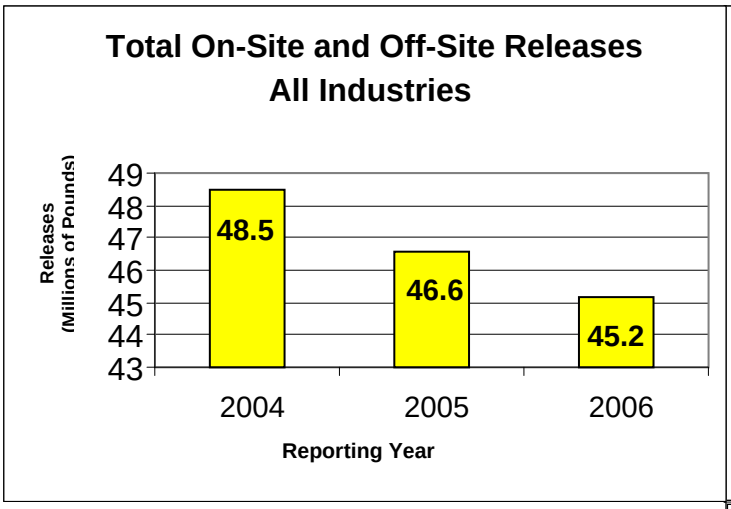
California Report: Toxics Release Inventory

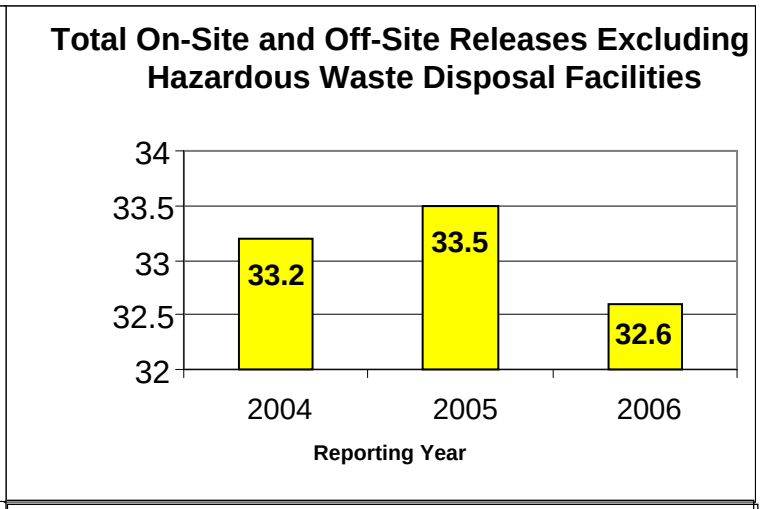
Reporting Year 2006

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

-- March 2008

Trends in Toxic Chemical Releases for 2004 – 2006*

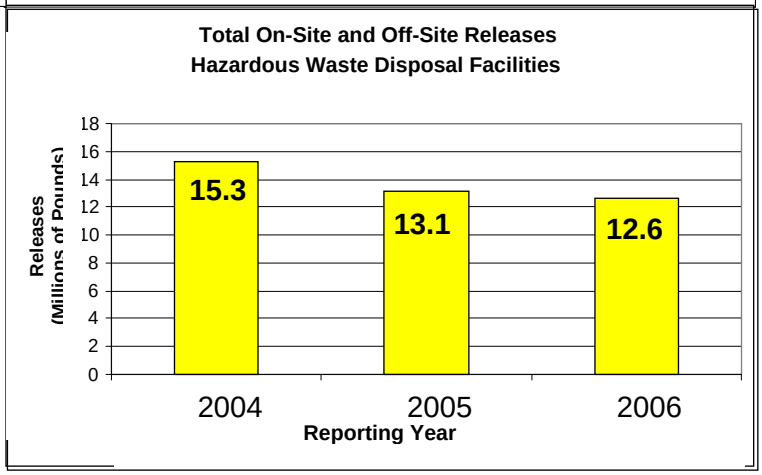




Total Releases for Reporting Years 2004 - 2006

Year	Air	Water	On-Site Land	Underground Injection	Off-Site
2004	18,501,892	4,321,402	16,023,780	22,263	9,634,539
2005	17,336,234	3,563,375	15,586,820	18,432	10,143,191
2006	16,776,015	5,026,691	14,256,303	51,688	9,056,080

** Year- to-year data comparisons do not reflect changes in reporting requirements*



The 2006 Public Data Release

EPA has made public the 2006 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, 1,462 facilities reported a total of 45.2 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 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, an 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 North American Industrial Classification (NAICS) code; and manufactures, processes, or otherwise uses any of the listed toxic chemicals in amounts greater than the threshold quantities. For most chemicals (excluding Persistent, Bioaccumulative, and Toxic 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 3%, or 1.5 million pounds, when compared to 2005 data. Leading the trend were decreases of more than one million pounds each in reported land releases and off-site transfers. Chemical Waste Management, a RCRA subtitle C landfill, in Kettleman City, had a reported decrease of 1.7 million pounds of land releases, and 425 thousand pounds of off-site transfers.

Air releases decreased by 3% (560 thousand pounds). Leading this trend was a 24% (527 thousand pound) decrease in air releases at Tesoro Refining and Marketing Co. in Martinez.

