



United States
Environmental Protection
Agency

EPA530-R-08-011
November 2008

National Priority Chemicals Trends Report (2004-2006)

Section 4 Trends Analyses for Specific Priority Chemicals (2004-2006): Lead and Lead Compounds (Lead)

Hazardous Waste Minimization and Management Division
Office of Solid Waste
U.S. Environmental Protection Agency

Contact Information:

Bill Kline, Senior Data Analyst
Analysis & Information Branch
(540) 341-3631
kline.bill@epa.gov

Tammie Owen, Data Analyst
Analysis & Information Branch
(703) 308-4044
owen.tammie@epa.gov

Ben Lesser, Chief
Analysis & Information Branch
(703) 308-0314
lesser.ben@epa.gov

Lead and Lead Compounds (Lead)

Chemical Information

General Uses: Lead is a heavy, silver-white metal in its pure (elemental) form. Lead is often obtained by primary production through mining of ores or by secondary production through recycling. Lead exists in either one of two forms: as the pure metal (i.e., lead metal) or as a compound, in which lead is combined with some other element or elements. Lead metal and lead compounds are widely used in a variety of products and applications, including lead-acid batteries, ammunition, construction materials, solder, metal castings, glass and ceramic products, plastics, electrical cable coverings, lubricating oils and greases, and certain paints. (Source: EPA 2000/2001 TRI Public Data Release Report).

How Much Lead Was Generated?

For 2006, nearly 4,500 facilities reported approximately 36 million pounds of lead being generated. Six facilities accounted for 25 percent of the national total quantity of this PC, while 70 facilities accounted for approximately 77 percent of the lead being generated (please refer to Exhibit 3.4 to see the number of facilities that reported this PC within various quantity ranges). Compared to the total quantities of lead reported for 2004 and 2005, the quantity increased by approximately 2.9 million pounds and decreased by approximately 483,000 pounds, respectively (Exhibit 4.35).

Exhibit 4.35. National Generation of Lead (2004–2006)

TRI Reporting Year	2004	2005	2006
Total Quantity of Lead (pounds)	33,356,349	36,752,640	36,270,099
Number of TRI Facilities Reporting Lead	4,678	4,647	4,488

Where Was Lead Generated?

Since 2004, facilities in every state and territory reported generating lead, including 4,488 facilities in 2006 (Exhibit 4.36). Exhibit 4.37 shows the counties in which facilities reported approximately 80 percent of the total quantity of lead being generated. From 2004 to 2006, facilities in nine of the top ten counties, accounting for approximately 39 percent of the total quantity of lead generated, reported the largest quantities of lead.

Exhibit 4.36. Location of Facilities that Generated Lead (2006)

