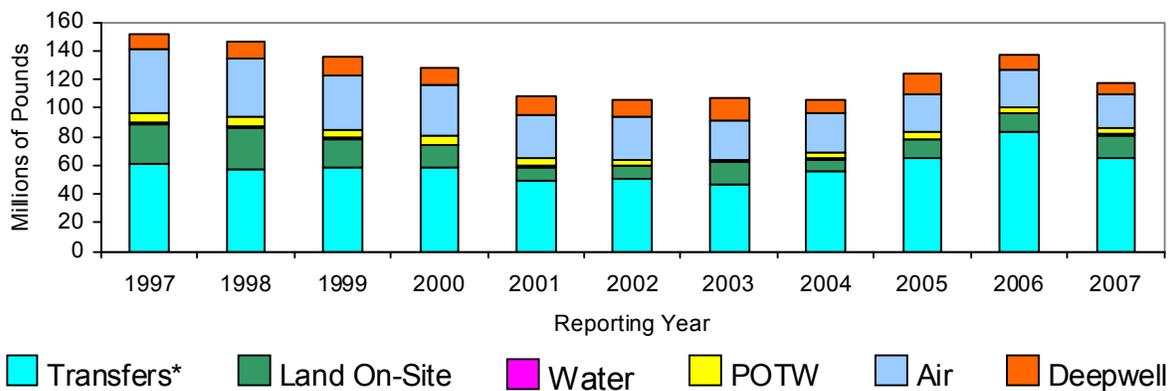
For reporting year 2007, Ohio EPA received 5,129 TRI "Form R" reports from 1,477 facilities. While one-third of these facilities reported a single chemical, the average number of chemicals reported was four. Table 1 compares reporting years 2006 and 2007 TRI data for all reporting facilities.

Total releases and transfers decreased by 13.44% between 2006 and 2007, and with the number of reporting facilities decreasing by 6%. Facility increases and decreases are attributable to many factors including changes in production, the types of measurement used, and pollution prevention efforts implemented to minimize releases and to develop uses or find markets for what might otherwise be a waste. For many Resource Conservation and Recovery Act (RCRA) facilities, which became subject to TRI reporting in 1998, minor waste stream and market changes greatly affect TRI reporting. There can be subtle differences in what makes a material a "waste" and whether it is treated, recycled or used for energy recovery.

This report is a summary of the information collected under Ohio's TRI program. New and revised reports are routinely processed by Ohio EPA as facilities perform "self-audits" or otherwise discover errors. Ideally, state and federal TRI data should be the same, as facilities are required to submit TRI reports to both Ohio EPA and U.S. EPA. However, since the state and federal databases are maintained and updated separately, changes are not always made at the same time and some variation is always possible.

Ohio EPA contacted those facilities that reported significant increase and/or decrease in waste management or releases between 2006 and 2007 to determine the reasons for the changes. The following information was developed through review of summary data and facility responses.

Figure 1: 10-Year TRI Trends
(Original Industries and Chemicals Only)



* Transfers off-site for disposal and treatment.

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Air Releases

Air releases were down 4.51% for 2007 to slightly over 114.8 million pounds. As in past years, Ohio power generating facilities reported the largest TRI releases, occupying eight (8) of the top ten (10) spots on the top-ten air releases. Power generating facility releases consist primarily of hydrochloric and sulfuric acid aerosols, resulting from the combustion of coal. These two chemicals constitute over 63% of all the reported air releases. Trace amounts of various metals within the coal, including barium and chromium are released as combustion compounds. Two (2) AEP power plants reported air release increases of 1 million pounds or more: AEP's Conesville (Coshocton County), and Muskingum River Plant. AEP notes that the increase is due to the increase in production. AEP's Cardinal plant reduced its air releases by more than 1 million pounds, due to decreased production.

Dayton Power and Light company (Adams County) reduced its air releases by more than 1.2 million pounds by installing sulfur dioxide control equipment. Duke Energy Miami Fort Generating Station (Hamilton County) reduced its air releases by more than 1.3 million pounds as a result of removing one production unit, the reduction in generation due to outage, and installing new scrubbers. First Energy's Eastlake Plant (Lake County) reduced its air releases by more than 1.6 million pounds due to decrease in production. In addition to the decrease in production levels, the amount of western bituminous coal (or PRB) combusted was significantly greater in 2007 than in 2006. PRB has lower chlorine and sulfur content than eastern bituminous coal. The lower production factor and increased use of PRB led to the significant decrease in hydrogen chloride (HCl) and sulfuric acid (H₂SO₄) releases.

Water Releases

Water releases increased by 11.63%. AK Steel's (Coshocton County) led the state in TRI water releases with more than 4 million pounds of TRI reported chemicals discharged. The AK Steel's releases remain primarily nitrates and the increase is attributed to increased production. Brush Wellman (Ottawa County) ranked second, but reported a 3% decrease from 2006. Brush Wellman notes that the decreases were attributed to changes in production rates and product mix of materials that are pickled with nitric acid which results in the production of nitrate compounds.

Nitrate releases accounted for more than 91% of all reported releases to Ohio waterways in 2007. Nitrate compounds are coincidentally manufactured by way of the treatment of nitric acid and are routinely permitted and monitored under the terms of NPDES (National Pollution Discharge Elimination System permits, monitored by this Agency through the Division of Surface Water).

Deepwell Injection

In Ohio, only two (2) facilities reported TRI deepwell injection for 2007 with a reduction of 1.09 percent. Vickery Environmental Services, a RCRA regulated disposal facility in Vickery (Sandusky County) reported an increase of more than 2.6 million pounds. An increase of approximately 24% from 2006. This increase is related to the increase in waste receipts received by the facility. INEOS USA LLC, in Lima (Allen County) reported a 1.1 million pound (more than 22%) reduction from the

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6.9 million pounds reported in 2006 to 6 million pounds reported in 2007. INEOS USA LLC notes that the decrease in sales of acrylonitrile and a change in process catalyst resulted in decreased production in 2007.

Land Releases On-Site

On-Site land releases were down for 2007, decreasing by 6.74 percent to slightly over 74.15 million pounds. The largest decrease of approximately 9.7 million pounds is attributed to Envirosafe Services of Ohio (Lucas County), where total tons of RCRA waste landfilled during 2007 was about 13% less than 2006.

Arcelomittal Cleveland (Cuyahoga County) increased on-site releases by 3.2 million pounds. The company previously shipped the waste offsite for be landfilled. In 2007 they started to landfill the waste on-site. WCI Steel (Trumbull County) increased their on-site slag landfilling in 2007 compared to 2006.

Bag house dust and other steel mill wastes constituted the major portion of TRI reported releases to land on-site. Reprocessed galvanized steel produces waste zinc, which is a major portion of bag house dust. This is captured and ultimately disposed at Envirosafe and other secure, RCRA disposal facilities. The on-site land disposal of zinc and zinc compounds increased by 8.5 million pounds from 2006.

Four (4) of the top ten (10) facilities reporting releases to land on site are power plants. Releases are related to production and the type and quantities of coal burned and include barium, manganese, vanadium and other metals.

POTW Releases

Publicly Owned Treatment Works (POTW's) reported TRI releases were up by 5.29% for 2007, from 16.6 to slightly over 17.4 million pounds. A statewide increase of 1.5 million pounds of nitrate compounds is the greatest change. A reduction of less than 0.5 million pounds of methanol was also reported.

While POTW releases were up for 2007 overall, there were two (2) changes in the top ten (10) reported chemicals released to POTWs. Zinc and zinc compounds and nickel and nickel compounds entered the "top ten" this year. This is due to reports from Charter Steel (Wood County), exceeding 1.1 million pounds in 2007. Charter Steel reported over 860,000 pounds of zinc compounds and more than 250,000 pounds of nickel sent to the POTW in 2007. This contrasts with total reported TRI POTW releases of less than 30,000 pounds in 2007. Facility representatives noted a 30% production increase and a related threefold increase in releases to the POTW. This is combined with process reviews and materials testing of cleaning and pickling operations. The process reviews are part of routine operating procedure.

Hamilton County facilities remain among the largest POTW dischargers with Shepherd Chemical, Cognis Corp., and Rhodia, Inc. reporting releases. Shepherd Chemical Co. reported an increase of more than 3 million pounds due to the company using analysis methods, which is more accurate, to calculate releases. PMC Specialties Group's reduction

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of more than 0.6 million pounds of TRI reported releases are attributed to significant reduction in operations.

Off-Site Disposal and Treatment

Statewide transfers off-site for disposal and treatment were down over 17.5 million pounds, a decrease of over 18.1%.

Off-Site disposal and treatment is primarily for the disposal of zinc and zinc compounds. Wheeling-Pittsburg Steel's in Mingo Junction (Jefferson County) reported the largest off-site disposal and treatment by reporting more than 11.8 million pounds, a decrease from the 15.8 million pounds reported in 2006. The 4 million pound decrease is due to a significant decrease in electric arc furnace dust generated at the facility.

Emerland Polymers Additives (Summit County) reported less than 0.8 million pounds in off-site treatment. This was a significant decrease from 2006 due to storage issues at the facility resulting in some accumulated material being declared hazardous waste in 2006. Subsequently, the hazardous waste was shipped for off-site treatment in 2006.

Total Releases and Transfers

Total releases and transfers were down approximately 27 million pounds from 2006, approximately 7% to 317.7 million pounds reported in 2007. This decrease was collectively reported by just six facilities. Envirosafe Services of Ohio (Lucas County) reported a decrease of secure land disposal by more than 9.6 million pounds, Timken Company (Stark County) reported a decrease of more than 5.1 million pounds, while Wheeling-Pittsburgh Steel (Jefferson County) reported a decrease of about 4 million pounds.

Power generating facilities remain a significant segment of the Ohio TRI reporting universe. For 2007, four power generating facilities are among Ohio's "top ten" for "Total Release and Transfer for Treatment and Disposal", averaging almost 12 million pounds

Treatment On-Site

Treatment on-site increased 10.6% or 37.3 million pounds in Ohio and remains the primary waste management activity reported by Ohio facilities. Traditional manufacturing facilities, power generation, and RCRA Treatment, Storage, and Disposal (TSD) facilities all report significant on-site waste treatment.

AEP's Gavin Plant (Gallia County) and Millennium Inorganic, Plant 1 (Ashtabula County) each reported over 50 million pounds (63 million and 52.8 million respectively) for on-site treatment.

AEP's Gavin plant's 15 million pound increase in on-site treatment was the result of a 14% increase in production and a 30% increase in chloride content of coal. Millennium Inorganic Plant 1 reported a 2 million pound increase in on-site treatment attributed to an increase in the amount of waste generated due to increased production rates from 2006.

PPG Industries, Barberton facility (Summit County) increased its on-site treatment by more than 4.5 million pounds. Marathon Petroleum (Stark

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County) increased the on-site treatment by more than 5.8 million pounds and Lima refinery (Allen County) increased the on-site treatment by more than 4 million pounds. These increases were the result of a change in calculation methodology.

Energy Recovery On-Site

Energy recovery on-site exhibited a 24.3 percent decrease of over 23 million pounds to 73.85 million pounds. LaFarge North America (Paulding County) led the state, reporting 41 million pounds, a decrease of more than 24.6 million pounds from 2006. The facility indicated the cause as a significant decrease of fuel usage at the facility as a result of economic conditions. INEOS USA (Allen County) also reported a decrease of around 0.9 million pounds due to lower production rate. Sunoco Inc. Haverhill North Coke (Scioto County), reported an increase of more than 1.9 million pounds, while PPG industries reported an increase of about 0.9 million pounds as a result of using a new methanol based fuel in the energy recovery unit.

Energy Recovery Off-Site

Statewide energy recovery off-site decreased by 9.28 percent or slightly over 31.6 million pounds for 2007. Most energy recovery activity was reported by chemical manufacturing facilities and RCRA regulated TSD facilities. ISP Chemicals (Franklin County) increased off-site energy recovery by more than 1 million pounds as a result of an increase in the manufacturing activity at the facility. Dover Chemical Corp. (Tuscarawas County) also increased off-site energy recovery by more than 1 million pounds as a result of an increase of 50% in the use of raw material and old material shipped off-site for energy recovery.

BASF (Dark County) reduced off-site energy recovery by over 1.8 million pounds for 2007. The reason for this large decrease was the sale of a significant solvent stream in 2007 versus disposal in 2006. IOES-NOVA (Washington County) reduced off-site energy recovery by over 1.9 million pounds for 2007 as a result of significant production curtailment.

Recycling On-Site and Off-site

On-site recycling increased by almost 10.8 million pounds, to 108.9 million pounds statewide. Over 7 million pounds of the increase is attributed to Veolia ES Technical Solutions (Montgomery County). Emerland Polymer Additives (Summit County) reported an increase of more than 1.9 million pounds as a result of on-site recycling instead of off-site recycling as they did in 2006. Hukill Chemical Corp. (Cuyahoga County) and Ormet Primary Aluminum (Monroe County) both reported an increase of more than 1.5 million pounds recycled on-site. They attribute these increases to production levels.

