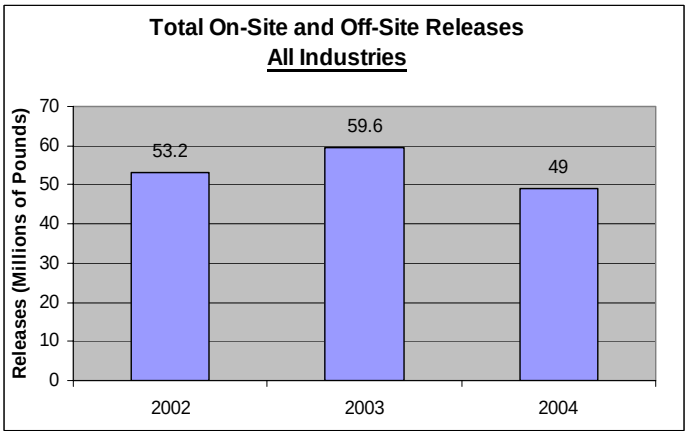
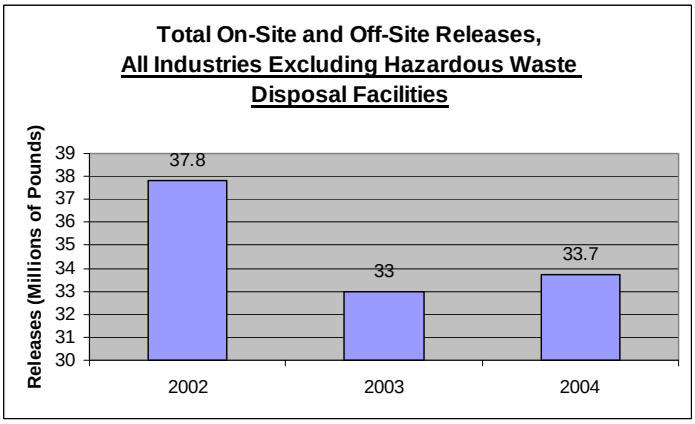
California Report: 2004 Toxics Release Inventory

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

April 2006

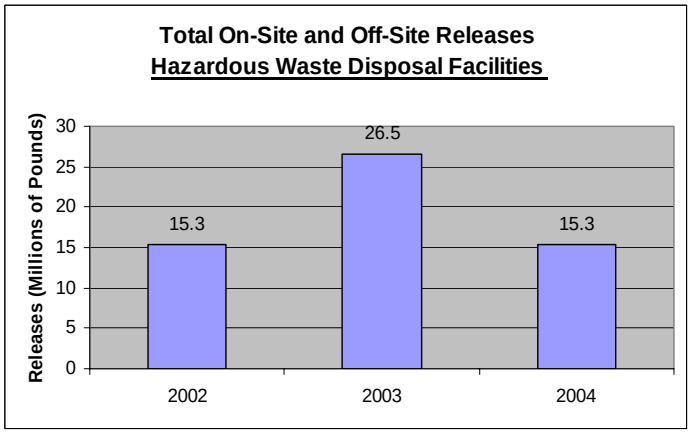
Toxic Chemical Releases: 2002 – 2004*





Total Releases for Reporting Years 2002 – 2004

Year	Air	Water	On-Site Land	Under-ground Injection	Off-Site
2002	19,274,079	5,556,900	19,586,395	37,228	8,712,399
2003	18,245,042	4,617,227	27,374,437	30,086	9,287,851
2004	18,373,803	4,320,869	16,054,047	22,263	10,221,404



The 2004 Public Data Release

EPA has made public the 2004 data on toxic chemicals that were released to California's air, water and land. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program. In California, 1,493 facilities reported a total of 49 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

** 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 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.*

Conservation and Recovery Act (RCRA) Subtitle C Landfills, a type of permitted hazardous waste facility, 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 underground sources of drinking water.

Releases and Risk

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. TRI chemicals vary widely in toxicity. High volume releases of less toxic chemicals may pose less environmental risk than lower volume releases of highly toxic chemicals. Increases in on-site releases at permitted hazardous waste facilities may indicate a reduction in risk.

Industries

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, 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 (PBT) chemicals) the thresholds are 25,000 pounds for manufactured or processed and 10,000 pounds for otherwise used.

Manufacturing industries have been reporting their releases since 1987 and federal facilities started reporting in 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.

California's Releases

California's total reported on-site and off-site releases decreased 18% when compared to 2003 data. Leading the trend was a decrease of 11.3 million pounds in reported on-site land disposal, a 41% change. Chemical Waste Management Inc., a permitted hazardous waste landfill, had a reported decrease of 10 million pounds of on-site land disposal.

California saw a reported decrease in underground injection releases. Underground injection releases decreased 7,823 pounds, a 26% change. There was a reported decrease of 4,670 pounds at the Shell Bakersfield Refinery and a reported decrease of 3,153 pounds at San Joaquin Refining Co. Inc.

California saw a reported decrease in water releases. Water releases decreased 296 thousand pounds, a 6% change. Large decreases in releases to water occurred at various refineries (over 1 million pounds of nitrate compounds).

Reported air releases increased 129 thousand pounds, less than a 1% change.