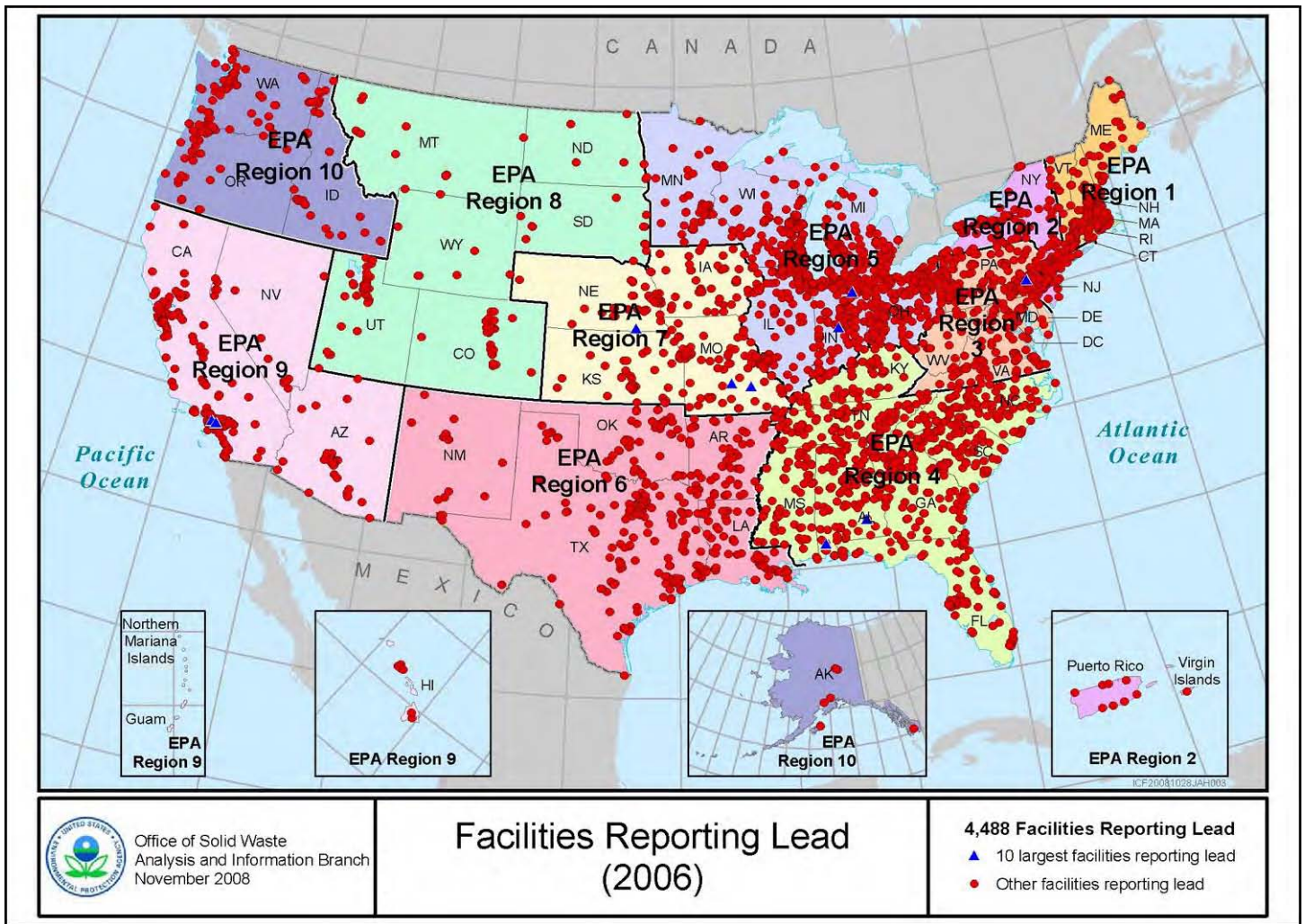


Exhibit 4.37. Quantity of Lead, for Facilities Reporting 80 Percent of Total Quantity, by County (2006)

EPA Region	State	County	Quantity (pounds) of Lead			Percent of Total Quantity (2006)
			2004	2005	2006	
4	AL	Pike	1,789,929	2,068,070	2,235,064	6.2%
9	CA	Los Angeles	1,446,271	2,015,396	2,058,227	5.7%
5	IN	Marion	1,909,302	2,108,246	1,961,280	5.4%
3	PA	Berks	1,909,028	1,451,712	1,506,630	4.2%
7	MO	Iron	1,379,460	1,691,895	1,499,007	4.1%
4	AL	Mobile	934,237	1,020,760	1,079,100	3.0%
7	IA	Muscatine	835,428	865,639	974,784	2.7%
7	MO	Pulaski	97,648	124,882	936,227	2.6%
5	IN	Whitley	658,045	726,986	925,574	2.6%
7	NE	Jefferson	698,051	668,244	893,845	2.5%
6	AR	Lonoke	96,627	493,770	718,093	2.0%
3	PA	Beaver	386,192	359,698	640,200	1.8%
7	NE	Stanton	629,530	301,660	564,381	1.6%
10	ID	Butte	476,801	458,650	535,514	1.5%
5	IN	Delaware	719,464	640,337	525,720	1.4%
10	OR	Yamhill	392,983	456,972	517,176	1.4%