Three other companies reported significant decreases in their on-site recycling. WCI Steel reported a 1.8 million pound decrease in on-site recycling of Basic Oxygen Furnace (BOF) slag because the slag was landfilled on-site instead. EGS Neer (Richland County) also reported a decrease of more than 1.2 million pounds of on-site recycling due to production being down. The plant is now closed.

Off-site recycling was up 1.79 percent from 160.3 million pounds in 2006 to 163.1 million pounds in 2007. Toxco Inc. (Fairfield County) reported

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the largest increase of off-site recycling of more than 10 million pounds. This is a battery recycling facility, and according to the facility, the increase is related to the increase in production numbers. The second largest increase of off-site recycling was 4 million pounds reported by Faxon Machining (Hamilton County). The company recently certified to ISO 14001, 2004 environmental health and safety standard. During the course of the assessment, it was brought to their attention by the auditor that they should evaluate their materials and determine if they should be submitting TRI reports. As a result of their evaluation, they determined that they needed to report. The increase is attributed to no reporting filed in 2006.

Luvatna Ohio (Delaware County), a manufacturing facility (copper rolling and extruding) reported the biggest decreases of more than 5.2 million pounds. The increase reported in 2006 was because two products lines were eliminated. Therefore scrap inventory was sold off that year. The company with the second highest decrease in off-site recycling was Pacific Manufacturing (Butler County) at 2.3 million pounds. The company indicated the reason for the decrease was the composition of the incoming steel.

East Manufacturing (Portage County) reported a decrease of about 1.7 million pounds. The Willoughby Quartz Plant (Lake County) reported a decrease of more than 1.5 million pounds due production decreases.

PBT Chemicals

The overall releases and transfers for Persistent Bioaccumulative Toxic (PBT) chemicals decreased 20 percent for reporting year 2007. Ohio had a 9,215 pound (12%) decrease in air releases for PBT chemicals.

904 Form Rs for persistent bioaccumulative toxic (PBT) chemicals were submitted for 2007.

The PBT chemical list consists of 16 individual chemicals and 4 chemical categories. The chemical categories are dioxin and dioxin-like compounds, lead compounds, mercury compounds and polycyclic aromatic compounds (PACs). The four PBTs with the largest volume of reported releases, transfers and treatment in Ohio for 2007 in descending order were: Lead and/or lead compounds, PACs, mercury and/or mercury compounds, and pendimethalin.

Mercury and/or mercury compounds were reported by 105 facilities in 2007, compared to 115 in 2006. Reporting facilities were in many NAICS groups, including power plants, paper mills, steel works, refuse systems, glass manufacturing, and electric light manufacturing.

Nearly 561 reports were submitted for lead and/or lead compounds in 2007, compared to 600 reports for 2006. Lead and/or lead compounds were reported from nearly every major NAICS code classification required to report to TRI. EnviroSAFE Services (Lucas County) reported over three million pounds of the lead and lead compounds released or disposed on or off-site.

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Most PACs and the individually listed benzo(g,h,i)perylene are constituents of fossil fuels. Other industrial processes are also sources of PACs, such as hot mix asphalt plants, asphalt roofing manufacturers, iron foundries, primary aluminum producers, coke ovens, pulp mills, Portland cement kilns and carbon black manufacturing. A total of 167 Ohio facilities reported PACs and/or benzo(g,h,i)perylene in 2007.

Dioxin and dioxin-like compounds were reported by 49 facilities. That is 5 facilities less than 2006. Those industries reporting dioxin and dioxin-like compounds include fossil fuel power plants, paper mills, foundries and petroleum refiners. Small quantities of dioxins are formed as a result of combustion processes, chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes.

Pendimethalin is a selective herbicide used to control most annual grasses and certain broadleaf weeds in field corn, potatoes, rice, cotton, soybeans, tobacco, peanuts and sunflowers. It is also used on crops and residential lawns and ornamentals.

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What's New This Year

Ohio EPA Accepts TRI Reports through the Central Data Exchange

Facilities located in Ohio can now submit their TRI information to both U.S. EPA and the Ohio EPA/Toxic Release Inventory Program simultaneously through the Federal Central Data Exchange (CDX) using the TRI-ME software. CDX will automatically forward your data to Ohio. This method eliminates the need to generate a diskette or CD to mail separately to Ohio EPA.

U.S. EPA considers TRI-MEweb to be the TRI reporting software of the future. Currently, U.S. EPA plans to offer TRI-MEdesktop software through the RY2008 reporting period and then discontinue the application.

TRI-Made Easy Web (TRI-MEweb) is a Web-based application that you can access anywhere you have a connection to the internet. Unlike the desktop version of the TRI-ME software, TRI-MEweb requires no downloads or software installs. The preferred method to report to U.S. EPA is by the use of the TRI-Made Easy Web (TRI-MEweb) application. TRI-MEweb allows facilities to file a paperless report, significantly reduce data errors, and receive instant receipt confirmation of their submissions. TRI-MEweb is similar to its predecessor TRI-MEdesktop in that it assists you in preparing your forms, but TRI-MEweb offers so much more, such as:

- Enhanced Data Quality and Validation assistance
- Facility and Chemical Quick Lists
- Enhanced Section 8 Calculator
- Prior Year revision capability
- Trend Analysis Reports
- Electronic withdrawal

Form R Changes

The following information updated the *Reporting Forms and Instructions for Reporting Year 2007* as well as highlights new resources developed by EPA.

- On May 10, 2007, OAC Rule 3745-100-07 was amended to expand reporting requirements for the dioxin and dioxin-like compounds category. There are seventeen distinct members of this chemical category listed under TRI. The amended rule requires that, in addition to the total grams released for the entire category, facilities must report the quantity for each individual member on a new Form R Schedule 1. EPA will then use the individual mass quantity data to calculate toxic equivalents (TEQs) values that will be made available to the public along with the mass data. The amended rule also removes the requirement to report the single distribution of compounds in the category.
- Minor changes were made to the TRI reporting forms as part of the TRI Reporting Forms Modification Rule (39931 Federal Register / Vol. 70, No. 132, Tuesday, July 12, 2006):
- Beginning with Reporting Year 2005, the *de minimis* level for naphthalene has been changed from 1.0% to 0.1% since naphthalene is now classified as an OSHA carcinogen.

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- Beginning with Reporting Year 2005, methyl ethyl ketone (CAS number 78-93-3) has been removed from the EPCRA section 313 list of reportable toxic chemicals.
- Beginning in the 2006 Reporting Year, there are two de minimis levels for cobalt compounds, inorganic cobalt compounds have a 0.1% de minimis level and organic cobalt compounds have a 1.0% de minimis level.
- TRI Burden Reduction Rule. The TRI Burden Reduction final rule is effective for Reporting Year 2006. The rule expands eligibility for the Form A Certification Statement for PBT and Non-PBT chemicals. The new eligibility criteria are listed below.
 - PBT Chemicals - The rule allows the use of Form A for facilities with zero releases (both on-site and off-site) and 500 pounds or less of treatment, recycling, and/or energy recovery of PBT chemicals. The rule applies to all PBT chemicals except dioxin and dioxin-like compounds.
 - Non-PBT Chemicals -The rule allows the use of Form A for a non-PBT chemical with 5000 pounds or less of releases (both on-site and off-site), treatment, recycling, and/or energy recovery, and the contribution of on-site and off-site releases is limited to 2000 pounds or less.

Omnibus Appropriations Act of 2009 Changes Toxics Release Inventory (TRI) Reporting Requirements

Toxics Release Inventory (TRI) reporting requirements changed on March 11, 2009, as a result of a change in federal law. The 2009 Omnibus Appropriations Act, returned TRI reporting requirements back to the rules in effect prior to December 22, 2006, and affectively, overturned the Burden Reduction Rule of 2006. These changes affect TRI reports due July 1, 2009.

The change requires that all reports on persistent, bioaccumulative, and toxic (PBT) chemicals be submitted on "Form R," the more detailed form. For all other chemicals the shorter form, "Form A" may be used only if the "annual reporting amount" is 500 pounds or less and that the chemical was manufactured, processed or otherwise used in an amount not exceeding 1 million pounds during the reporting year.

EPA will issue a rule revising the regulatory text in the Code of Federal Regulations to reflect these changes. TRI-ME software and other reporting assistance materials are being revised and will also be available soon.

North American Industry Classification System (NAICS) Codes in TRI Reporting

The list of TRI-covered NAICS codes was developed using 2002 NAICS codes. The list of industries subject to reporting under the TRI program is commonly divided into two groups called "Original" and "New". Original industries are those covered under the original legislation. New industries are those which were added in 1998. For more information on NAICS and complete SIC to NAICS crosswalk tables, please go to the Census Bureau NAICS website.

The NAICS is reviewed every five years for potential revisions so that the classification system can keep pace with the changing economy. The codes were last updated on March 16, 2006, when OMB published a final notice of the NAICS revision for 2007 (71 FR 28532) that states

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that “data published for reference years beginning on or after January 1, 2007, should be published using the 2007 NAICS United States Codes.”

EPA has published a final rule to incorporate 2007 Office of Management and Budget (OMB) revisions and other corrections to the NAICS codes used for TRI Reporting. [Federal Register (FR) notice [73 Federal Register 32466](#) (June 9, 2008)] With this rule, facilities are required to use 2007 NAICS codes on TRI reporting forms that are due on July 1, 2009, covering releases and other waste management quantities at the facility for 2008. TRI facilities should continue to use [TRI NAICS codes](#) identified in EPA's 2006 rule on their TRI reporting forms due July 1, 2008.

The full list of NAICS codes for facilities that must report to TRI (including exceptions and/or limitations) if all other threshold determinations are met can be found at: www.epa.gov/tri/tridata/naics/ncodes.htm. The facility should determine its own NAICS code(s), based on its activities on-site, using the NAICS Manual and by referring to the extensive OMB crosswalk tables found on the Census Bureau website: www.census.gov.

Reporting Latitude/Longitude, and Program ID numbers in RY 2007.

As part of the TRI Forms Modification Rule, latitude and longitude data (Part I, Section 4.6 of Forms R and A) and Program identification (ID) numbers including RCRA, NPDES and UIC ID numbers (Part 1, Section 4.8, 4.9, and 4.10 of Forms R and A) will no longer be collected by the TRI program. However these data elements will still be part of the TRI data disseminations. TRI data users will obtain these data elements from the Facility Registry System (FRS), EPA's centralized database system for facility information. That system will gather these data elements from existing data, other EPA programs, state and local governments and commercial sources.

If they choose, TRI facilities will still have the ability to review, update and insert latitude and longitude values and Program ID numbers that are being used to represent them. Facilities that use TRI-ME and file their reports over the Internet will be able to do this by signing into the Central Data Exchange (CDX). Links to CDX and this process will also be available to facilities through the electronic Facility Data Profile, the electronic Facility Data Release and on the TRI-ME web page. Facilities may also review and update their latitude and longitude values on the Internet via the Envirofacts FRS Query at:

http://www.epa.gov/enviro/html/fii/fii_query_java.html

Facilities that do not have Internet access will be able to update their latitude and longitude coordinates and Program ID values by contacting the EPA Facility Error Notification/Correction Center at 703-243-8307, or by mail at:

Lockheed Martin B NEISEC
Error Notification/Correction Center
1010 North Glebe Road
Arlington, VA 22201

Understanding and Using TRI Information

SARA Overview

The Superfund Amendments and Reauthorization Act, SARA, was passed in 1986. SARA is also known as the Emergency Planning & Community Right to Know Act, or "EPCRA." It was passed in part due to concerns following an incident, which occurred in Bhopal, India. In December, 1984 a methyl isocyanate (MIC) gas leak from a plant operated by Union Carbide India Limited injured or killed thousands of people. SARA required that a chemical emergency response network be expanded to ensure national coverage. State Emergency Response Commissions (SERCs) coordinating with Local Emergency Planning Committees (LEPCs) and local fire departments are responsible for this network. SARA also created or updated four reporting requirements to ensure that chemical storage, use, and release information was available to the potential emergency responders and the community. These reporting programs overlap depending upon whether the materials are "oils," "hazardous chemicals," "hazardous substances," "extremely hazardous substances" (EHSs) or toxic chemicals. Brief explanations of each requirement, including the SARA and enabling Ohio Revised Code (ORC) citations, are listed below.

EHS Notification (SARA 301-303, ORC 3750.02.07). This notification provision is triggered by storage of one or more EHSs. There are 360 listed EHS chemicals, which are considered immediately dangerous to life or health. Chlorine gas is an example. A specific "threshold planning quantity" (TPQ) is specified for each chemical. TPQs vary, and, while 500 pounds is an approximate average, the TPQ may be as low as one pound. When a facility meets or exceeds the TPQ for a chemical, it must notify the response community (SERC, LEPC and local fire department) and designate contacts and coordinators to pre-plan emergency response activities and serve as emergency contacts. Contact the "Right-To-Know"/SERC Unit in the Division of Air Pollution Control (DAPC), for assistance or for a referral to the appropriate LEPC (614-644-2260).