California saw a reported increase in underground injection releases. Underground injection releases increased 33 thousand pounds, a 180% change. There was a reported increase of about 35 thousand pounds of underground injection releases at US Marine Corps MCB Camp Pendleton in Camp Pendleton.

California saw a reported increase in water releases.

** *No adjustments were made to account for double counting that could occur as a result of off-site transfers of some TRI facilities also being reported as on-site releases at permitted hazardous waste landfills and other TRI facilities that receive the on-site transfers.*

Water releases increased 1.5 million pounds, a 41% change. There was a reported increase of 617 thousand pounds at Chevron Product Co. Div of Chevron USA. There was also an increase of 404 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, 4.9 million pounds of total on-site and off-site releases of PBT chemicals were reported. This is a decrease of 4% or 178 thousand pounds from the previous year. The decrease in Polycyclic Aromatic Compounds 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. The PBT chemicals are ranked by 2006 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
	2005	2006	
Lead and Lead Compounds (in Pounds)	4,821,219	4,762,602	-1%
Mercury and Mercury compounds (in pounds)	50,129	44,511	-11%
Polychlorinated Biphenyls (in pounds)	18,538	26,333	42%
Polycyclic Aromatic Compounds (in pounds)	136,699	17,787	-87%
Toxaphene (in pounds)	2,394	3,386	41%
Benzo(g,h,i)perylene (in pounds)	2,424	1,620	-33%
Tetrabromobisphenol A (in pounds)	1,758	928	-47%
Methoxychlor (in pounds)	125	572	359%
Chlordane (in pounds)	334	205	-38%
Hexachlorobenzene (in pounds)	2524	114	-95%
Trifluralin (in pounds)	235	86	-64%
Heptachlor (in pounds)	27	19	-31%
Dioxin and Dioxin-like compounds (in grams)	210.09	220.16	5%

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 non-ferrous metals industry released the largest amounts of reported lead, releasing a total of 2 million pounds. Thirty-eight percent of the lead reported was released to land (approximately 1.8 million pounds) in RCRA Subtitle C Landfills.

There was a 53%, or 7,504 pound, increase in lead air releases. U.S. Marine Corps Chocolate Mountains Aerial Gunnery Range in Niland, with a reported 4,435 pound change in lead air releases, was the facility with the largest increase.

Mercury and Mercury Compounds

Total releases for mercury have decreased 11% from 2005 data. This was driven by a 98% (30 thousand pounds) decrease in total releases at U.S. Navy Naval Air Weapons Station China Lake.

On-site land releases of mercury have increased 175% or 19 thousand pounds. This trend was driven by a 19 thousand pound increase at Chemical Waste Management. The majority (98%, or 28 thousand pounds) of all reported mercury land releases were disposed of on-site at RCRA Subtitle C Landfills.

There was a reported 16%, or 487 pound, decrease in mercury air releases. The largest decrease of 169 pounds occurred at RMC Pacific Materials (dba Cemex) in Davenport. The majority of mercury air releases came from the cement industry, they released 81% or 2,000 pounds.

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

Chemical Waste Management reported 99% of total PCBs releases. Approximately 26 thousand pounds were disposed on-site to land. Chemical Waste Management also had the highest release of PACs (11 thousand pounds). The reported decrease in PACs releases was driven by Chemical Waste Management reporting 121 thousand pounds less as on-site land disposal in 2006.

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 8.8 million pounds.
2. Evergreen Pulp Enterprises (Samoa, Humboldt County) with 2.1 million pounds.
3. Quemetco Inc (City of Industry, Los Angeles County) with 1.9 million pounds.
4. Tesoro Refining & Marketing Co (Martinez, Contra Costa County) with 1.8 million pounds.
5. Valero Refining Co. – California Benicia Refinery (Benicia, Solano County) with 1.7 million pounds.
6. Clean Harbors Buttonwillow LLC (Buttonwillow, Kern County) with 1.6 million pounds.
7. Exxonmobil Oil Corp – Torrance Refinery (Torrance, Los Angeles County) with 1.5 million pounds.
8. Chevron Products Co. Div of Chevron USA Inc. (El Segundo, Los Angeles County) with 1.3 million pounds.
9. Chevron Products Co. Richmond Refinery (Richmond, Contra Costa County) with 1.2 million pounds.
10. Berg Laquer Co. Pacific Resource Recovery Services (Los Angeles, Los Angeles County) with 1.1 million 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 1.7 million pounds.
2. Quemetco Inc (City of Industry, Los Angeles County) with 1.2 million pounds.
3. Exide Technologies (Los Angeles, Los Angeles County) with 774 thousand pounds.
4. Clean Harbors Buttonwillow LLC (Buttonwillow, Kern County) with 185 thousand pounds.
5. TXI Riverside Cement Oro Grande Plant (Oro Grande, San Bernardino County) with 169 thousand pounds.
6. U.S. Marine Corps MCB Camp Pendleton (Camp Pendleton, San Diego County) with 123 thousand pounds.
7. U.S. Marine Corps Chocolate Mountain Gunnery Range (Niland, Imperial County) with 81 thousand pounds.
8. U.S. Marine Corps TwentyNine Palms Air Ground Combat Center (TwentyNine Palms, San Bernardino County) with 75 thousand pounds.

9. Equilon Enterprises LLC Carson Terminal (Carson, Los Angeles County) with 72 thousand pounds)
10. U.S. Army Fort Irwin National Training Center (Fort Irwin, San Bernadino County) with 66 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