Exhibit 4.37. Quantity of Lead, for Facilities Reporting 80 Percent of Total Quantity, by County (2006) (Continued)

EPA Region	State	County	Quantity (pounds) of Lead			Percent of Total Quantity (2006)
			2004	2005	2006	
8	UT	Box Elder	692,710	731,310	511,213	1.4%
4	NC	Hertford	513,814	344,745	457,279	1.3%
5	OH	Stark	481,953	441,107	447,641	1.2%
6	AR	Mississippi	399,217	284,401	423,350	1.2%
4	TN	Davidson	14,351	13,452	415,834	1.1%
6	LA	East Baton Rouge	198,588	228,280	381,364	1.1%
3	VA	Roanoke (City)	346,940	349,300	362,461	1.0%
4	AL	Jefferson	296,007	286,303	355,324	1.0%
5	IL	Madison	284,767	262,147	334,884	0.9%
6	TX	Collin	168,530	241,722	332,175	0.9%
5	OH	Cuyahoga	328,101	188,621	325,670	0.9%
5	IN	De Kalb	304,502	267,282	305,033	0.8%
5	IN	Montgomery	258,955	295,070	292,668	0.8%
5	OH	Marion	32	23	285,513	0.8%
5	IN	Hendricks	175,940	183,359	284,206	0.8%
5	IL	Peoria	378,532	238,291	283,490	0.8%
5	MI	Wayne	326,191	467,436	280,989	0.8%
5	MN	Dakota	242,988	271,253	261,810	0.7%
4	KY	Boyle	95,902	238,568	256,488	0.7%
4	TN	Sullivan	216,505	216,934	226,743	0.6%
4	NC	Cumberland	192,051	191,328	223,388	0.6%
4	AL	Tuscaloosa	276,899	231,254	221,625	0.6%
4	NC	Onslow	145,330	148,249	215,015	0.6%
4	SC	Aiken	67,187	234,400	211,778	0.6%
3	PA	Westmoreland	44,642	62,463	198,039	0.5%
6	LA	St John The Baptist	193,105	163,795	191,892	0.5%
4	SC	Richland	103,758	124,675	191,221	0.5%
4	GA	Chattahoochee	42,159	152,019	190,546	0.5%
5	WI	Waupaca	204,000	202,766	178,350	0.5%
7	MO	Saint Louis (City)	12,602	78,887	166,481	0.5%
5	IL	Whiteside	170,075	160,245	151,403	0.4%
2	NJ	Middlesex	154,166	166,241	146,168	0.4%
9	CA	San Diego	80,839	171,153	146,046	0.4%
3	VA	Prince William	50,469	88,943	145,582	0.4%
9	CA	San Bernardino	53,103	191,647	141,954	0.4%
4	FL	Hillsborough	146,669	148,462	140,991	0.4%
8	UT	Salt Lake	226,943	90,750	140,902	0.4%
5	OH	Pickaway	319,359	141,102	140,013	0.4%
4	TN	Madison	71,671	103,140	136,839	0.4%
4	MS	Forrest	38,008	65,164	136,232	0.4%
10	WA	Pierce	96,191	118,612	132,809	0.4%
5	IL	Macon	129,288	127,483	130,117	0.4%
2	NJ	Burlington	201,322	150,909	124,990	0.3%
6	NM	Eddy	60,865	93,418	114,211	0.3%
6	TX	Smith	170,528	136,301	110,957	0.3%
3	MD	Baltimore	224,309	174,734	109,545	0.3%
5	IN	Perry	66,600	118,900	108,700	0.3%

Exhibit 4.37. Quantity of Lead, for Facilities Reporting 80 Percent of Total Quantity, by County (2006) (Continued)

EPA Region	State	County	Quantity (pounds) of Lead			Percent of Total Quantity (2006)
			2004	2005	2006	
6	TX	Ellis	105,837	99,975	107,636	0.3%
5	OH	Lorain	84,092	90,059	107,506	0.3%
4	KY	Christian	68,921	82,838	106,002	0.3%
Total			23,442,145	24,955,287	28,963,901	79.9%

Which Industries Generated Lead?