Emergency Release Notification (SARA 306, ORC 3750.07). Release or spill reporting may be required when there is an offsite release of oil, a hazardous substance, or an extremely hazardous substance. The reporting triggers, known as the "Reportable Quantity" (RQ) vary, ranging from one to 5,000 pounds. The definition of "facility" includes trucks and tankers. Gasoline is included under the definition of "oil" and oil is reportable at 25 gallons or at any quantity entering the waters of the State. Spills or releases should be reported upon discovery to the Ohio EPA/SERC at 1-800-282-9378 or 1-614-224-0946. Hazardous substance spills may require National Response Center reporting. The Ohio EPA Spill Unit of the Division of Emergency and Remedial Response (DERR) can provide additional information (614-644-2080).

Chemical Inventory Reporting (SARA 311-312, ORC 3750.07.08). The location, quantity, storage conditions and properties of EHSs or "hazardous chemicals" (hazardous due to OSHA hazard communication attributes) must be reported. Such reporting for EHSs is triggered when stored at quantities greater than 500 pounds or the chemical-specific TPQ (whichever is lower). Reporting for hazardous chemicals, a large universe determined by the attributes noted on the Material Safety Data Sheet (MSDS), is triggered by the storage of 10,000 pounds. Like EHS notifications, reports must be submitted to the SERC, LEPC and local fire department.

Ohio SERC forms, Tier II forms, or electronic "Tier2Submit" reporting are used for "inventory reporting" and are due March 1st for the prior calendar year. Contact the

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“Right-To-Know”/SERC Unit in DAPC (614-644-2260), or the appropriate LEPC for assistance.

Toxic Release Inventory Reporting (SARA 313, ORC 3751) Facilities within SIC codes 20-39 and seven other selected non-manufacturing SIC codes with 10 or more employees or equivalent are required to annually report “Form R” or “Form A” information if they manufacture, process or otherwise use any listed chemicals in amounts exceeding the reporting threshold. TRI “toxic” chemicals include 581 individually listed chemicals and 30 chemical categories, including 3 delimited categories containing 58 chemicals, for a total of 666 separate chemicals. Reported TRI information includes chemical use, release, recycling, energy recovery and treatment information, as well as pollution prevention activities at the facility. TRI reporting is on a calendar year basis with reports due July 1st for the prior calendar year. Reported information is readily available from Ohio EPA or U.S. EPA TRI Web sites (see page 28 for Web site information). The Ohio EPA TRI Unit can be contacted at 614-644-2270.

Ohio's TRI Program

In 1988, the Ohio General Assembly passed the Ohio Right-to-Know Act, Substitute Senate Bill 367. This law provided for state implementation of EPCRA. Under this law, Ohio EPA is charged with the administration of Section 313 (Ohio Administrative Code 3745-100). The law gave Ohio EPA authority to enforce Section 313 and established filing fees for covered facilities to support the TRI Program. Ohio EPA’s Division of Air Pollution Control coordinates the TRI Program.

Ohio EPA inspects potential non-reporting facilities each year. Approximately 5% of the inspections result in enforcement actions against facilities, which did not properly file TRI reports.

Who Must Report

Facilities are required to report if they meet all three of the following requirements:

1. Have 10 or more full-time employees (or the equivalent of 20,000 hours worked per year).
2. The facility is in a SIC (as in effect on January 1, 1987) major group or industry code listed in paragraph (A) of rule 3745-100-17 of the Administrative Code (for which the corresponding NAICS (as in effect on January 1, 2002) subsector and industry codes are listed in paragraphs (B) and (C) of rule 3745-100-17 of the Administrative Code) by virtue of the fact that it meets one of the following criteria:
 - (a) The facility is an establishment; with a primary SIC major group or industry code listed in paragraph (A) of rule 3745-100-17 of the Administrative Code, or a primary NAICS subsector or industry code listed in paragraph (B) or (C) of rule 3745-100-17 of the Administrative Code.
 - (b) The facility is a multi-establishment complex where all establishments have primary SIC major group or industry codes listed in paragraph (A) of rule 3745-100-17 of the Administrative Code, or primary NAICS subsector

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or industry codes listed in paragraph (B) or (C) of rule 3745-100-17 of the Administrative Code.

- (c) The facility is a multi-establishment complex in which one of the following is true:
 - (i) The sum of the value of services provided and/or products shipped and/or produced from those establishments that have primary SIC major group or industry codes listed in paragraph (A) of rule 3745-100-17 of the Administrative Code, or primary NAICS subsector or industry codes listed in paragraph (B) or (C) of rule 3745-100-17 of the Administrative Code is greater than fifty per cent of the total value of all services provided and/or products shipped from and/or produced by all establishments at the facility.
 - (ii) One establishment having a primary SIC major group or industry code listed in paragraph (A) of rule 3745-100-17 of the Administrative Code, or a primary NAICS subsector or industry code listed in paragraph (B) or (C) of rule 3745-100-17 of the Administrative Code contributes more in terms of value of services provided and/or products shipped from and/or produced at the facility than any other establishment within the facility.
 - (iii) The facility manufactured (including imported), processed or otherwise used a toxic chemical in excess of an applicable threshold quantity of that chemical as set forth in rule 3745-100-07, 3745-100-14, or 3745-100-16 of the Administrative Code.

3. Manufactured, imported, processed or otherwise used a reportable toxic chemical in quantities exceeding the applicable threshold established by U.S. EPA for that year, chemical and usage. For most reportable chemicals, the thresholds for manufacturing, importing or processing are 25,000 pounds and “otherwise use” is 10,000 pounds. PBT chemicals have notably lower reporting thresholds of 100 pounds or less.

Facilities, which are defined as “all buildings, equipment, structures, and stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person,” must submit a Form R for each listed chemical used in amounts that exceed the reporting threshold, even if the chemical is not released to the environment.

Facilities using less than one million pounds of a listed toxic chemical in a calendar year and having less than 500 pounds of that toxic chemical as a reportable amount (released to the environment, treated, recycled or used for energy recovery) can file a certification statement (Form A) instead of the more detailed Form R. Form A cannot be used for reporting PBT chemicals.

Reportable Chemicals

The list of reportable toxic chemicals has evolved since the enactment of Section 313. Over 600 toxic chemicals and chemical categories are currently subject to reporting under Section 313. These chemicals vary widely in form (solid, liquid and gas) and in toxicity.

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The Administrator of U.S. EPA has the authority to modify the list of chemicals that must be reported. Petitions to add and delete chemicals have been submitted by industry, environmental groups, and the state governors. U.S. EPA evaluates chemicals that may be added or deleted from the list of reportable chemicals. Chemicals are removed from the list because they have not been shown to cause significant adverse human health or environmental effects.

The list of reportable chemicals can be obtained from Ohio EPA, U.S. EPA, or on the Internet at <http://www.epa.gov/tri/trichemicals/index.htm>.

Chemical Qualifiers

Some TRI reportable chemicals have qualifiers associated with them. Most TRI chemicals are not listed with a qualifier, and are subject to reporting in all forms that they may be manufactured, processed, or otherwise used. TRI reportable chemicals with qualifiers are discussed below:

Chemical	Qualifier
Aluminum	Only fume or dust is reportable.
Aluminum oxide	Only fibrous forms are reportable.
Ammonia (aqueous)	10% of total aqueous ammonia from water dissociable salts and other sources is reportable (100% of anhydrous ammonia is reportable).
Asbestos	Friable forms (can be crumbled or reduced to powder with hand pressure) only.
Chromium compounds	Reportable only if not chromite ore mined in the Transvaal Region of South Africa and the unreacted ore component of the chromite ore processing residue (COPR).
Dioxin and dioxin-like compounds	PBT chemicals reportable if manufactured at the facility or processed or otherwise used when present as contaminants in a chemical but only if they were created during the manufacture of that chemical. Reported in grams instead of pounds (454 grams = 1 pound).

Chemical	Qualifier
Hydrochloric acid	Acid aerosols only.
Isopropyl alcohol	Reportable only if manufactured by the strong acid process.
Lead and lead compounds	Reportable as a PBT (100 pound threshold) unless contained in a stainless steel, bronze or brass alloy (in which case it is reportable at a 25,000 pound processing threshold).
Nitrate Compounds	Water dissociable; reportable only when in aqueous solution.
Phosphorus	Only the yellow and white forms are reportable.
Saccharin	Only manufacturers must report.
Sulfuric acid	Acid aerosols only.
Vanadium	Only reportable if not an alloy constituent.
Zinc	Only fume or dust is reportable.

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TRI Data Uses and Limitations

Users of the TRI data should be aware of the limitations of the data in order to accurately interpret its significance. The TRI data has some significant limitations:

- TRI covers only certain manufacturing and seven non-manufacturing industries. Many other industries release toxic chemicals into the environment.
- For reporting year 2007, TRI covers over 600 toxic chemicals and chemical categories. The TRI data does not represent all chemicals used by all industry.
- Releases are reported as total annual releases without reference to frequency or duration. The annual release totals alone are not sufficient to assess the health or environmental impact of the toxic chemicals released.
- The majority of releases are based on estimates. Facilities are required to base releases on monitoring data if it is available. When monitoring data is not available, estimates are used. Estimates result in significant variability among reporting facilities.
- High volume releases of relatively non-toxic chemicals may appear to be a more serious problem than lower volume releases of highly toxic chemicals, when just the opposite may be true. **TRI data summaries must be interpreted with care.**
- The TRI report contains information regarding the release of chemicals, not the public's exposure to the chemicals. Some chemicals break down when exposed to the environment. Some chemicals disperse rapidly when released, eliminating their threat to public health and to the environment. Other highly toxic chemicals may not disperse when released. Disposal of toxic chemicals in underground injection wells does not expose the public since the material is injected thousands of feet below the ground. Also, off-site transfers may not expose the community to chemicals. Screening risk assessments must be completed before health and environmental assessments can be made.
- The addition of non-manufacturing industrial sectors can lead to double counting of toxic releases. To calculate total releases and transfers, Ohio EPA identified transfers off-site to a facility, which reported TRI releases of the same chemical, and subtracted the transfer off-site from the total releases. If the off-site location name or permit number did not match a reporting facility, the transfer off-site was included in the total releases and transfers. Inconsistent reporting of facility names can lead to double counting.

Ohio EPA conducts extensive data quality efforts to make every attempt to ensure that the data compiled in this report accurately reflects the data reported by the facilities; however, we acknowledge the possibility of errors due to data entry or problems with the reporting software. Because the TRI data is based on estimates, facilities are encouraged to revise their reports when the estimates are improved.

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TRI Rule Changes

The following list summarizes significant changes that U.S. EPA has finalized in the past several years.

Federal Register/Date	Title	Summary
59 FR 61432 / November 30, 1994	Addition of Certain Chemicals	Added 286 chemicals and chemical categories, including 39 chemicals as part of two delineated categories, to the list of reportable toxic chemicals. Addition of these chemicals and chemical categories was based on their acute human health effects, carcinogenicity or other chronic human health effects, and/or their adverse effects on the environment. Reporting for these chemicals and chemical categories was required beginning with the 1995 calendar year.
59 FR 61488 / November 30, 1994	Alternate Threshold for Facilities With Low Annual Reportable Amounts	Allows reporting TRI chemicals on a simplified certification form (Form A) if the amount of the chemical manufactured, processed or otherwise used is not greater than a million pounds and the reportable amount is less than 500 pounds in that year.
62 FR 23834 / May 1, 1997	Addition of Facilities in Certain Industry Sectors; Revised Interpretation of Otherwise Use	Added seven industry groups to the list of facilities subject to TRI reporting requirements. These industry groups are metal mining, coal mining, electric utilities, commercial hazardous waste treatment, chemicals and allied products-wholesale, petroleum bulk terminals and plants-wholesale and solvent recovery services. Revised the interpretation of the threshold activity, "otherwise use" to include treatment for destruction, disposal, and waste stabilization.
63 FR 19838 / April 22, 1998	Deletion of Certain Chemicals	Deleted several chemicals and chemical categories from the list of chemicals subject to reporting. Section 372.65 was amended by deleting the entries for 2-bromo-2- nitropropane-1,3-diol, dimethyldichlorosilane, 2,6-dimethylphenol, methyltrichlorosilane, and trimethylchlorosilane under paragraph (a), and deleting the entire CAS No. entries for 52-51-7, 75-77-4, 75-78-5, 75-79-6, and 576-26-1 under paragraph (b).
64 FR 58666 / October 29, 1999	Persistent Bioaccumulative Toxic (PBT) Chemicals; Lowering of Reporting Thresholds for Certain PBT Chemicals; Addition of Certain PBT Chemicals Persistent Bioaccumulative Toxic (PBT) Chemicals; Lowering of Reporting Thresholds for Certain PBT Chemicals; Addition of Certain PBT Chemicals	Lowered the reporting thresholds for certain persistent bioaccumulative toxic (PBT) chemicals subject to TRI reporting. Added a category of dioxin and dioxin-like compounds to the TRI list of toxic chemicals and established a 0.1 gram reporting threshold for the category. Added certain other PBT chemicals to the TRI list of toxic chemicals and established lower reporting thresholds for these chemicals. Removed the fume or dust qualifier from vanadium and added all forms of vanadium with the exception of vanadium when contained in alloys. Also added vanadium compounds to the TRI list of toxic chemicals. However, EPA did not lower the reporting thresholds for either vanadium or vanadium compounds.

