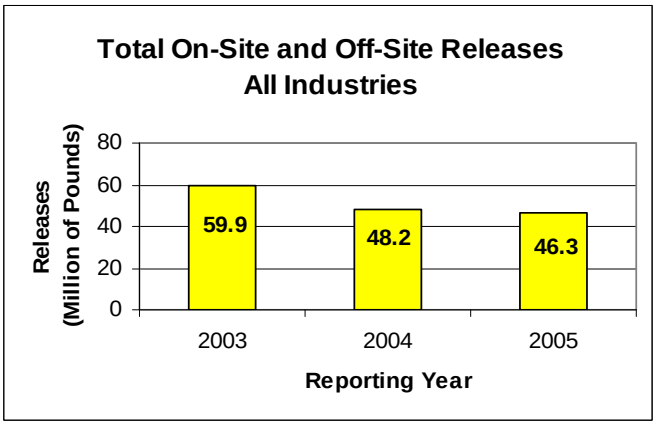
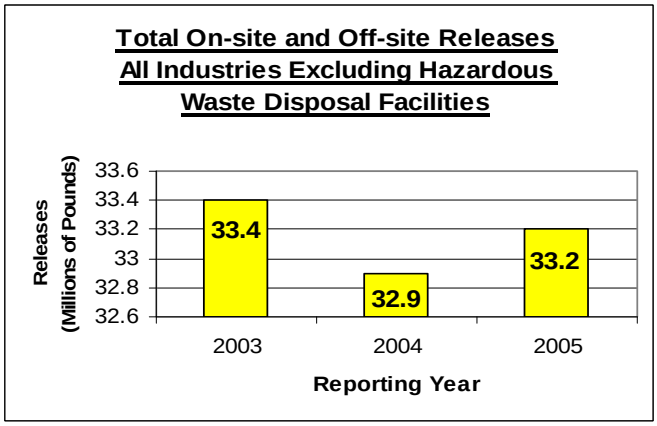
California Report: 2005 Toxics Release Inventory

U.S. EPA Region 9
Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations

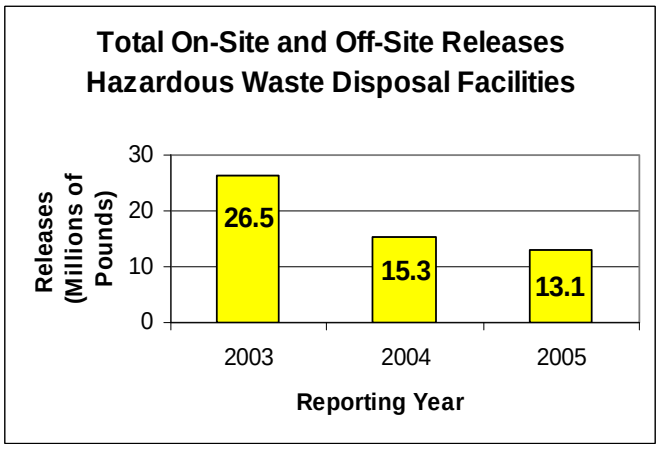
March 2007

Trends in Toxic Chemical Releases for 2003 – 2005*





Total Releases for Reporting Years 2003 - 2005					
Year	**Air**	**Water**	**On-Site Land**	**Under-ground Injection**	**Off-Site**
2003	18,302,504	4,617,465	27,348,270	30,086	9,584,548
2004	18,484,502	4,321,131	16,022,172	22,263	9,380,804
2005	17,334,480	3,563,106	15,535,435	18,432	9,858,946



The 2005 Public Data Release

EPA has made public the 2005 data on toxic chemicals that were released to California's air, water, and land. This information comes from the Toxics Releases Inventory (TRI), a federal community right-to-know program.

In California, 1,513 facilities reported a total of 46.3 million pounds of toxic chemical releases.

Facilities that meet certain criteria must report the amounts of toxic chemicals disposed of or otherwise released on-site to air, water, land, and injected underground and the amounts of chemicals transferred off-site for disposal or release. Off-site disposal or release can include land disposal at permitted hazardous waste facilities. **

The data does not indicate whether a facility is violating environmental laws. Many of the facilities reporting under this program are subject to state and federal regulations designed to protect

** Year to year data comparisons do not reflect changes in reporting requirements.*
*** No adjustments were made to account for double counting that could occur as result of off-site transfers of some TRI facilities that receive the on-site transfers.*

human health and the environment. For instance, Resource Conservation and Recovery Act (RCRA) Subtitle C Landfills must comply with stringent requirements for liners, leak detection systems, and groundwater monitoring. Disposal in underground injection wells is regulated by EPA's Underground Injection Control Program which provides safeguards so that injection wells do not endanger current and future sources of drinking water.

Releases and Risk

Release is defined as the amount of a toxic chemical released on-site (to air, water, underground injection, landfills, and other land disposal), and the amount transferred off-site for disposal.