For 2006, facilities in 334 different NAICS codes reported generating lead. Facilities in three NAICS codes accounted for approximately 70 percent of the total quantity of lead generated (Exhibit 4.38): NAICS code 331492 (Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum), NAICS code 331111 (Iron and Steel Mills), and NAICS code 928110 (National Security).

Exhibit 4.38. Industry Sectors Quantities of Lead, for Facilities Reporting 90 Percent of Total Quantity (2006)

Primary NAICS code	NAICS Code Description	Facilities Reporting (2006)	Quantity (pounds) of Lead			Percent of Total Quantity (2006)
			2004	2005	2006	
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	29	9,782,045	10,662,347	11,065,070	30.5%
331111	Iron and Steel Mills	82	9,777,850	9,153,830	10,032,736	27.7%
928110	National Security	114	2,392,360	2,593,077	4,350,944	12.0%
331511	Iron Foundries	140	1,914,763	1,583,095	1,557,493	4.3%
325188	All Other Basic Inorganic Chemical Manufacturing	55	930,510	875,796	1,074,482	3.0%
332992	Small Arms Ammunition Manufacturing	13	182,307	564,995	790,921	2.2%
335110	Electric Lamp Bulb and Part Manufacturing	12	222,158	561,251	607,990	1.7%
541710	Research and Development in the Physical, Engineering, and Life Sciences	6	34,510	299,835	591,815	1.6%
331421	Copper Rolling, Drawing, and Extruding	31	106,647	102,324	467,230	1.3%
335912	Primary Battery Manufacturing	12	455,853	422,155	426,918	1.2%
331222	Steel Wire Drawing	27	483,927	375,907	409,519	1.1%
335911	Storage Battery Manufacturing	41	347,895	315,397	319,797	0.9%
327212	Other Pressed and Blown Glass and Glassware Manufacturing	25	902,910	3,303,455	315,205	0.9%
325312	Phosphatic Fertilizer Manufacturing	11	261,475	277,598	243,624	0.7%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	30	158,855	541,322	197,610	0.5%
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	24	243,571	95,554	176,804	0.5%
Total		652	28,197,636	31,727,940	32,628,157	90.0%

Some observations regarding trends for facilities reporting lead within NAICS codes include:

NAICS Code 331492 (Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum))

- Facilities in this NAICS code reported increases of approximately 880,000 pounds for 2005 and 403,000 pounds for 2006.
- A facility in Beaver County, Pennsylvania reported an increase of approximately 261,000 pounds for 2006. This facility extracts zinc from steel mill dust melted into slag from outside companies. For 2006, the percentage of lead in the slag increased.
- A facility in Pike County, Alabama reported an increase of approximately 275,000 pounds for 2005 and an increase of approximately 165,000 pounds for 2006.
- A facility in East Baton Rouge, Louisiana reported an increase of approximately 155,000 pounds for 2006 due to increased production.
- A facility in Collin County, Texas reported an increase of approximately 73,000 pounds for 2005 and an increase of approximately 90,000 pounds for 2006 due to increased production.
- A facility in Los Angeles County, California reported an increase of approximately 341,000 pounds for 2005 and an increase of approximately 240,000 pounds for 2006 due to a furnace re-build from which contaminated waste refractory materials were disposed of.