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65 FR 39552 / June 26, 2000	Phosphoric Acid	Deleted phosphoric acid from the list of chemicals subject to reporting requirements under TRI.
66 FR 4500 / January 17, 2001	Lead and Lead Compounds; Lowering of Reporting Thresholds	Lowered reporting thresholds to 100 pounds for lead and all lead compounds except for lead contained in stainless steel, brass, and bronze alloys.
66 FR 10685 / February 16, 2001	Lead and Lead Compounds; Lowering of Reporting Thresholds; Delay of Effective Date	Delayed (by 60 days) the effective date of this rule in accordance with the memorandum of January 20, 2001, from the Assistant to the President and Chief of Staff, entitled "Regulatory Review Plan."
70 FR 39931 / July 12, 2005	Toxic Release Inventory Reporting Forms Modification Rule	EPA will no longer require TRI facilities to report location information (latitude and longitude data) and several facility identifiers (regulatory assigned identification codes for each facility). Instead, the data will be obtained from existing EPA databases and made available to TRI data users. The proposal also: <ul style="list-style-type: none"> • Includes several minor reporting changes related to waste management activities, • Simplifies the reporting of pollution prevention activities, and • Improves public access to information about source reduction and pollution control activities undertaken by some facilities.
71 FR 32464 / June 6, 2006	Community Right-to-Know; Toxic Chemical Release Reporting Using North American Industry Classification System (NAICS)	Requires facilities reporting to TRI to use North American Industry Classification System (NAICS) codes in place of the Standard Industrial Classification (SIC) codes previously used on TRI reporting forms. Facilities that report to TRI are required to use 2002 NAICS codes on reporting Form R and the Form A Certification Statement.
71 FR 76932 / December 22, 2006	Toxic Release Inventory Burden Reduction Final Rule	The final TRI Rule announced December 18, 2006 expands eligibility for use of the Form A Certification Statement (Form A) in lieu of the more detailed Form R by TRI facilities submitting required annual reports on releases and other waste management. This rule provides incentives for facilities to improve environmental performance by eliminating or reducing releases and managing remaining wastes using preferred methods such as recycling and treatment.
72 FR 26544 / May 10, 2007	Dioxin and Dioxin-like Compounds; Toxic Equivalency Information; Community Right-To- Know Toxic Chemical Release Reporting	The final rule requires that, in addition to reporting total gram quantities for the category, facilities are required to report the mass quantity of each individual member of the category. The mass quantity data for the individual members of the category will be used by EPA to perform toxic equivalency (TEQ) computations which will be made available to the public. TEQs are a weighted quantity measure based on the toxicity of each member of the dioxin and dioxin-like compounds category relative to the most toxic members of the category, i.e., 2,3,7,8-tetrachlorodibenzo-p-dioxin and 1,2,3,7,8-pentachlorodibenzo-p-dioxin. The final rule also eliminates the reporting of the

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		single generic distribution for the members of the dioxin and dioxin-like compounds category.
71 FR 32464 / June 6, 2007	Community Right-to-Know; Toxic Chemical Release Reporting Using North American Industry Classification System (NAICS)	Requires facilities reporting to TRI to use North American Industry Classification System (NAICS) codes in place of the Standard Industrial Classification (SIC) codes previously used on TRI reporting forms. Facilities that report to TRI are required to use 2002 NAICS codes on reporting Form R and the Form A Certification Statement.
70 FR 39931 / July 12, 2007	Toxic Release Inventory Reporting Forms Modification Rule	<p>EPA will no longer require TRI facilities to report locational information (latitude and longitude data) and several facility identifiers (regulatory assigned identification codes for each facility). Instead, the data will be obtained from existing EPA databases and made available to TRI data users. The proposal also:</p> <ul style="list-style-type: none"> • Includes several minor reporting changes related to waste management activities, • Simplifies the reporting of pollution prevention activities, and <p>Improves public access to information about source reduction and pollution control activities undertaken by some facilities.</p>
71 FR 76932 / December 22, 2007	Toxic Release Inventory Burden Reduction Final Rule	The final TRI Rule announced December 18, 2007 expands eligibility for use of the Form A Certification Statement (Form A) in lieu of the more detailed Form R by TRI facilities submitting required annual reports on releases and other waste management. This rule provides incentives for facilities to improve environmental performance by eliminating or reducing releases and managing remaining wastes using preferred methods such as recycling and treatment.
73 FR 32466 / June 9, 2008	Corrections and 2007 Updates to the Toxics Release Inventory (TRI) North American Industry Classification System (NAICS) Reporting Codes	EPA amended the regulations to make certain updates and corrections to the list of North American Industry Classification System (NAICS) codes subject to reporting under the Toxics Release Inventory (TRI) to reflect the Office of Management and Budget (OMB) 2007 NAICS revision. EPA made corrections to the list of NAICS codes subject to reporting under TRI that was published on June 6, 2006, in the final rule adopting NAICS for TRI reporting and corrected a longstanding typographical error in the regulatory text.

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Ohio EPA Programs Related to TRI Chemicals

The availability of TRI data has increased awareness of toxic chemicals within Ohio, and has focused attention on the reduction and management of these chemicals. TRI does not mandate the control of toxic releases or require reduction of the releases of toxic chemical or chemical usage. There are numerous other programs within Ohio EPA that directly impact the management of TRI chemicals through the issuance of permits or through other regulatory or non-regulatory activities. Most releases reported under TRI are regulated through air, water, and/or land disposal permits. The following descriptions provide an understanding of how some of these programs contribute toward reducing TRI releases, waste generation, and the risks associated with toxic chemicals.

Pollution Prevention: Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) works with companies on a voluntary, non-regulatory basis to help them modify their operating processes to generate less pollution in a cost-effective and technically feasible manner. OCAPP provides several services to industrial facilities. OCAPP provides free on-site and other types of technical assistance for pollution prevention activities. Copies of hundreds of pollution prevention documents are available upon request or electronically through the Internet at <http://www.epa.state.oh.us/ocapp/ocapp.html>.

OCAPP provides free assistance with completing pollution prevention plans and provides assistance in identifying and implementing pollution prevention credit projects to mitigate portions of environmental enforcement penalties in conjunction with other Ohio EPA Divisions and the Ohio Attorney General's Office.

Division of Surface Water: Ohio EPA's Division of Surface Water (DSW) regulates industries which discharge toxic chemicals to Publicly Owned Treatment Works or POTWs through its pretreatment program. These industries are regulated by the community if the community has a state-approved pretreatment program; otherwise, Ohio EPA directly regulates these industries. In either case, significant industrial facilities are issued permits which contain discharge limitations as well as requirements for monitoring the waste streams. Non-complying facilities face enforcement action by either the community or Ohio EPA.

DSW regulates direct surface water point discharges in Ohio primarily through the issuance of National Pollutant Discharge Elimination System (NPDES) permits. Of the approximately 400 pollutants regulated by NPDES permits, 126 have been designated as priority pollutants under the Clean Water Act. Approximately 80 of these are TRI chemicals.

Division of Drinking and Ground Water: Ohio EPA's Division of Drinking and Ground Water (DDAGW) regulates facilities which use underground injection in Ohio. All deep injection wells are permitted and routinely monitored by Ohio EPA. These permits include stringent requirements for monitoring pressures, volumes injected, and mechanical integrity of the wells.

Division of Hazardous Waste Management: Ohio EPA's Division of Hazardous Waste Management (DHWM) regulates generators of hazardous waste and facilities which treat, store, or dispose of such waste. Ohio EPA assigns an identification number to hazardous waste handlers regulated under RCRA. Facilities using a surface impoundment to dispose of TRI chemicals may also fall under the regulations of the

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Clean Water Act and be regulated by the Division of Surface Water. Not all TRI chemicals are considered hazardous under RCRA. Some discharges to land may be considered solid waste, which is not regulated as hazardous. Large quantity generators and facilities that have a permit to treat, store, or dispose of RCRA-regulated waste must submit an Annual Hazardous Waste Report to DHWM.

Division of Air Pollution Control: Ohio EPA's Division of Air Pollution Control (DAPC) regulates new sources of toxic air emissions through the air permitting program. Each potential new source of air toxics undergoes a technical evaluation through which each toxic chemical's potential threat to human health and the environment is reviewed.

Six TRI chemicals are currently regulated under U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP). They are benzene, asbestos, inorganic arsenic, vinyl chloride, beryllium and mercury. U.S. EPA creates NESHAP emission standards for air pollutants that may pose a serious health hazard on a national level, but are not covered by the National Ambient Air Quality Standards. The National Ambient Air Standards are levels of air quality established by U.S. EPA to protect the public and the environment. These levels have been adopted for ozone, lead, nitrogen dioxide, sulfur dioxide, particulate matter, and carbon monoxide.

The Clean Air Act Amendments of 1990 requires U.S. EPA to regulate 189 additional air toxic chemicals, 173 of which are on the TRI list. U.S. EPA regulates sources of air toxics by issuing maximum achievable control technology (MACT) standards for source categories of these air toxics. U.S. EPA was mandated to issue MACT standards for 40 source categories by November 1992, with all categories covered in 10 years. Ohio EPA has been delegated authority to administer this program in Ohio.

Section 112(r) of the Clean Air Act Amendments of 1990 created a risk management planning (RMP) program. The purpose of these regulations is to prevent accidental releases of regulated substances and to reduce the severity of those releases that do occur. A facility is subject to the regulation if they have any listed regulated substance above a given threshold in a single on-site process. Approximately 500 facilities in Ohio have filed risk management plans since 1999. These plans are updated every five years or as-needed when changes occur at the facility.

TRI Terminology

Chemical Abstracts Service Registry Number (CAS No.) - A numerical identification given to each unique chemical which aids in the identification of a chemical with multiple synonyms (e.g., phenol, CAS No. 108-95-2, is also known as benzenol, carboic acid, hydroxybenzene, izal, monohydroxybenzene, monophenol etc. TRI chemical categories (e.g., zinc compounds) do not have a CAS No. and are assigned category codes by U.S. EPA (e.g., N982 for zinc compounds).

Discharge to Publicly Owned Treatment Works (POTWs) - A POTW is a wastewater treatment facility owned by a public authority such as a municipality or county. Some TRI facilities generate wastewater and discharge it through pipes or sewers to a POTW. At the POTW further treatment of the chemical occurs through biodegradation by microorganisms or removal from the wastewater occurs if the chemical enters the sludge generated during the biodegradation process. Next, the treated wastewater is released to waters of the state. The sludge generated from the process may be incinerated, land-applied, or landfilled. Generally, chemicals that are

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easily utilized as nutrients by microorganisms, have a low solubility in water, or are volatile are treatable by the POTW. Not all TRI chemicals can be treated or removed by a POTW. So POTWs limit the industrial contribution of those pollutants.

Environmental Fate: The disposition, over time, of a chemical in the environment. The bioaccumulation of a chemical in fish or the decomposition of a chemical when exposed to sunlight, are examples of environmental fate.

Manufacture: The production, preparation, compounding or importing of a TRI chemical, including the coincidental production of the chemical as an intermediate, by-product or impurity.

NAICS: North American Industrial Classification System (NAICS). The North American Industry Classification System (NAICS) is a system used by the Federal Government for collecting and organizing industry-related statistics. The NAICS codes are updated every five years to stay current with industry developments.

The list is available at: <http://www.census.gov/eos/www/naics/>

Otherwise Use: Any activity involving a TRI chemical that does not fall under the definition of manufacture or process. A chemical that is not intentionally incorporated into a product, like solvents that are used for parts cleaning, falls under the otherwise use category.

PACs: Polycyclic aromatic compounds. There are 21 chemicals that comprise the PAC category. Benzo(g,h,i)perylene, another PAC, is individually listed in the EPCRA list of chemicals. The PAC category is designated as "N590" in the chemical list. Most PACs are constituents of fossil fuels (coal and oil), but also come from other sources such as hot mix asphalt plants and asphalt roofing, iron foundries, coke ovens, primary aluminum producers, pulp mills, cement kilns and carbon black manufacturing. If a facility burns approximately 5000 gallons of No. 6 fuel oil in a year, it would meet the reporting threshold for PACs for that year.

PBTs: In October, 1999, U.S. EPA promulgated the final rule on persistent bioaccumulative toxic chemicals, or PBTs. The PBT chemicals contain several insecticide/pesticides along with the PACs discussed above, lead and mercury and their compounds and dioxin and dioxin-like compounds. For chemicals designated as PBTs, the reporting threshold has been significantly reduced (e.g., from 25,000 pounds to 100 pounds). Other requirements on PBT chemicals help assure accurate reporting of these chemicals (i.e., the de minimis exemption was eliminated, Form R, rather than the simplified Form A must be used, range reporting was eliminated and data can be entered in fractions of a pound).

Process: Preparation of a TRI chemical, after its manufacture, for distribution in commerce. Processing includes intentionally incorporating a chemical into a product or the reaction of a chemical to form another chemical or product.

Quantity Recycled Off-Site: The quantity of toxic chemical that was shipped for recycling, not the amount of chemical recovered at the off-site location.