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, 5.6 million pounds of total on-site and off-site releases of PBT chemicals were reported. This is a decrease of 34% or 2.8 million 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 compound releases and mercury and mercury compound releases. The PBT chemicals are ranked by 2004 total releases. The data is in pounds for all chemicals except dioxin and dioxin compounds, which is 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
	2003	2004	
Lead and Lead Compounds (in pounds)	8,119,959.86	5,458,099.09	- 33%
Mercury and Mercury Compounds (in pounds)	165,535.97	63,524.75	- 62%
Polychlorinated Biphenyls (PCBs) (in pounds)	75,060.08	18,698.52	- 75%
Polycyclic Aromatic Compounds (PACs) (in pounds)	30,016.04	14,066.96	- 53%
Toxaphene (in pounds)	318.10	3,646.50	1046 %
Tetrabromobisphenol A (in pounds)	836.70	2,520.30	201%
Benzo (g,h,i) Perylene (in pounds)	1,854.44	942.38	- 49%
Hexachlorobenzene (in pounds)	502.22	892.18	78%
Chlordane (in pounds)	387.40	399.00	3%
Trifluralin (in pounds)	---	.02	---
Heptachlor (in pounds)	24	---	---
Dioxin and Dioxin-like Compounds (in grams)	213.2177	209.9203	-1.6 %

Lead and Lead Compounds

Starting in the year 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 or processed, and 10,000 pounds otherwise used to 100 pounds manufactured, processed or otherwise used). As a result, additional facilities are required to report releases of lead and lead compounds.

Approximately 5.5 million pounds of total releases of lead and lead compounds were reported in California. The industry category releasing the largest amounts of reported lead and lead compounds was the refuse systems industry, releasing a total of 3.6 million pounds. Most of the lead and lead compounds reported were released to land (approximately 3.56 million pounds) in RCRA Subtitle C Landfills. One such landfill, Chemical Waste Management in Kettlemen City, reported a 3 million pound decrease in on-site land disposal of lead compounds.

There was a 33% or 5,794 pound decrease in lead and lead compound air releases. Certainteed Corp., with a reported 4,647 pound change in lead and lead compound air releases, was the facility with the biggest decrease.

Mercury and Mercury Compounds

58% of reported mercury and mercury compound releases were disposed on-site at RCRA Subtitle C Landfills (37 thousand pounds). The decrease in mercury and mercury compound releases was driven by a reported 83 thousand pound decrease in on-site land disposal of mercury compounds at Chemical Waste Management.

87% or 4004 pounds of mercury and mercury compounds air releases came from the hydraulic cement industry. There was a reported 2% or 113 pound decrease in mercury and mercury compound air releases. RMC Pacific Materials, a hydraulic cement facility, reported the largest decrease in mercury and mercury compound air releases (142 pounds).

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

Most of the reported PCBs were disposed on-site at Chemical Waste Management Inc. (approximately 18 thousand pounds). The reported decrease in PCB releases was driven by Chemical Waste Management reporting about 56 thousand pounds less of on-site land disposal. Chemical Waste Management also had the second highest releases for PACs (3,055 pounds). The Chemical Lime Nativadad Plant had the highest releases of PACs (5,292 pounds). Both of those

releases were to land. The reported decrease in PAC releases was driven by Chemical Waste Management reporting 24 thousand pounds less of on-site land disposal.

Top Facilities for Releases

The top 10 facilities for total on-site and off-site releases, of all chemicals, in California are:

❶ Chemical Waste Management (Kettleman City, Kings County) with 12.2 million pounds.
❷ Stockton Pacific Enterprises (Samoa, Humboldt County) with 2.3 million pounds.
❸ Clean Harbors Buttonwillow, L.L.C. (Buttonwillow, Kern County) with 2.1 million pounds.
❹ Tesoro Refining & Marketing Co. (Martinez, Contra Costa County) with 2.0 million pounds.
❺ Quemetco Inc. (City of Industry, Los Angeles County) with 1.5 million pounds.
❻ Chevron Products Co. Richmond Refinery. (Richmond, Contra Costa County) with 1.3 million pounds.
❼ ExxonMobil Oil Corp. Torrance Refinery (Torrance, Los Angeles County) with 1.2 million pounds.
❽ Advanced Environmental Inc. (Fontana, San Bernardino County) with 1.2 million pounds.
❾ Valero Refining Co. California Benicia Refinery (Benicia, Solano County) with 1.1 million pounds.
❿ ConocoPhillips Co. LA Refinery Wilmington Plant (Wilmington, Los Angeles County) with 1.1 million pounds.

The top 10 facilities for total on-site and off-site releases, of PBT chemicals, in California are:

❶ Chemical Waste Management (Kettleman City, Kings County) with 3.0 million pounds.
❷ Quemetco Inc. (City of Industry, Los Angeles County) with 1.1 million pounds.
❸ Clean Harbors Buttonwillow, L.L.C. (Buttonwillow, Kern County) with 600 thousand pounds.
❹ Exide Technologies (Los Angeles, Los Angeles County) with 191 thousand pounds.
❺ TXI Riverside Cement Oro Grande Plant (Oro Grande, San Bernardino County) with 84 thousand pounds.
❻ P Kay Metal Inc. (Los Angeles, Los Angeles County) with 70 thousand pounds.
❼ AB & I Foundry (Oakland, Alameda County) with 66 thousand pounds.
❽ U.S. Marine Corps MCB Camp Pendleton (Camp Pendleton, San Diego County) with 54 thousand pounds.
❾ U.S. Army Fort Irwin National Training Center (Fort Irwin, San Bernardino County) with 31 thousand pounds.
❿ Clean Harbors San Jose LLC (San Jose, Santa Clara County) with 24 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 additional information on dioxin, go to:
http://www.epa.gov/ncea/dioxin.htm

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

Information and Assistance

We are happy to answer your questions and assist you in learning more about the TRI Program in Region 9.

U.S. EPA Region 9, TRI Program

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