NAICS Code 331111 (Iron and Steel Mills)

- Facilities in this NAICS code reported an overall decrease of approximately 624,000 pounds for 2005 and an increase of approximately 879,000 pounds for 2006.
- A facility in Hertford County, North Carolina reported a decrease of approximately 169,000 pounds for 2005 followed by an increase of approximately 113,000 pounds for 2006 due to fluctuating production. The lead is in the electric arc furnace dust and slag.
- A facility in Marion County, Ohio reported an increase of approximately 285,000 pounds for 2006.
- A facility in Whitley County, Indiana reported an increase of approximately 198,000 pounds for 2006.
- A facility in Muscatine County, Iowa reported an increase of approximately 167,000 pounds for 2006.
- A facility in Stanton County, Nebraska reported a decrease of approximately 328,000 pounds for 2005 and an increase of approximately 263,000 pounds for 2006. In addition to fluctuations in production, the facility noted that it updated its analyses of the electric arc furnace dusts containing the lead compounds.
- A facility in Guadalupe County, Texas reported decreases of 212,000 pounds and 167,000 pounds for 2005 and 2006, respectively.

NAICS Code 928110 (National Security)

- Facilities in this NAICS code reported an increase of approximately 1.8 million pounds for 2006.
- Department of Defense (DOD) facilities, primarily military installations, reported most of the lead (e.g., spent lead bullets) in this NAICS code. This increased quantity was likely caused by the increase in training and other activities at federal facilities in support of military and security operations to counter terrorism worldwide.

NAICS Code 325188 (All Other Basic Inorganic Chemical Manufacturing)

- Facilities in this NAICS code reported an overall increase of approximately 199,000 pounds for 2006.
- A facility in Jefferson County, Nebraska reported an increase of approximately 226,000 pounds for 2006. The lead is contained in zinc hydroxide which is generated from the production of zinc sulfate for use in animal feeds. The lead content is not sufficient to justify recovery.

NAICS Code 332992 (Small Arms Ammunition Manufacturing)

- Facilities in this NAICS code reported an overall increase of approximately 383,000 pounds for 2005 followed by an increase of 226,000 pounds for 2006.
- A facility in Lonoke County, Arkansas reported increases of approximately 397,000 pounds for 2005 and 224,000 pounds for 2006 due to increased production.

NAICS Code 335110 (Electric Lamp Bulb and Part Manufacturing)

- Facilities in this NAICS code reported an overall increase of approximately 339,000 pounds for 2005.
- A facility in Boyle County, Kentucky reported an increase of approximately 143,000 pounds for 2005 due to a furnace rebuild that involved the disposal of lead containing material.
- A facility in St. Louis, Missouri reported increases of approximately 64,000 pounds for 2005 and 94,000 pounds for 2006 to be disposed of. The facility noted that a pollution prevention project in 2005 removed a source of lead in one of the processes resulting in a significant decrease of lead in their product and processes. However, this also reduced the lead content in their recyclable material and made the material uneconomical for the recycler. Now the facility must landfill this material until they can identify another recycler or other recycling option.

NAICS Code 541710 (Research and Development in the Physical, Engineering, and Life Sciences)

- Facilities in this NAICS code reported overall increases of approximately 265,000 pounds for 2005 and 292,000 pounds for 2006.
- A Department of Energy facility in Butte County, Idaho reported most of these increased quantities. This facility accelerated decommissioning and demolition activities for buildings that are no longer used; activities involving cleanup and shutdown are expected to continue through at least 2012. The facility also is decreasing the lead in its onsite inventory that was used as radiation shielding.

NAICS Code 327212 (Other Pressed and Blown Glass and Glassware Manufacturing)

- Facilities in this NAICS code reported an overall increase of approximately 2.4 million pounds for 2005 and a decrease of approximately 3 million pounds for 2006.
- A facility in Franklin County, Ohio reported an increase of approximately 2.7 million pounds for 2005 and 0 pounds for 2006. This facility's manufacturing operations were shut down in August 2004 and the facility underwent an extensive cleanup and closure program. In 2005, the cleanup and closure of the facility was completed.

How Did Facilities Manage Lead?

Exhibit 4.39 shows how facilities, by industry, managed lead in 2006.

Land Disposal: Facilities disposed of 100 percent of the lead, including approximately 75 percent offsite.