Quantity Recycled On-Site: The quantity of toxic chemical recovered at the facility that generated it and made available for further uses.

Quantity Treated On-Site: The quantity of toxic chemical destroyed or converted to a chemical that is not reportable under TRI in on-site waste treatment operations.

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Quantity Used for Energy Recovery: This is the quantity of toxic chemical that was combusted (on-site or off-site) in some form of energy recovery device, such as a furnace or a boiler. The toxic chemical should have a heating value high enough to sustain combustion. The use of a chemical as a fuel constitutes energy recovery.

Recycle: The process of capturing a useful product from a waste stream. Solvent recovery, metals recovery and acid regeneration are examples of recycling.

Releases to Air: Releases to air are reported as stack or fugitive emissions. Stack emissions are releases to air that occur through stacks, vents or other confined air streams. Fugitive emissions are releases that are not through a confined air stream. Fugitive emissions include evaporative losses from surface impoundments, spills, and releases from building ventilation systems.

Releases to Land: Releases to land occur within the boundaries of the reporting facility. Releases to land include disposal of toxic chemicals in landfills, land treatment/application farming (in which a waste containing a listed chemical is applied to or incorporated in soil), surface impoundments (uncovered holding areas used to evaporate and/or settle waste materials), and other land disposal methods (such as waste piles).

Releases to Water: Releases to water include discharges to streams, rivers, lakes, and other bodies of water. Releases due to stormwater runoff are also reportable under TRI.

Standard Industrial Classification (SIC) Code: A four-digit code established by the Federal Office of Management and Budget used to describe the type of activities at a facility. The first two digits indicate the major industrial grouping; the last two digits describe a facility activity within in the industrial grouping. For example, a facility with SIC 2813 is grouped within “chemicals and allied products” (28) producing industrial gases. Facilities that engage in a variety of activities may possess multiple SIC codes.

Transfers Off-Site for Treatment and Disposal: Waste transferred off-site for disposal is generally either released to land at an off-site facility or injected underground. Toxic chemicals transferred off-site for treatment may be treated through a variety of methods including neutralization, incineration, and physical separation. These methods result in varying degrees of destruction of the chemical.

Underground or Deepwell Injection: Underground injection is the contained release of a fluid into a subsurface well for the purpose of waste disposal. Class I wells are used to inject liquid hazardous wastes or dispose of industrial and municipal wastewater beneath the lowermost underground source of drinking water.

Summary of Data

In 2007, approximately 317 million pounds of toxic chemicals were reported as having been released to the environment or transferred off-site for treatment or disposal. The data presented for 2007, including the listings of top companies, chemicals and counties, reflects the TRI data reporting due July 1, 2007. The TRI Unit continually reviews this data and works with reporting facilities to assure data quality. Additional and revised data provided subsequent to July 1st has been incorporated into this report to the extent possible considering publication deadlines. Changes to the list of reportable chemicals create difficulties in presenting historical TRI data in an accurate and understandable form. This report presents the data in the following manner:

- Releases for chemicals which were “redefined” were modified in this report to reflect the change if it did not require a case by case evaluation. Non-aerosol forms of hydrochloric acid are no longer reportable. Therefore, only air releases of hydrochloric acid were included in the TRI data presented in this report. Ammonia was “redefined” for calendar year 1994; only 10% of aqueous ammonia is now reportable. Because this change requires a case-by-case evaluation, past years’ data was not modified. Ammonium nitrate was delisted for calendar year 1995. However, the ammonia portion is still reportable and the nitrate portion is reportable as nitrate compounds. Due to the change in the reporting requirement for ammonia in 1994, only ten percent of the ammonia portion of ammonium nitrate was reportable for calendar year 1995. Only ten percent of the ammonia portion of ammonium nitrate was included in the data presented in this report.
- To accurately represent trends in the toxic releases, the chemicals which were added, “redefined” or delisted, and the expansion industries were not included in the calculation of trends for the executive summary and the figures representing trends within this report. Table 2A represents the TRI data as it was reported each year. Table 2B represents the TRI data used to calculate trends. All Phase 1 expansion chemicals, delisted chemicals or “redefined” chemicals, and the expansion industries were excluded from the data in Table 2B, so that the historical trends analysis would reflect true changes in the reported releases and not reflect changes in the reporting requirements.
- Throughout this report, TRI data are referred to as “total releases and transfers.” Total releases and transfers refer to on-site releases to air, water, land; deepwell injection; discharges to POTWs; and off-site transfers for treatment and disposal only. The Pollution Prevention Act of 1990 added the reporting of transfers off-site for recycling and energy recovery. For the purpose of this report, transfers for recycling and energy recovery are grouped separately from transfers for treatment and disposal.
- The addition of hazardous waste treatment facilities and other non-manufacturing industrial sectors has resulted in the potential to double count releases. Manufacturing facilities report transfers off-site to these non-manufacturing facilities, and, in turn, the non-manufacturing facilities report their releases to the air, water, land and transfers off-site. To calculate total releases and transfers within the state, transfers off-site by manufacturing facilities to facilities which reported the same chemical were not included in the data presented as transfers off-site or total releases and transfers. To calculate county totals, transfers off-site by manufacturing facilities to facilities located in the same county, which reported the same chemical, were not included in the data presented as transfers off-site or total releases and transfers.

Summary of Data

Statewide totals of on-site releases, off-site transfers, and on-site waste management for reporting years 1998 to 2007 are provided in Table 2A and 2B. Table 2A represents all data including the data for delisted, added, and modified chemicals and the expansion industrial sectors. Table 2B does not include data for: (1) chemicals that have been delisted, added or modified; and (2) new industrial sectors which were added to TRI in order to allow for historical trend analysis.

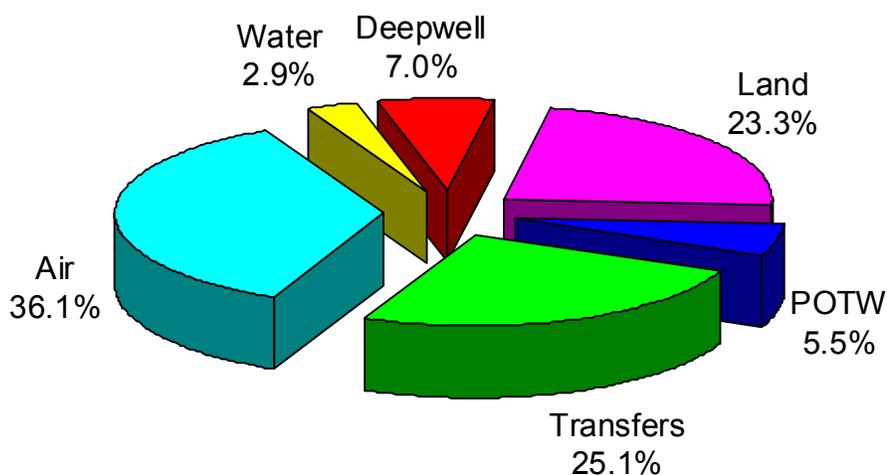
Table 2A: 10-Year-Trend: All Facilities and Chemicals (millions of pounds)

Comparison	1998*	1999	2000	2001	2002	2003	2004	2005	2006	2007
Releases to Air	162.6	151.0	145.5	122.1	134.1	132.2	128.2	126.3	120.2	114.8
Releases to Water	9.7	10.3	11.4	10.0	8.9	8.0	8.0	6.9	8.3	9.3
Deepwell Injection	28.8	27.7	30.3	32.0	29.6	29.3	22.6	24.5	22.5	22.3
Releases to Land On-Site	94.2	70.5	76.8	65.6	67.7	67.6	49.7	62.5	79.6	74.2
Discharges to POTW	19.3	19.8	23.1	18.8	17.4	17.3	18.6	19.8	16.6	17.5
Off-Site Disposal / Treatment	77.9	77.3	77.2	83.9	68.5	65.6	71.3	82.5	97.3	79.7
Total Releases & Transfers**	368.2	326.7	334.0	305.9	299.2	298.6	276.5	292.6	312.9	270.9
Off-Site Energy Recovery	101.4	60.0	46.3	41.0	53.8	42.8	37.6	35.9	34.9	31.6
On-Site Energy Recovery	117.0	124.6	94.7	81.0	104.6	81.2	84.3	82.1	97.5	73.9
Off-Site Recycling	190.8	186.9	175.1	172.7	168.5	150.5	148.0	159.7	160.3	163.2
On-Site Recycling	288.5	233.8	223.1	205.6	167.1	171.7	157.8	132.4	98.1	108.9
On-Site Treatment	218.2	262.4	222.2	255.1	271.4	427.3	385.4	338.7	351.2	388.5
Reporting Facilities	1,728	1,735	1,749	1,798	1,735	1,689	1,642	1,630	1,572	1,477

* First reporting year for 7 additional industrial sectors.

** Does not include releases that were transferred off-site to facilities that reported the same chemical under TRI.

Figure 2A: 2007 Toxic Releases and Transfers

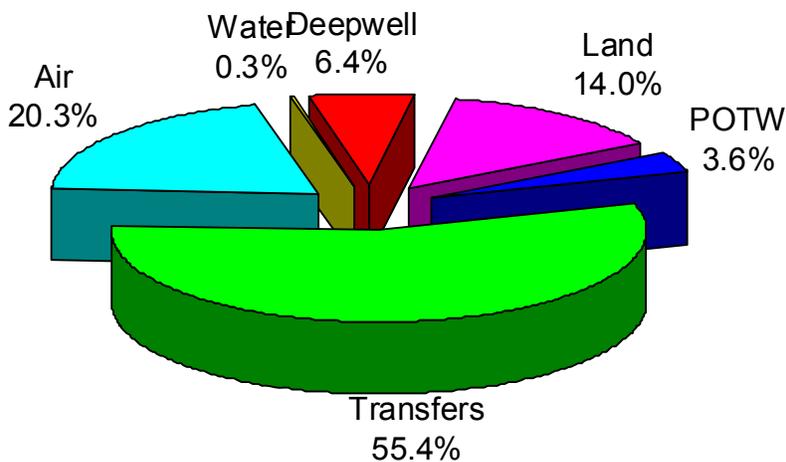


Summary of Data

Table 2B: 10 Year-Trend: Original Facilities and Chemicals (millions of pounds)

Comparison	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Releases to Air	41.2	38.4	35.6	30.0	29.6	30.0	27.5	26.14	25.6	23.8
Releases to Water	1.0	0.5	0.46	0.4	0.3	0.6	0.3	0.3	0.4	0.3
Deepwell Injection	11.4	12.3	11.2	13.8	11.6	14.6	8.6	14.2	10.0	7.6
Releases to Land On-Site	29.6	19.3	15.3	10.2	9.0	16.3	7.6	13.1	12.7	16.4
Discharges to POTW	5.9	5.7	6.9	5.1	4.3	4.4	4.7	5.6	4.6	4.2
Off-Site Disposal / Treatment	57.1	59.2	58.3	49.0	50.3	46.5	56.5	64.9	83.2	65.0
Total Releases & Transfers	146.2	135.4	127.7	108.4	105.1	110.3	105.1	124.3	136.6	117.2
Off-Site Energy Recovery	30.7	27.2	24.5	22.2	43.3	20.3	21.9	19.8	26.3	19.1
On-Site Energy Recovery	100.2	100.3	77.0	65.1	84.4	71.9	81.6	79.1	93.8	70.7
Off-Site Recycling	183.2	176.4	167.9	165.7	161.2	143.0	141.8	141.9	137.2	128.6
On-Site Recycling	243.1	181.7	165.2	152.3	129.0	113.3	78.2	63.8	63.9	59.8
On-Site Treatment	108.2	117.8	110.8	100.0	117.1	148.0	149.7	110.9	106.8	107.8
Reporting Facilities	1,490	1,486	1,509	1,570	1,508	1,469	1,418	1,413	1,378	1,293

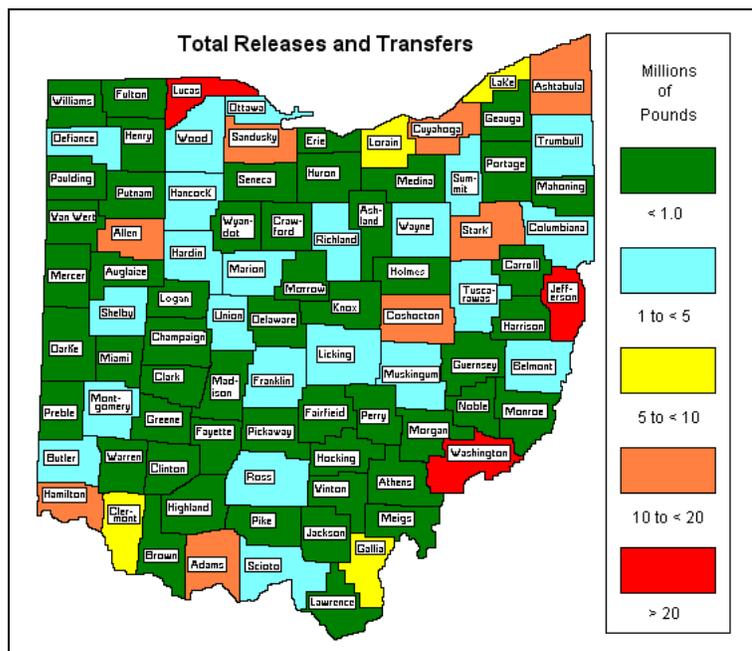
Figure 2B: 2007 Toxic Releases and Transfers



