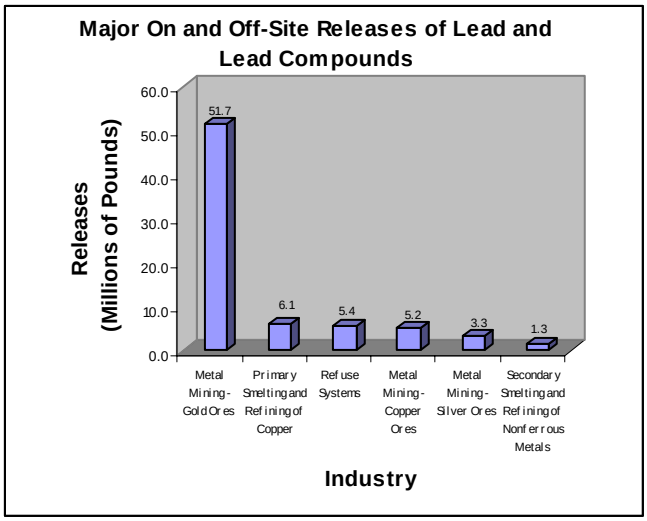
Lead and Lead Compounds Report: 2002 Toxics Release Inventory

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

A)



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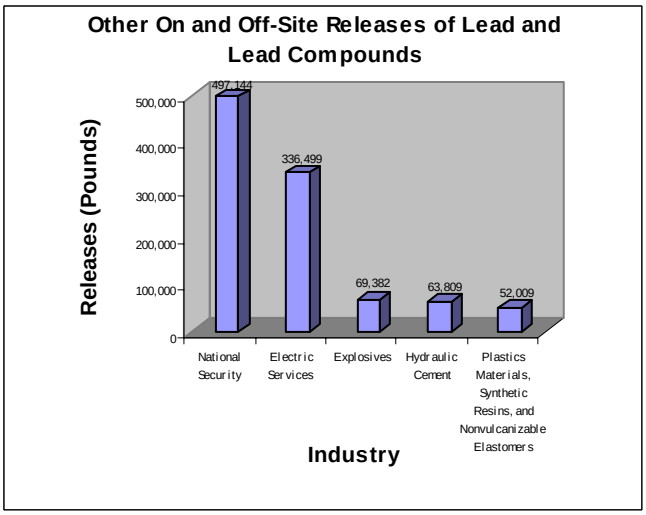

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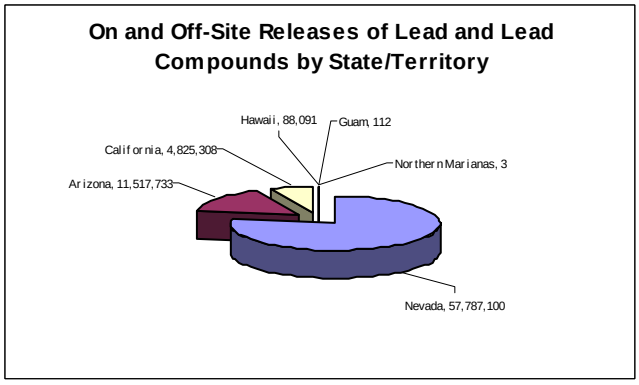

Note: On and off-site releases is defined as the amount of toxic chemical releases on-site (to air, water, underground injection, landfills and other land disposal), and the amount transferred off-site for disposal. Charts A and B show releases (in pounds) for the top industries. Chart C gives state/territory totals for on and off-site releases (in pounds).

The 2002 Data for Lead and Lead Compounds

EPA has just made public the 2002 data on toxic chemicals that were released* to the air, water and land within the Pacific Southwest Region. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program.

In the year 2000, TRI was expanded to include additional persistent, bioaccumulative and toxic (PBT) chemicals and required 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, thus posing risks to human health and ecosystems.

**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.*

Lead and Lead Compounds Toxics Release Inventory Fact Sheet June 2004

For the year 2001, lead and lead compounds were reported as persistent, bioaccumulative and toxic (PBT) chemicals for the first time. While 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.

A Note on Risk

It is important to note that releases should not be directly equated with risk. To evaluate risk, release data must be combined with information about chemical toxicity, site-specific conditions, and exposure. In the case of lead and lead compounds, the TRI data does not indicate whether a facility is violating environmental laws. Many of the substances reported through this program are subject to state and federal regulations designed to protect human health and the environment.

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 PBTs) the thresholds are 25,000 pounds manufactured or processed, and 10,000 pounds 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. These sectors are metal and coal mining, electricity generation, commercial hazardous waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors.

Releases

As shown in the table below, there was an overall 31% increase in on- and off-site releases of lead and lead compounds for the year 2002.