Energy Recovery: Energy recovery is not applicable to this PC.

Treatment: No facilities reported treating this PC.

Recycling: Facilities recycled approximately 443 million pounds of lead in 2006. Facilities in two industries: NAICS code 335911 (Storage Battery Manufacturing) and NAICS code 331492 (Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)) accounted for approximately 88 percent of the total quantity of lead recycled. However, facilities in numerous other industries also recycled significant quantities of lead.

Many facilities reported they only used recycling to manage their lead. For 2006, 1,341 facilities, in 248 different industries, only recycling approximately 76 million pounds of the lead they generated. Exhibits 4.40 and 4.41 show the industries and the quantities for those facilities that accounted for approximately 95 percent of the lead that were managed only by recycling.

Exhibit 4.39. Management Methods for Lead, by Industry (NAICS Code) in 2006

Primary NAICS Code	NAICS Code Description	Total PC Quantity* Reported	Quantity (pounds) of Lead							
			Disposal		Energy Recovery		Treatment		Recycling	
			Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	11,065,070	2,999,461	8,065,609	0	0	0	0	107,972,675	27,743,756
331111	Iron and Steel Mills	10,032,736	440,845	9,591,891	0	0	0	0	574,793	11,412,341
928110	National Security	4,350,944	4,049,422	301,522	0	0	0	0	306,440	325,731
331511	Iron Foundries	1,557,493	276,767	1,280,726	0	0	0	0	57,528	232,804
325188	All Other Basic Inorganic Chemical Manufacturing	1,074,482	60,887	1,013,594	0	0	0	0	167,608	120,275
332992	Small Arms Ammunition Manufacturing	790,921	0	790,921	0	0	0	0	3,261,100	4,218,580
335110	Electric Lamp Bulb and Part Manufacturing	607,990	0	607,990	0	0	0	0	145,784	512,569
541710	Research and Development in the Physical, Engineering, and Life Sciences	591,815	18,332	573,483	0	0	0	0	0	10,482
331421	Copper Rolling, Drawing, and Extruding	467,230	253	466,977	0	0	0	0	24,797	841,635
335912	Primary Battery Manufacturing	426,918	541	426,377	0	0	0	0	13,736,909	9,500,965
331222	Steel Wire Drawing	409,519	332	409,186	0	0	0	0	0	1,775,724
335911	Storage Battery Manufacturing	319,797	1,870	317,926	0	0	0	0	106,002,018	148,384,381
327212	Other Pressed and Blown Glass and Glassware Manufacturing	315,205	0	315,205	0	0	0	0	4,500,330	1,107,374
325312	Phosphatic Fertilizer Manufacturing	243,624	243,624	0	0	0	0	0	0	0
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	197,610	3,533	194,076	0	0	0	0	11,002	80,091
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	176,804	0	176,804	0	0	0	0	0	18,700
	Total	32,628,157	8,095,868	24,532,288	0	0	0	0	236,760,983	206,285,408

*Note: The recycled quantity is presented to provide some perspective regarding the quantity of this PC already recycled compared to the quantities that are not recycled. In this Report, we primarily focus on non-recycled quantities of PCs (PC quantity) that offer the greatest opportunities for waste minimization. The term "PC Quantity", as used in this Report, refers to quantities of PCs that are managed via disposal, treatment, and energy recovery and thus potentially available for waste minimization.