Summary of Data

Total Releases and Transfers for 2007*

Top 10 Counties		
County	Pounds	
1. Lucas	47,394,611	
2. Jefferson	36,381,281	
3. Washington	23,597,806	
4. Stark	16,111,275	
5. Adams	15,957,288	
6. Cuyahoga	15,476,906	
7. Hamilton	15,330,394	
8. Ashtabula	14,562,455	
9. Sandusky	14,092,902	
10. Allen	13,893,464	



Top 10 Chemicals

Chemical	Pounds
1. Zinc and zinc compounds	72,431,644
2. Hydrochloric acid (aerosols)	60,320,972
3. Manganese and manganese compounds	29,495,437
4. Nitrate compounds	21,435,724
5. Sulfuric acid (aerosols)	13,239,420
6. Hydrogen Fluoride	11,082,986
7. Ammonia	10,969,363
8. Barium and barium compounds	10,774,210
9. Nitric Acid	9,721,795
10. Methanol	8,575,544

Top 10 Facilities

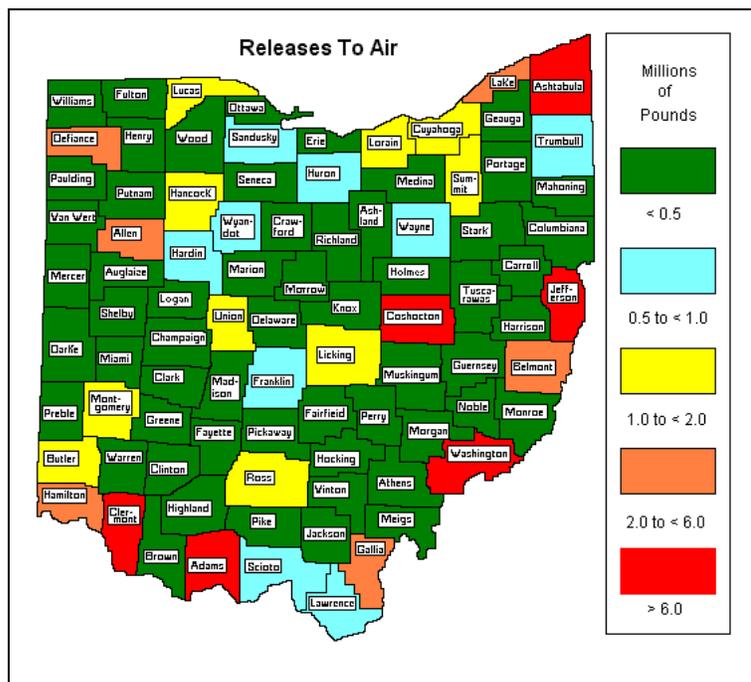
Facility / County	Pounds
1. EnviroSAFE Services of Ohio Inc. / Lucas	43,667,373
2. DP&L J.M. Stuart Station / Adams	13,840,801
3. Vickery Environmental Inc. / Sandusky	13,286,176
4. AEP - Cardinal Plant / Jefferson	12,139,122
5. Wheeling-Pittsburgh Steel / Jefferson	11,835,511
6. W. H. Sammis Plant / Jefferson	11,785,400
7. Muskingum River Plant / Washington	10,727,468
8. INEOS USA LLC / Allen	9,175,450
9. The Timken Co. – Gambrinus Roller / Stark	9,071,597
10. Millennium Inorganic Chemicals / Ashtabula	8,302,964

* All data included.

Summary of Data

Releases to Air for 2007*

Top 10 Counties		
County	Pounds	
1. Jefferson	19,556,028	
2. Washington	13,367,785	
3. Adams	12,601,324	
4. Ashtabula	8,296,170	
5. Clermont	6,729,472	
6. Coshocton	6,263,412	
7. Hamilton	5,147,421	
8. Gallia	4,306,187	
9. Lake	4,150,196	
10. Allen	3,853,681	



Top 10 Chemicals

Chemical	Pounds
1. Hydrochloric acid (aerosols)	60,254,497
2. Sulfuric acid (aerosols)	13,234,026
3. Ammonia	8,608,299
4. Carbonyl sulfide	8,017,860
5. Hydrogen fluoride	5,315,347
6. Methanol	2,890,043
7. Certain glycol ethers	2,197,968
8. 1-chloro-1,1-difluoroethane	1,925,143
9. Styrene	1,411,091
10. N-Hexane	1,374,370

Top 10 Facilities

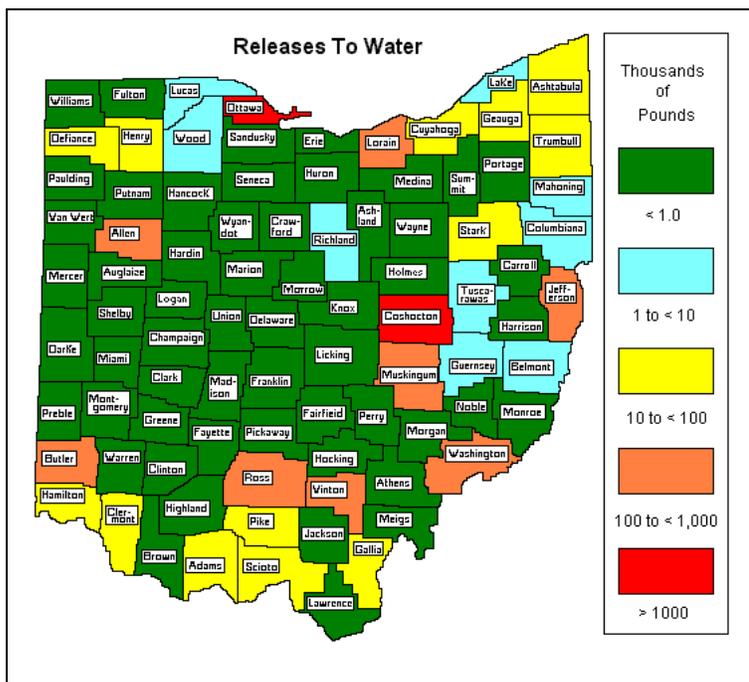
Facility / County	Pounds
1. DP&L J.M. Stuart Station / Adams	11,200,518
2. AEP - Cardinal Plant / Jefferson	10,299,550
3. American Electric Power Muskingum River Plant / Washington	9,633,869
4. FirstEnergy W.H. Sammis Plant / Jefferson	9,160,007
5. American Electric Power Conesville Plant / Coshocton	6,003,164
6. Millennium Inorganic Chemicals Plant 2 / Ashtabula	5,366,919
7. Beckjord Generating Station / Clermont	5,113,795
8. Cinergy Corp. Miami Fort Generating Station / Hamilton	3,995,323
9. FirstEnergy Eastlake Plant / Lake	3,345,867
10. PCS Nitrogen of Ohio L.P. / Allen	3,279,180

* All data included.

Summary of Data

Releases to Water for 2007*

Top 10 Counties	
County	Pounds
1. Coshocton	4,246,193
2. Ottawa	1,743,102
3. Muskingum	770,505
4. Washington	769,751
5. Allen	300,253
6. Ross	264,427
7. Butler	252,160
8. Lorain	196,272
9. Vinton	189,723
10. Jefferson	159,530



Top 10 Chemicals

Chemical	Pounds
1. Nitrate compounds	8,465,867
2. Ammonia	354,412
3. Manganese and manganese compounds	219,668
4. Zinc and zinc compounds	51,832
5. Barium and barium compounds	44,567
6. Methanol	39,608
7. Copper and copper compounds	32,407
8. Chromium and chromium compounds	15,330
9. Ethylene Glycol	15,000
10. Sodium nitrite	14,005

Top 10 Facilities

Facility / County	Pounds
1. AK Steel Corp. Coshocton Works / Coshocton	4,201,250
2. Brush Wellman Inc. / Ottawa	1,743,099
3. AK Steel Corp. Zanesville Works / Muskingum	770,505
4. Kraton Polymers US LLC / Washington	577,617
5. P.H. Glatfelter Co. – Chillicothe / Ross	264,427
6. AK Steel Corp. / Butler	226,989
7. PCS Nitrogen of Ohio LP / Allen	210,109
8. Republic Engineered Prods. Inc. / Lorain	193,011
9. Sands Hill Mining LLC / Vinton	184,435
10. Eramet Marietta Inc. / Washington	180,823

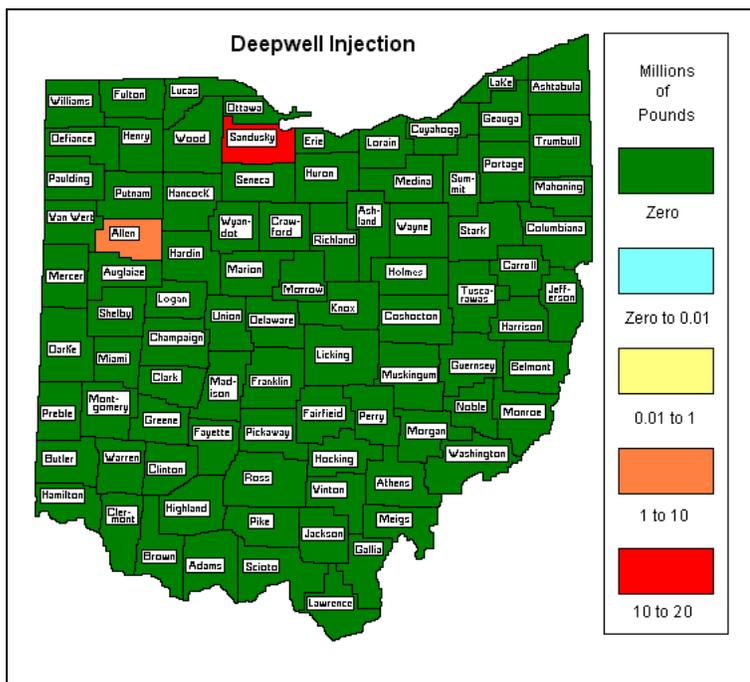
* All data included.

Summary of Data

Deepwell Injection for 2007*

Top 10 Counties	
County	Pounds
1. Sandusky	13,258,950
2. Allen	8,995,072

Note: Only 2 facilities reported on-site deepwell injection.



Top 10 Chemicals	
Chemical	Pounds
1. Nitric acid	5,872,939
2. Hydrogen fluoride	4,874,683
3. Acetonitrile	4,300,000
4. Chromium and chromium compounds	1,278,615
5. Ammonia	1,217,440
6. Acrylamide	960,000
7. Methanol	602,202
8. Acrylonitrile	560,000
9. Cyanides	460,000
10. Zinc and zinc compounds	280,471

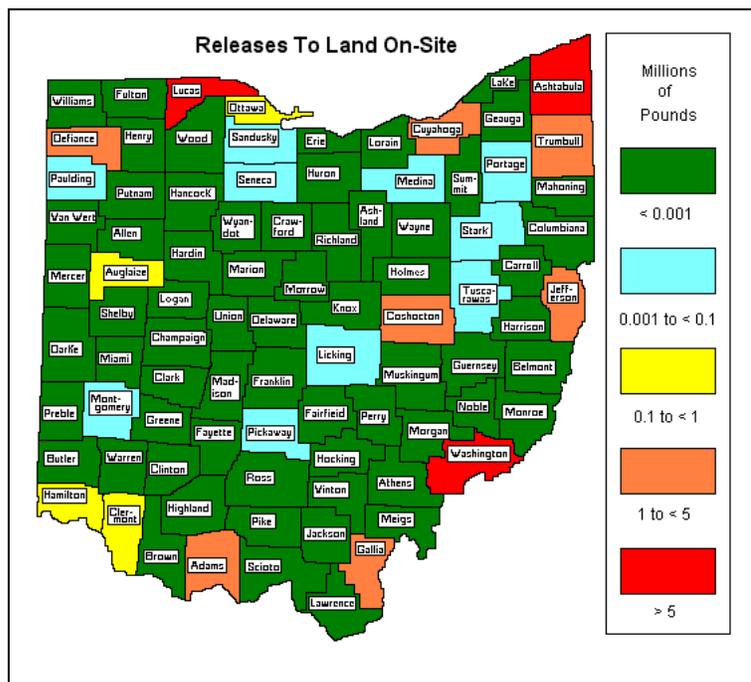
Top 10 Facilities	
Facility / County	Pounds
1. Vickery Environmental Inc. / Sandusky	13,258,950
2. INEOS USA LLC / Allen	8,995,072

* All data included.