It is important to note that a release should not be directly equated with risk. To evaluate risk, release data must be combined with information about site-specific conditions, exposure, and chemical toxicity. High volume releases of less toxic chemicals may pose less risk than lower volume releases of highly toxic chemicals. Increases in on-site land releases at permitted hazardous waste facilities may indicate a reduction in risk.

Industries

Manufacturing industries have been reporting their releases since 1987 and federal facilities since 1994. In 1998, and additional seven industry sectors began reporting their toxic chemical releases for the first time. These sectors are metal and coal mining, electricity generation, commercial hazardous waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors.

A facility is subject to TRI reporting requirements if it: has 10 or more full time employees; is classified under a reportable Standard Industrial Classification (SIC) code; and manufactures, process, or otherwise uses any of the listed toxic chemicals in amounts greater than the threshold quantities. For most chemicals (excluding Persistent, Bioaccumulative, and Toxic (PBT) chemicals) the thresholds are 25,000 pounds for manufactured and processed and 10,000 pounds for otherwise used.

California's Releases

California's total reported on-site and off-site releases decreased 4%, or 1.9 million pounds, when compared to 2004 data. Leading the trend was a decrease of 1.2 million pounds in reported air releases. Air releases decreased by 6%. Chevron Products Co., a petroleum refining facility in El Segundo, had a reported decrease of 278 thousand pounds of air releases, and ConocoPhillips Co LA Refinery Wilmington Plant reported an air release decrease of 248 thousand pounds.

On-site land releases decreased by 3% (487 thousand pounds). Leading this trend was a 14% (1.8 million pound) decrease in on-site land disposal at Chemical Waste Management in Kettleman City.

California saw a reported decrease in underground injection releases. Underground injection releases decreased nearly 4 thousand pounds, a 17% change. There was a reported decrease of 4,552 pounds at the San Joaquin Refining Co Inc in Bakersfield.

California saw a reported decrease in water releases. Water releases decreased 758 thousand pounds, an 18% change. There was a reported decrease of 605 thousand pounds at Evergreen Pulp Enterprises in Samoa.

Persistent Bioaccumulative and Toxic (PBT) Chemicals

In the year 2000, TRI was expanded to include additional Persistent Bioaccumulative and Toxic (PBT) chemicals and to require reporting for these chemicals at lower thresholds, ranging from 0.1 grams to 100 pounds. PBT pollutants are toxic chemicals that persist in the environment and bioaccumulate in food chains, posing risks to human health and ecosystems.

In California, 5 million pounds of total on-site and off-site releases of PBT chemicals were reported. This is a decrease of 10% or 545 thousand pounds

from the previous year. The decrease in lead and lead compound releases drove the overall decrease of PBT releases in the state.

In determining release quantities for metal compounds, facilities only consider the primary metal portion of the compound. For instance, a facility reporting for lead compounds only reports the lead portion of the lead compounds released. Hence, the table below gives combined values for lead and lead compounds released. Hence, the table below gives combined values for lead and lead compound releases. The PBT chemicals are ranked by 2005 total releases. The data is in pounds except for dioxin and dioxin-like compounds, which are in grams.

PBT Chemical Releases

Releases of Persistent Bioaccumulative and Toxic (PBT) chemicals in pounds. Dioxin and dioxin-like compounds data are not in Toxicity Equivalence (TEQ).

Chemical	Total On-Site and Off-Site Releases		Percent Change
	2004	2005	
Lead and Lead Compounds (in Pounds)	5,459,722	4,789,174	-12%
Polycyclic Aromatic Compounds (in pounds)	14,066.26	136,109.71	868%
Mercury and Mercury compounds (in pounds)	63,521.45	65,618.91	3%
Polychlorinated Biphenyls (in pounds)	18,698.52	18,537.64	-0.86%
Hexachlorobenzene (in pounds)	892.18	2523.71	183%
Toxaphene (in pounds)	3646.5	2393.6	-34%
Benzo(g,h,i)perylene (in pounds)	942.28	2386.62	153%
Tetrabromobisphenol A (in pounds)	2520.3	1758.1	-30%
Chlordane (in pounds)	399	333.5	-16%
Trifluralin (in pounds)	0.02	235.01	1.2 million %
Methoxychlor (in pounds)	---	124.8	---
Heptachlor (in pounds)	---	27	---
Dioxin and Dioxin-like compounds (in grams)	210.22	210.59	0.18%

Lead and Lead Compounds

Starting in 2001, lead and lead compounds were reported as Persistent Bioaccumulative and Toxic (PBT) chemicals. While lead and lead compounds have been on the list of reportable chemicals since 1987, for the year 2001 the reporting threshold was drastically lowered (from 25,000 pounds manufactured and processed, and 10,000 pounds for otherwise used to 100 pounds manufactured, processed, or otherwise used). As a result, additional facilities are required to report releases of lead.