On and Off-Site Releases

Release Media	Reporting Year 2001	Reporting Year 2002	Change (pounds)
Air	79,411	121,472	42.060
Land	55,710,225	72,657,918	16,947,693
Water	1,007	1,740	733
UI *	13	97	85
Off-Site	900,909	1,437,121	536,212
Net Change			17,526,783
Percent Change			+ 31%

* Underground Injection

Newmont Mining Corp. Lone Tree Mine, located in Valmy Nevada, is responsible for 80% of the reported increases. Numerous facilities reported decreases ranging from1 to 12 million pounds.

In a state-by-state comparison for reporting year 2002, California, Arizona, Nevada and Hawaii ranked 9, 5, 2, and 45 respectively for total on- and off-site releases of lead and lead compounds. Alaska ranked number 1, reporting 204,362,889 pounds of on and off-site releases of lead and lead compounds.

Lead and Lead Compound Releases (in pounds) by State or U.S. Territory

State	Air	Land	Under-ground Injection	Water	Off-Site
Arizona	40,999	11,454,507	88	16	22,123
California	14,502	3,394,417	5	1,651	1,414,733
Hawaii	5,120	82,892	3	22	54
Nevada	60,821	57,726,016	1	51	211
Guam	29	84	0	0	0
Northern Marianas	1	2	0	0	0

Reporting Industry Sectors – the 2002 Data

A review of the TRI data suggests that among the TRI-regulated industry sectors, gold ore mining is the largest contributor of lead and lead compound releases in the Region. This industry sector accounts for 70%

of the Region 9 total. Furthermore, the combined gold, copper and silver ores mining industries account for 81% of the Region 9 total. The primary metals industry and hazardous waste refuse systems are also large contributors.

Lead and Lead Compound Releases (in pounds) by Industry Sector

Industry	Air	Land	Water	Off-Site
Metal Mining - Gold Ores	2,596	51,679,869	52	12
Primary Smelting and Refining of Copper	34,346	6,103,220	4	40
Refuse Systems	290	5,389,690	5	50,356
Metal Mining – Copper Ores	1,640	5,184,617	0	17
Metal Mining – Silver Ores	700	3,303,286	0	0
Secondary Smelting and Refining of Nonferrous Metals	2,145	0	10	1,252,593
National Security	4,904	491,926	0	313
Electric Services	61,396	272,573	6	2,521
Explosives	597	68,785	0	0
Hydraulic Cement	1,382	62,337	91	0

** 92 pounds were released by underground injection.*

Metal Mining

Lead is present in gold, silver and copper ores. In Region 9, there are 28 facilities in the gold, silver and copper industries that collectively reported over 60 million pounds of releases of lead and lead compounds. The Newmont Mining Corp. Lone Tree Mine reported over 35 million pounds of lead compound releases, which are by-products of their gold separation process.

Primary and Secondary Smelting of Copper and Nonferrous Metals

Primary and secondary smelting and refining of non-ferrous metals may utilize scrap metal feed containing lead compounds. In Region 9, twenty-three facilities reported over 7 million pounds of lead and lead compound releases.

Refuse Systems

This industry includes hazardous waste treatment and disposal and material recovery facilities. A total of 11 hazardous waste facilities reported disposing of over 5 million pounds of lead and lead compounds into permitted landfills.

Top Region 9 Counties for On-Site Releases

County	Pounds Released
Humboldt, Nevada	38,530,951
Elko, Nevada	6,397,595
Gila, Arizona	4,837,534
Pershing, Nevada	3,653,309
Nye, Nevada	3,317,643
Pinal, Arizona	3,308,269
Pima, Arizona	3,070,720
Kings, California	2,810,062
Lander, Nevada	2,722,891
Eureka, Nevada	2,360,370

Top Facilities for Total On- and Off-Site Releases

Facility Name	City, State	Pounds Released
Newmont Mining Corp. Lone Tree Mine	Valmy, Nevada	35,201,878
Barrick Goldstrike Mines, Inc.	Elko, Nevada	6,110,476
Asarco Inc. Ray Complex Hayden Smelter and Concentrator	Hayden, Arizona	3,407,650
Coeur Rochester, Inc.	Lovelock, Nevada	3,282,957
Chemical Waste Management	Kettleman City, California	2,810,284
Cortez Gold Mines Mill 2	Cresent Valley, Nevada	2,701,862
Asarco, Inc. Mission Complex	Sahuarita, Arizona	2,625,049
Newmont Mining Corp. Twin Creeks Mine	Golconda, Nevada	2,550,353
US Ecology Nevada, Inc.	Beatty, Nevada	2,462,026
Newmont Mining Corp. Carlin South Area	Carlin, Nevada	2,200,255

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 the 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 in Region 9.

U.S. EPA Region 9
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