Summary of Data

Releases to Land On-Site for 2007*

Top 10 Counties		
County	Pounds	
1. Lucas	44,234,889	
2. Ashtabula	5,300,505	
3. Washington	5,089,443	
4. Gallia	4,425,328	
5. Adams	3,335,508	
6. Cuyahoga	3,259,757	
7. Trumbull	2,067,598	
8. Jefferson	1,823,773	
9. Coshocton	1,472,165	
10. Defiance	1,071,291	



Top 10 Chemicals

Chemical	Pounds
1. Zinc and zinc compounds	39,439,172
2. Manganese and manganese compounds	16,598,157
3. Barium and barium compounds	5,932,993
4. Lead and lead compounds	3,710,946
5. Chromium and chromium compounds	2,003,610
6. Vanadium and vanadium compounds	1,685,278
7. Copper and copper compounds	1,496,447
8. Nickel and nickel compounds	837,204
9. Aluminum (fume or dust)	750,000
10. Arsenic and arsenic compounds	491,947

Top 10 Facilities

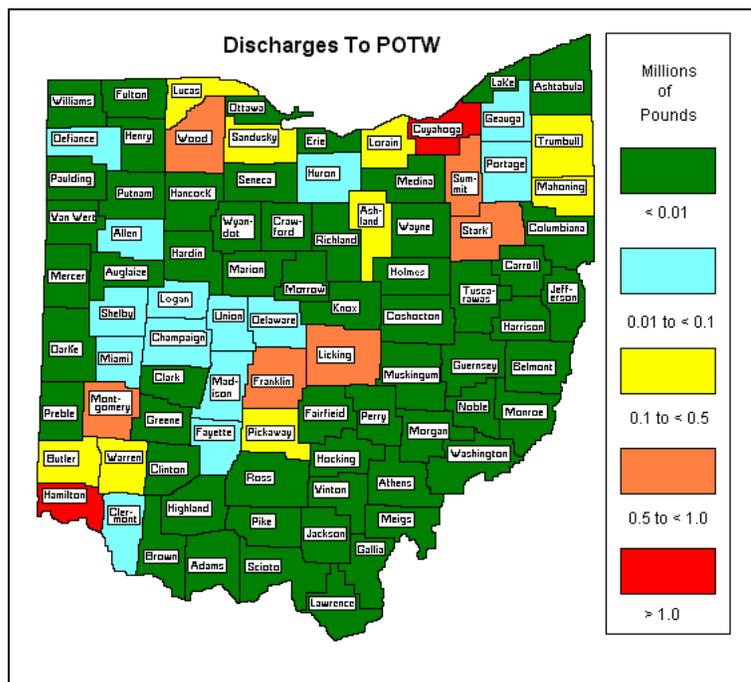
Facility / County	Pounds
1. EnviroSAFE Services of Ohio Inc. / Lucas	43,665,400
2. Eramet Marietta Inc. / Washington	4,008,700
3. Arcelormittal Cleveland Inc. / Cuyahoga	3,259,539
4. Millennium Inorganic Chemicals #2/ Ashtabula	2,990,045
5. American Electric Power Gavin Plant / Gallia	2,725,461
6. Dayton Power & Light Co. J.M Stuart Station / Adams	2,621,514
7. Millennium Inorganic Chemicals #1 / Ashtabula	2,400,199
8. WCI Steel Inc. / Trumbull	2,066,830
9. American Electric Power Cardinal Plant / Jefferson	1,823,773
10. Kyger Creek Station / Gallia	1,699,867

* All data included.

Summary of Data

Discharges to POTW for 2007*

Top 10 Counties		
	County	Pounds
1.	Hamilton	8,660,773
2.	Cuyahoga	1,410,995
3.	Montgomery	879,272
4.	Stark	738,383
5.	Franklin	690,726
6.	Summit	612,217
7.	Licking	570,819
8.	Wood	514,352
9.	Trumbull	475,652
10.	Warren	446,101



Top 10 Chemicals

Chemical	Pounds
1. Nitrate compounds	12,425,518
2. Methanol	1,867,245
3. Certain glycol ethers	707,300
4. Ammonia	469,281
5. Ethylene glycol	437,669
6. Zinc and Zinc Compounds	317,830
7. Sodium nitrite	267,225
8. Allyl alcohol	232,624
9. Formaldehyde	137,063
10. Aniline	88,898

Top 10 Facilities

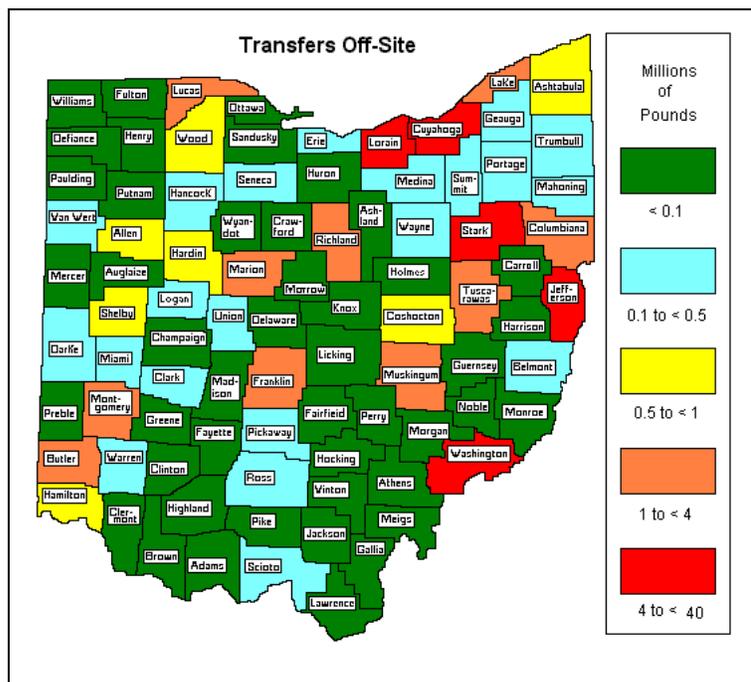
Facility / County	Pounds
1. Shepherd Chemical Co. / Hamilton	6,156,453
2. Cognis Corp. / Hamilton	1,093,160
3. Anomatic Corp. / Licking	486,291
4. Diamond innovations Inc. / Franklin	453,132
5. PPG Industries Inc. Barberton / Summit	442,982
6. Tremco Inc. / Ashland	441,380
7. Charter Steel Rising Sun / Wood	415,530
8. Rhodia Inc. / Hamilton	389,156
9. Cargill Inc. Corn Milling / Montgomery	380,612
10. GM Lordstown Complex / Trumbull	379,890

* All data included.

Summary of Data

Transfers Off-Site To Disposal or Treatment for 2007*

Top 10 Counties		
County	Pounds	
1. Stark	14,950,114	
2. Jefferson	14,841,950	
3. Cuyahoga	9,623,893	
4. Washington	4,370,826	
5. Lorain	4,137,554	
6. Marion	3,254,330	
7. Richland	3,038,007	
8. Muskingum	2,501,411	
9. Montgomery	2,497,783	
10. Lake	2,262,619	



Top 10 Chemicals

Chemical	Pounds
1. Zinc and zinc compounds	31,909,454
2. Manganese and manganese compounds	12,148,647
3. Barium and barium compounds	4,629,420
4. Nitric Acid	3,661,078
5. Chromium and chromium compounds	3,362,989
6. Methanol	3,176,445
7. Aluminum (fume or dust)	2,748,629
8. Lead and lead compounds	2,305,160
9. Copper and Copper Compounds	2,072,892
10. Nickel and Nickel Compounds	1,778,839

Top 10 Facilities

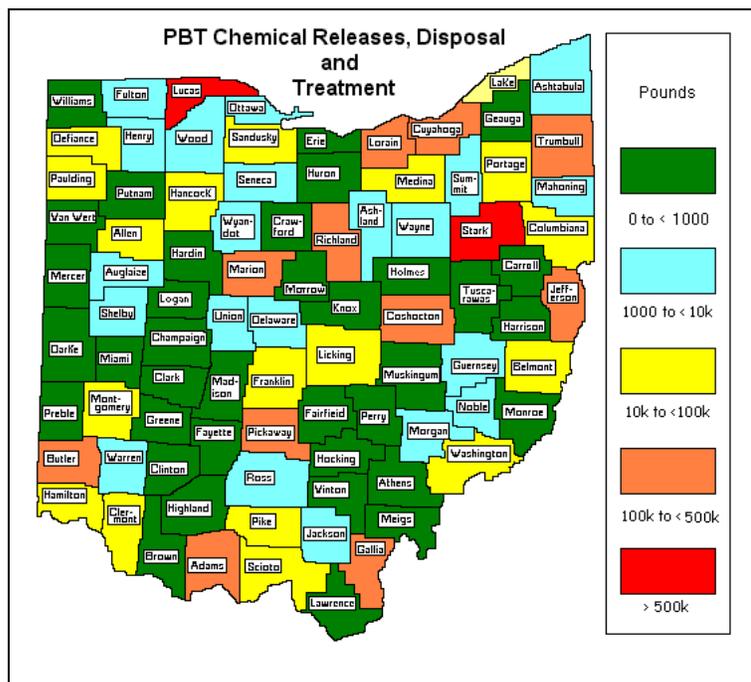
Facility / County	Pounds
1. Wheeling-Pittsburgh Steel Corp. Mingo / Jefferson	11,800,886
2. Timken Co. Gambrinus roller / Stark	9,028,736
3. Envirote of Ohio Inc. / Stark	5,230,547
4. Energizer Battery Mfg. Inc. / Washington	3,763,334
5. AK Steel Corp. – Mansfield Works / Richland	2,963,168
6. FirstEnergy W.H. Sammis Plant / Jefferson	2,614,749
7. AK Steel Corp. – Zanesville Works / Muskingum	2,475,908
8. NUCOR Steel Marion Inc. / Marion	2,297,477
9. DuPont Electronic polymers / Montgomery	2,089,077
10. Arcelormittal Cleveland Inc. / Cuyahoga	2,005,840

* All data included.

Summary of Data

PBT Chemical Releases, Disposal and Treatment for 2007*

Top 10 Counties		
County	Pounds	
1. Lucas	3,016,352	
2. Stark	611,286	
3. Jefferson	307,548	
4. Lorain	260,484	
5. Cuyahoga	182,996	
6. Marion	179,984	
7. Coshocton	133,986	
8. Trumbull	129,743	
9. Gallia	129,249	
10. Adams	123,563	



PBT Chemical Release, Disposal and Treatment Summary†

PBT Chemical	Air	Water	Deepwell Injection	Land	POTW	Off-Site Disposal / Treatment
Aldrin	0	0	0	0	0	0
Benzo(G,H,I)perylene	1,735.21	87.68	0	0.84	5.0	923.12
Chlordane	1.5	0	0	0	0	1,599.16
Dioxin & compounds	29.61 gr	0.36 gr	0	254.14 gr	0	110.49 gr
Heptachlor	0.08	0	0	0	0	562.5
Hexachlorobenzene	0.45	0	0	0	16.5	1,635.52
Isodrin	0	0	0	0	0	0
Lead & compounds	50,493.95	4,662.61	9,503	3,710,947	4,595.4	2,305,160
Mercury & compounds	7,829.8	42.84	36.0	3,830.76	4.42	3,620.88
Methoxychlor	0.22	0	0	0	0	1,310
Pendimethalin	792.79	2.02	0	0	1.92	8,092
Pentachlorobenzene	118.18	0	0	0	0	371.4
PCBs	0	0	0	0	0	30
PACs	6,204.22	3.42	111	164.6	5.2	26,418.55
Tetrabromobisphenol A	0	0	0	0	0	0
Toxaphene	0.17	0	0	0	0	551.76
Trifluralin	1.38	0.4	0	0	0.38	63.06

† Quantities rounded to whole numbers, units are pounds unless specified otherwise.

* All data included.

Summary of Data

Releases by Industry

Table 3 presents the TRI releases and transfers by industrial group or Standard Industrial Classification (SIC) codes. Only manufacturing facilities in SIC codes 20 through 39 were initially required to report under TRI. Seven industrial groups within major SIC codes 10, 12, 49, 51 and 73 began reporting in 1998. These are metal mining (10), coal mining (12), coal and oil-fired electricity generating facilities (4911 and 4931), RCRA Subtitle C refuse system facilities (4953), chemicals and allied products (wholesale, 5169), petroleum bulk stations (wholesale, 5171), and solvent recovery services (7389). In addition, federal facilities are required to report to TRI under a presidential executive order. Federal facilities may fall in a variety of SIC codes, both within and outside of the TRI reportable SIC codes. Federal facilities which fall outside of the TRI SIC codes are grouped within “other” in Table 3.

In analyzing releases by manufacturing industry, trends remain fairly constant. The industry groups with the largest quantities of TRI releases and transfers for treatment and disposal in 2007 were those reporting facilities in major SIC code 49 (Electric, Gas, and Sanitary Services), major SIC code 33 (Primary Metal Industries), and major SIC code 28 (Chemicals and Allied Products). The reporters in major SIC code 49 are limited to coal or oil fired electric generating plants distributing electric power in commerce (4911 and 4931) and to RCRA Subtitle C refuse systems (4953). The following table represents the industrial categories and their reported releases and transfers under TRI. (Major SIC codes 49 are broken out into electric generating and refuse systems.)