Approximately 4.8 million pounds of total lead releases were reported. The refuse systems industry released the largest amounts of reported lead, releasing a total of 2 million pounds. Thirty-two percent of the lead reported was released to land (approximately 1.5 million pounds) in RCRA Subtitle C Landfills. One such landfill Chemical Waste Management in Kettleman City, reported a 1.6 million pound decrease in on-site land disposal of lead.

There was an 18%, or 2 thousand pound, increase in lead air releases. U.S. Marine Corps Chocolate Mountains Aerial Gunnery Range in Niland, with a reported 1,854 pound change in lead air releases, was the facility with the largest increase.

Mercury and Mercury Compounds

Total releases for mercury have increased 3% from 2004 data. This was driven by a 150% (19 thousand pounds) increase in total releases at U.S. Navy Naval Air Weapons Station China Lake.

On-site land releases of mercury have decreased 72% or 27 thousand pounds. This trend was driven by a 27 thousand pound decrease at Chemical Waste Management. The majority (89%, or 9 thousand pounds) of reported mercury land releases were disposed of on-site at RCRA Subtitle C Landfills.

There was a reported 35%, or 2 thousand pound, decrease in mercury air releases. With the largest decrease of 1,808 pounds at Lehigh Southwest Cement Co in Tehachapi. The majority of mercury air releases came from the hydraulic cement industry, they released 79% or 2,328 pounds.

Polychlorinated Biphenyls (PCBs) and Polycyclic Aromatic Compounds (PACs)

Chemical Waste Management reported 98% of the PCBs total releases. Approximately 19 thousand pounds were disposed on-site to land. Chemical Waste Management also had the highest release of PACs (132 thousand pounds). The reported increase in PAC releases was driven by Chemical Waste Management reporting 129 thousand pounds more as on-site land disposal in 2005.

Facilities Releasing the Largest Quantities of Chemicals

The top ten facilities in California for total on-site and off-site releases of all chemicals are:
1. Chemical Waste Management Inc. (Kettleman City, Kings County) with 10.9 million pounds.
2. Tesoro Refining & Marketing Co (Martinez, Contra Costa County) with 2.5 million pounds.
3. Quemetco Inc (City of Industry, Los Angeles County) with 2.1 million pounds.
4. Evergreen Pulp Enterprises (Samoa, Humboldt County) with 1.7 million pounds.
5. Clean Harbors Buttonwillow LLC (Buttonwillow, Kern County) with 1.2 million pounds.
6. Exxonmobil Oil Corp – Torrance Refinery (Torrance, Los Angeles County) with 1.1 million pounds.
7. Chevron Products Co. Richmond Refinery (Richmond, Contra Costa County) with 978 thousand pounds.
8. Chevron Products Co. Div of Chevron USA Inc. (El Segundo, Los Angeles County) with 879 thousand pounds.
9. Shell Oil Products US – Martinez Refinery (Martinez, Contra Costa County) with 872 thousand pounds.
10. GE Osmonics (Vista, San Diego County) with 866 thousand pounds.

The top ten facilities in California for total on-site and off-site releases of PBT chemicals are:
1. Chemical Waste Management Inc. (Kettleman City, Kings County) with 1.9 million pounds.
2. Quemetco Inc (City of Industry, Los Angeles County) with 1.4 million pounds.
3. Exide Technologies (Los Angeles, Los Angeles County) with 533 thousand pounds.
4. TXI Riverside Cement Oro Grande Plant (Oro Grande, San Bernardino County) with 186 thousand pounds.
5. Clean Harbors Buttonwillow LLC (Buttonwillow, Kern County) with 185 thousand pounds.
6. U.S. Marine Corps TwentyNine Palms Air Ground Combat Center (TwentyNine Palms, San Bernardino County) with 163 thousand pounds.
7. U.S. Marine Corps MCB Camp Pendleton (Camp Pendleton, San Diego County) with 147 thousand pounds.
8. P Kay Metal Inc (Los Angeles, Los Angeles County) with 85 thousand pounds.
9. Clean Harbors San Jose LLC (San Jose, Santa Clara County) with 74 thousand pounds.
10. U.S. Navy Naval Air Weapons Station China Lake (China Lake, Kern County) with 31 thousand pounds.

On-line Access

For national information on data releases, see:
http://www.epa.gov/tri

The TRI data is available through Envirofacts Warehouse, EPA's premier internet site for distributing environmental information at:
http://www.epa.gov/enviro
Or the TRI Explorer tool:
http://www.epa.gov/triexplorer

For general information on the Toxics Release Inventory, including reporting requirements for businesses, go to:
http://www.epa.gov/region09/toxic.tri

For more information on EPA's PBT Chemicals Program, go to: http://www.epa.gov/opptintr/pbt

Information and Assistance

Region 9 staff will answer questions and assist you in learning more about the TRI Program.

U.S. EPA Region 9, TRI Program
Mariela Lopez, (415) 972-3771