



facilities started reporting in RY 1994. In RY 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. A recent court decision may affect TRI reporting obligations for metal mining facilities in future years. Reporting year 2002 data will reflect those changes, in particular differences in toxic chemicals reported in waste rock.

### Releases

As a whole, for all industries, total reported on- and off-site releases in Arizona fell by 18% from 2000. Most of this reduction can be attributed to decreases in on-site land releases from mining facilities. Several major facilities have significantly cut back operations. Phelps Dodge facilities in Morenci and Miami significantly decreased their on-site land releases, accounting for 62% of the overall decrease in on- and off-site releases. While there was an overall decrease, some facilities did significantly increase their releases, including Phelps Dodge Baghdad facility, ASARCO Inc. Ray Complex/Hayden Smelter Concentrator, and Silver Bell Mining. Their combined releases accounted for an increase of 37 million pounds of on- and off-site releases from reporting year 2000 to 2001.

Surface water discharges decreased by 31%, due in large part to decreases in releases from North Star Steel in Kingman, and Phelps Dodge Mining Co Copper Queen Branch in Bisbee.

Air emissions decreased by 12% from 2000 levels, with drops from a variety of industries, but led by Coronado Generating Station in Saint Johns, and Sea Ray Boats in Phoenix. Off-site disposal releases decreased by 36%, due primarily to North Star Steel of Kingman, and Innovative Waste Solutions of Phoenix.

### Persistent, Bioaccumulative, and Toxic Chemicals

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.

Below is a table of the PBT releases in Arizona ranked by total on- and off-site releases. The data are in pounds for all chemicals except dioxin, which are given in grams.

### New Data - Lead and Lead Compounds

For the year 2001, lead and lead compounds were reported as persistent, bioaccumulative and toxic (PBT) chemicals for the first time. 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 (to 100 pounds manufactured, processed, or otherwise used), and this change has resulted in more comprehensive release information for these compounds.

**Table of PBT Releases in Arizona**

<i>Chemical</i>	<i>Air</i>	<i>Water</i>	<i>Und. Inj.</i>	<i>Land</i>	<i>Off-Site Releases</i>	<i>Total On- and Off-Site Releases 2001</i>	<i>Total On- and Off-Site Releases 2000</i>	<i>Percent Change</i>
Lead Compounds	31,143.26	6.01	0.00	11,107,738.23	59,553.00	11,198,440.50	N/A	N/A
Lead	705.39	1.00	0.00	73,645.30	8,343.00	82,694.69	N/A	N/A
Mercury Compounds	1,031.42	0.00	0.00	29,023.96	42.00	30,097.38	35,097.73	-14%
Polycyclic Aromatic Compounds	1,214.95	0.00	0.00	423.40	0.00	1,638.35	1,233.02	33%
Polychlorinated Biphenyls	0.00	0.00	0.00	0.00	726.00	726.00	646.00	12%
Mercury	542.00	0.00	0.00	6.00	155.00	703.00	1,123.01	-37%
Tetrabromobisphenol A	2.21	0.00	0.00	0.00	216.00	218.21	270.00	-19%
Benzo (g,h,i)perylene	0.74	0.00	0.00	0.00	0.00	0.74	12.16	-94%
<i>Dioxin and dioxin-like compounds (in grams)</i>	16.368	0.000	0.000	0.013	0.000	16.381	14.256	15%

Releases of persistent, bioaccumulative and toxic (PBT) chemicals (pounds). Dioxin and dioxin-like compounds data not in Toxicity Equivalence (TEQ).

Lead and lead compound releases increased from 2.6 million pounds in 2000 to 11.3 million pounds in 2001. The increase can be attributed to changes in reporting thresholds for reporting year 2001. Lead and lead compounds account for 98% of the total PBT releases reported in 2001. The primary releasers of lead and lead compounds are mining industries.

### **Mercury and Mercury Compounds**

In Arizona, 30,800 pounds of on- and off-site releases of mercury compounds were reported. The majority of the releases, 29,030 pounds, was released to land. Mercury and mercury compound releases decreased from reporting year 2000 by approximately 5,133 pounds. The majority of the mercury compounds was released by mining facilities. Electricity generating and hazardous waste recovery industries released most of the mercury reported in Arizona.

### **Polycyclic Aromatic Compounds (PACs)**

PACs made up the fourth greatest release of PBTs. Of the 1,638 pounds of PACs released on- and off-site, 74% of this amount was air releases.

### **Top Facilities for Releases**

The top 10 facilities for total on- and off-site releases in Arizona are:

- Ø Asarco Mission Complex (Sahuarita, Pima County) with 141.0 million pounds
- Û Asarco Inc. Ray Ops Mine (Kearny, Pinal County) with 129.3 million pounds
- Ú Phelps Dodge Bagdad Inc. (Bagdad, Yavapai County) with 114.4 million pounds
- Û Phelps Dodge Miami Inc. (Claypool, Gila County) with 98.2 million pounds
- Û Asarco Inc. Ray Complex/ Hayden Smelter & Concentrator (Hayden, Gila County) with 56.9 million pounds
- Ý Phelps Dodge Sierrita Inc. (Green Valley, Pima County) with 28.8 million pounds
- Ò Phelps Dodge Morenci Inc. (Morenci, Greenlee County) with 26.2 million pounds
- Ó Silver Bell Mining L.L.C. (Marana, Pima County) with 5.1 million pounds
- Ô Springerville Generating Station (Springerville, Apache County) with 2.4 million pounds
- Õ Navajo Generating Station (Page, Coconino County)

with 2.4 million pounds

### **On-line Access**

For national information on data release, see: <http://www.epa.gov/tri>

The TRI data is available through the 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: <http://www.epa.gov/opptintr/pbt/>

### **Information and Assistance**

We will be more than happy to answer your questions and assist you in learning more about the Toxics Release Inventory program in Region 9.

<p><b>U.S. EPA Region 9 TRI Coordinator</b> Nancy Sockabasin, (415) 972-3772</p>
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