The industrial sectors most recently added accounted for almost 50% of the releases and transfers for treatment and disposal reported. The electric generating facilities accounted for releases and transfers for treatment and disposal of over 94 million pounds, and the RCRA Subtitle C refuse system facilities accounted for over 64 million pounds of releases and transfers for treatment and disposal.

Summary of Data

Table 3: Releases and Transfers by SIC Code

SIC Code	Industry Group	Number of Reporting Facilities	Number of Reports	On-Site Releases (Air, Water, Land On-Site and Deepwell Injection)	Discharges to POTW & Transfers Off-Site for Treatment / Disposal	Transfers Off-Site for Energy Recovery & Recycling	On-Site Recycling, Treatment, and Energy Recovery
12	Coal Mining	2	23	148,460	0	0	0
20	Food & Kindred Products	48	103	2,133,239	679,402	84,705	1,655,972
22	Textile Mill Products	6	23	68,919	85,061	4,490	26,707
23	Apparel	7	14	52,521	43,649	16,165	152,940
24	Lumber & Wood Products	32	91	235,500	922,131	1,283,843	2,520,616
25	Furniture & Fixtures	5	14	19,930	21,920	436,263	0
26	Paper & Allied Products	27	94	2,644,604	415,794	714,369	26,211,069
27	Printing & Publishing	12	23	75,677	52,720	107,712	506,905
28	Chemicals & Allied Products	237	1,175	30,535,991	22,595,453	27,213,458	177,110,260
29	Petroleum Refining	26	250	2,098,799	1,008,423	1,157,548	36,518,852
30	Rubber & Miscellaneous Plastics	177	383	3,849,895	1,647,302	2,196,775	5,021,113
32	Stone, Clay, Glass & Concrete	111	298	3,769,136	1,283,538	4,107,849	45,343,554
33	Primary Metal Industries	249	813	23,098,228	35,438,281	39,991,450	48,105,135
34	Fabricated Metal Products	201	597	3,202,605	2,969,364	35,592,778	8,856,232
35	Industrial Machinery	92	267	271,971	11,064,520	13,144,301	2,508,203
36	Electronic Equipment	63	151	802,273	1,728,844	17,598,466	3,371,543
37	Transportation Equipment	69	387	1,657,610	1,547,820	5,129,054	1,904,740
38	Instruments and Medical Goods	9	12	5,537	905	507,154	7,265
39	Miscellaneous Manufacturing	4	5	6	1,673	111,867	14,118
4911 4931	Electric Services (coal and/or oil fired)	27	340	87,001,333	6,515,802	1,457,932	126,872,245
4953	RCRA Refuse Systems	16	397	56,998,297	7,319,505	40,177,111	72,117,058
51	Wholesale Trade – Chemical and Petroleum Products	38	377	143,314	214,537	1,498,340	12,313,438
73	Business Services	5	40	3,792	1,631,376	2,276,189	74,910
-	Other	14	16	1,676,697	0	2,480	0

Summary of Data

Management of TRI Chemicals in Waste

The Pollution Prevention Act (PPA) of 1990 required facilities to report information about the quantities of TRI chemicals in waste managed both on-site and off-site. The PPA established a hierarchy of waste management options in which source reduction is the preferred approach to managing waste. Source reduction is defined as a means of preventing waste from being generated. In situations where source reduction cannot be implemented, the preferred management techniques in order of preference are recycling, energy recovery, and treatment.

The TRI data can be used to analyze trends in total quantities of TRI chemicals in waste to determine if facilities are reducing the amount of waste generated. As reported under TRI, waste falls under one of four categories based upon its final disposition. The first category is releases on-site, which includes releases to air, water, deepwell injection, and land on-site. The second category is discharges to POTWs and transfers off-site for treatment and disposal. The third category is transfers off-site for recycling and energy recovery, and includes waste recycled or used as fuel. The fourth category is waste management on-site, which includes on-site treatment, recycling, and energy recovery. The following figures provide the relative percentages of the total amount of waste generated in these four categories. As illustrated by the pie chart, much of the waste generated never leaves the facility, but is managed on-site through treatment, recycling, or energy recovery. The on-site waste management data, when combined with the amounts released on-site and transferred off-site, is important in understanding the overall annual amount of waste which is generated by a facility.

Figure 3: Management Of Total Waste
(All industries and chemicals)

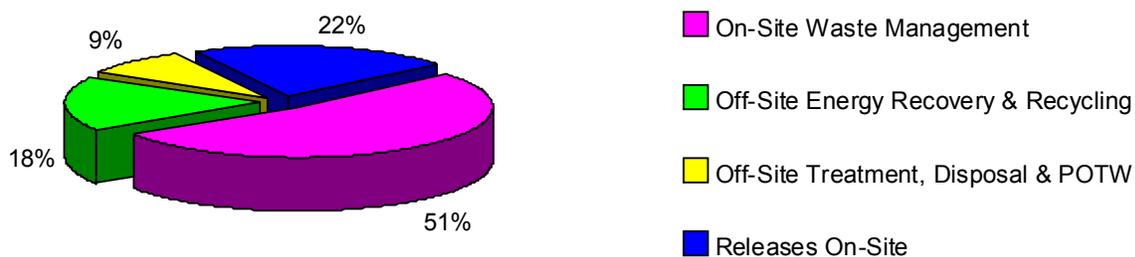
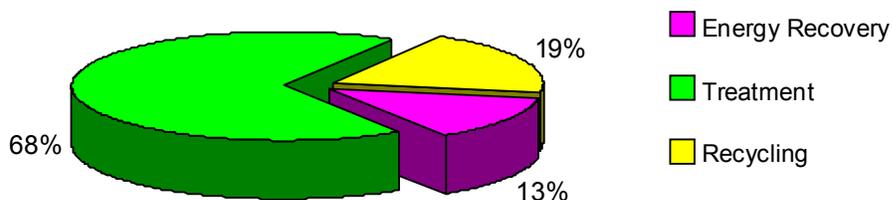


Figure 4: On-Site Waste Management
(All industries and chemicals)



Summary of Data

Nearly 184 facilities implemented source reduction activities at their facility during 2007 for over 407 chemicals. Source reduction means any activity which: (1) reduces the amount of any chemical entering any waste stream or released into the environment prior to recycling, treatment, or disposal; and (2) reduces the hazard to public health and the environment associated with the release(s) of such substances. Source reduction includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control. This continued level of source reduction by the reporting facilities demonstrates their commitment to continue to reduce toxic releases beyond environmental regulations.

Facilities also report their production ratios or an activity index for the current reporting year as compared to the prior reporting year. This ratio is to demonstrate the relative (to the prior year) use of a particular toxic chemical. The production ratio (or index) must be based on some variable of production or activity, which reflects the toxic chemical usage. A ratio of 1.1 would indicate a 10% increase in production related to the reported chemical. In 2007, nearly 43% of the TRI reports indicated an increase in production when compared to the data for 2006. Table 4 indicates the changes in production reported by facilities covered by TRI.

Table 4: Changes in Production from 2006 to 2007

Change in Production (Production Ratio)	Number of Form Rs	Percent Reporting
Increase by \geq 30%	513	10.0%
Increase by \geq 20%, less than 30%	212	4.13%
Increase by \geq 10%, less than 20%	478	9.32%
Less than 10% increase	993	19.36%
No Change	418	8.15%
Less than 10% decrease	837	16.32%
Decrease by \geq 10%, less than 20%	619	12.07%
Decrease by \geq 20%, less than 30%	319	6.22%
Decrease by \geq 30%	382	7.45%
Not applicable, not reported or zero	358	6.98%

National Perspective

Ohio, a leader in technology and industry, continues to represent a significant portion of the national TRI reporting industries and releases. Table 5 shows Ohio's national ranking for each type of release. The following tables are based on U.S. EPA's national TRI report and data from the March 19, 2009 national data release.

Table 5: Ohio's National Rank

National Rank In:	2005	2006	2007
Air Releases	1	1	1
Water Releases	14	13	7
Land On-Site Releases	5	6	5
Deepwell Injection	4	4	4
Reporting Facilities	1,580	1,552	1,472

Table 6: Number of Reporting Facilities

Number of Reporting Facilities – RY 2007		
Rank	State	Number of Facilities
1	Ohio	1,472*
2	Texas	1,461
3	California	1,360
4	Pennsylvania	1,199
5	Illinois	1,102

* According to Ohio EPA's data the number of reporting facilities is 1,477.

Table 7: Top States for Releases

Medium	Rank	State	Release (pounds)
Air	1	Ohio	118,810,696
	2	Georgia	83,337,231
	3	North Carolina	82,310,718
	4	Pennsylvania	79,387,526
	5	Texas	71,514,182
Water	1	Indiana	27,304,625
	2	Virginia	18,382,941
	3	Nebraska	17,409,779
	4	Texas	13,204,634
	5	Louisiana	12,811,400
	7	Ohio	9,312,046
Land On-Site	1	Alaska	561,715,599
	2	Nevada	217,547,847
	3	Utah	157,298,949
	4	Arizona	82,284,157
	5	Ohio	74,159,914
Deepwell Injection	1	Texas	76,491,252
	2	Louisiana	39,765,542
	3	Florida	26,742,665
	4	Ohio	22,254,022
	5	Alaska	21,278,305

Additional Information

Ohio EPA's Division of Air Pollution Control (DAPC) has the primary responsibility in Ohio for collecting, processing, and distributing information submitted under TRI. Additional information not contained in this report is available to the public through the TRI Program located in DAPC.

Ohio TRI Report Access	The reports submitted by facilities are available for review at Ohio EPA's office located at 50 West Town Street in Columbus from 8:00 a.m. to 5:00 p.m. Photocopies are also available.	
Information Requests	TRI staff can take requests by phone to provide information on individual facilities. TRI information can be supplied by fax or by mail as either a hard copy or electronically. Data searches and summaries can also be performed. Call the TRI staff at (614) 644-2270 during business hours.	
U.S. EPA Electronic Facility Data Release (e-FDR) and Public Data Release (PDR)	U.S. EPA's TRI PDR covers information nationwide and provides a good perspective on how Ohio compares to other states. The e-FDR will be available until the PDR is made and gives access to data, on a form-by-form basis, until the PDR is made. Information pertaining to the e-FDR or PDR can be obtained from U.S. EPA via their hotline at 1-800-424-9346 or from the U.S. EPA Web site.	
Web Resources	Ohio EPA TRI	www.epa.state.oh.us/dapc/tri/tri.html
	U.S. EPA TRI	www.epa.gov/tri/
	U.S. EPA TRI Explorer	www.epa.gov/triexplorer
	Toxnet	www.toxnet.nlm.nih.gov/
	Envirofacts	www.epa.gov/enviro/
	RTK Network	www.rtknet.org/
	Ohio County Profiles	http://development.ohio.gov/research/RegionalProfiles.htm
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TRI Related Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry
BACT	Best Available Control Technology
BIF	Boiler and Industrial Furnace
CAA	Clean Air Act
CEM	Continuous Emissions Monitoring
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
EHS	Extremely Hazardous Substance
EIS	Environmental Impact Statement
EIS	Emissions Inventory System
EPA	Environmental Protection Agency
EPCRA	Emergency Planning & Community Right-to-Know Act
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FIFRA	Federal Insecticide, Fungicide & Rodenticide Act
FINDS	Facility Index System
FOIA	Freedom of Information Act
FR	Federal Register
HAP	Hazardous Air Pollutant
HCFC	Hydrochlorofluorocarbon
HMR	Hazardous Materials Regulations
HON	Hazardous Organic NESHAP
HSWA	Hazardous & Solid Waste Amendments - 1984 Amendments to RCRA
LEPC	Local Emergency Planning Committee
MACT	Maximum Achievable Control Technology
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standard
NACEPT	National Advisory Committee on Environmental Policy and Technology
NESHAP	National Emission Standard for Hazardous Air Pollutant
NOx	Abbreviation for oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
PACs	Polycyclic Aromatic Compounds
PAH	Polynuclear Aromatic Hydrocarbon

TRI Related Acronyms

PBT	Persistent Bioaccumulative Toxic chemicals
PCB	Polychlorinated Biphenyls
PEL	Permissible Exposure Limit
PIC	Product of Incomplete Combustion
PM	Particulate Matter
POTW	Publicly Owned Treatment Works
PPA	Pollution Prevention Act of 1990
ppb	Parts per billion
ppm	Parts per million
RCRA	Resource Conservation & Recovery Act
RQ	Reportable Quantity
SARA	Superfund Amendments & Reauthorization Act
SDWA	Safe Drinking Water Act
SERC	State Emergency Response Commission
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAP	Toxic Air Pollutant
THC	Total Hydrocarbons
TITLE III	(SARA) Emergency Planning and Community Right-to-Know Act
TLV	Threshold Limit Value
TPH	Total Petroleum Hydrocarbons
TPQ	Threshold Planning Quantity
TRI	Toxic Release Inventory
TSCA	Toxic Substance Control Act
TSDF	Treatment, Storage and Disposal Facility
TSP	Total Suspended Particulates
TWA	Time Weighted Average
UIC	Underground Injection Control
USC	United States Code
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
VOL	Volatile Organic Liquid
WQM	Water Quality Management