Exhibit 4.40. Industries in Which Facilities Only Recycled Lead, Reporting 95 Percent of the Lead Managed Only By Recycling (2006)

Primary NAICS Code	NAICS Code Description	Recycled Only Quantity (2006)	Percent of Recycled Only Quantity (2006)
331316	Aluminum Extruded Product Manufacturing	21,716,242	28.5%
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	18,580,067	24.4%
332912	Fluid Power Valve and Hose Fitting Manufacturing	8,669,813	11.4%
331111	Iron and Steel Mills	4,690,679	6.1%
335911	Storage Battery Manufacturing	2,995,135	3.9%
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	2,476,322	3.2%
331522	Nonferrous (except Aluminum) Die-Casting Foundries	2,424,455	3.2%
336370	Motor Vehicle Metal Stamping	1,584,828	2.1%
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	1,284,570	1.7%
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	1,180,064	1.5%
335912	Primary Battery Manufacturing	1,102,000	1.4%
331221	Rolled Steel Shape Manufacturing	640,177	0.8%
326199	All Other Plastics Product Manufacturing	533,175	0.7%
NA	NA	527,669	0.7%
339999	All Other Miscellaneous Manufacturing	486,861	0.6%
335110	Electric Lamp Bulb and Part Manufacturing	397,438	0.5%
331423	Secondary Smelting, Refining, and Alloying of Copper	352,420	0.5%
332721	Precision Turned Product Manufacturing	345,771	0.5%
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	345,589	0.5%
331525	Copper Foundries (except Die-Casting)	328,952	0.4%
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	295,417	0.4%
331528	Other Nonferrous Foundries (except Die-Casting)	289,424	0.4%
331222	Steel Wire Drawing	282,411	0.4%
332313	Plate Work Manufacturing	272,156	0.4%
331421	Copper Rolling, Drawing, and Extruding	268,519	0.4%
332911	Industrial Valve Manufacturing	223,550	0.3%
325188	All Other Basic Inorganic Chemical Manufacturing	213,645	0.3%

Exhibit 4.41. Facilities That Only Recycled Lead, Reporting 95 Percent of the Lead Managed Only By Recycling (2006)

Primary NAICS Code	NAICS Code Description	EPA Region	State	County	Recycling (pounds)		
					Onsite	Offsite	Total
331316	Aluminum Extruded Product Manufacturing	4	NC	Alamance	0	21,687,010	21,687,010
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	4	AL	Jefferson	17,200,000	1,097,000	18,297,000
332912	Fluid Power Valve and Hose Fitting Manufacturing	6	OK	Craig	0	8,471,138	8,471,138
335911	Storage Battery Manufacturing	4	KY	Russell	1,198,727	1,619,725	2,818,452
331111	Iron and Steel Mills	2	NJ	Middlesex	2,020,776	249,482	2,270,258
331522	Nonferrous (except Aluminum) Die-Casting Foundries	5	MN	Ramsey	0	2,247,239	2,247,239
336370	Motor Vehicle Metal Stamping	4	TN	Rutherford	0	1,141,460	1,141,460

**Exhibit 4.41. Facilities That Only Recycled Lead, Reporting 95 Percent of the Lead Managed Only
By Recycling (2006) (Continued)**

Primary NAICS Code	NAICS Code Description	EPA Region	State	County	Recycling (pounds)		
					Onsite	Offsite	Total
335912	Primary Battery Manufacturing	2	NY	Orange	0	1,102,000	1,102,000
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	5	IN	Steuben	0	899,990	899,990
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	9	CA	Santa Clara	23,000	685,000	708,000
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	5	IL	Winnebago	324,821	324,821	649,642
331111	Iron and Steel Mills	5	IL	Kankakee	0	626,934	626,934
331221	Rolled Steel Shape Manufacturing	10	WA	King	1,055	509,133	510,188
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	4	KY	Anderson	0	500,000	500,000
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	4	TN	Hickman	0	500,000	500,000
331111	Iron and Steel Mills	2	NJ	Middlesex	0	459,058	459,058
NA	NA	2	NJ	Passaic	0	448,833	448,833
339999	All Other Miscellaneous Manufacturing	5	WI	Milwaukee	0	446,163	446,163
336370	Motor Vehicle Metal Stamping	9	NV	Washoe	0	417,311	417,311
331111	Iron and Steel Mills	4	GA	Bartow	62,005	282,073	344,078
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	2	NJ	Union	0	339,406	339,406
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	4	KY	Gallatin	0	334,000	334,000
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	6	TX	Dallas	218,993	112,761	331,754
331111	Iron and Steel Mills	6	OK	Tulsa	0	323,514	323,514
335110	Electric Lamp Bulb and Part Manufacturing	4	KY	Woodford	0	284,681	284,681
332313	Plate Work Manufacturing	6	TX	Baylor	0	270,679	270,679
326199	All Other Plastics Product Manufacturing	5	WI	Milwaukee	0	256,759	256,759
331423	Secondary Smelting, Refining, and Alloying of Copper	3	PA	Allegheny	0	248,800	248,800
331525	Copper Foundries (except Die-Casting)	9	CA	Los Angeles	200,000	41,000	241,000
331111	Iron and Steel Mills	6	TX	El Paso	0	226,015	226,015
331222	Steel Wire Drawing	7	MO	Jasper	0	224,000	224,000
331111	Iron and Steel Mills	6	AR	Jackson	0	221,650	221,650
332911	Industrial Valve Manufacturing	4	SC	Cherokee	0	208,238	208,238
331421	Copper Rolling, Drawing, and Extruding	3	PA	Berks	0	204,353	204,353
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	5	OH	Cuyahoga	0	190,000	190,000
335911	Storage Battery Manufacturing	6	TX	Kaufman	0	176,273	176,273
Total					21,249,377	47,376,499	68,625,876

Data Derived From Hazardous Waste Biennial Reports for Lead

In this section, we present data on which facilities submitted information to the BR system. As discussed in Section 1, we caution readers against making casual one-to-one comparisons between the TRI and BR data. The differences between these two reporting systems can cause significant variation in the number of reporting facilities and quantities of chemicals reported.

Exhibit 4.42 shows the estimated quantity of lead contained in hazardous wastes generated in 2005—derived from data reported by facilities on the BR. We estimate that hazardous wastes reported by facilities in these industries contained approximately 430 million pounds of lead. Waste streams classified as non-wastewaters contained approximately 62 percent of the lead. Facilities in five industries: NAICS code 331492 (Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)), NAICS code 331111 (Iron and Steel Mills), NAICS code 335929 (Other Communication and Energy Wire Manufacturing), NAICS code 325131 (Inorganic Dye and Pigment Manufacturing), and NAICS code 334413 (Semiconductor and Related Device Manufacturing) accounted for approximately 71 percent of the total estimated quantity of lead in the hazardous waste streams.

Exhibit 4.42. Estimated Quantity of Lead in Primary Generation Hazardous Waste for Facilities Reporting 95 Percent of the Total Priority Chemical Quantity, by NAICS Code (2005)

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Lead			Percent of Total Quantity
			Non-Wastewaters	Wastewaters	Total Quantity	
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	27	56,217,832	25,797,146	82,014,979	18.1%
331111	Iron and Steel Mills	86	73,240,464	72,279	73,312,743	16.2%
335929	Other Communication and Energy Wire Manufacturing	9	63,845,808	7,999	63,853,807	14.1%
325131	Inorganic Dye and Pigment Manufacturing	6	336,927	62,722,737	63,059,665	13.9%
334413	Semiconductor and Related Device Manufacturing	74	471,063	39,668,403	40,139,466	8.9%
928110	National Security	232	7,782,011	9,128,901	16,910,911	3.7%
335911	Storage Battery Manufacturing	42	6,334,220	3,210,642	9,544,862	2.1%
325180	Other Basic Inorganic Chemical Manufacturing	5	664,028	6,815,512	7,479,540	1.7%
488490	Other Support Activities for Road Transportation	86	6,632,506	152	6,632,658	1.5%
325510	Paint and Coating Manufacturing	90	5,070,399	76,266	5,146,665	1.1%
327992	Ground or Treated Mineral and Earth Manufacturing	1	0	4,575,081	4,575,081	1.0%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	143	908,507	3,114,726	4,023,233	0.9%
331112	Electrometallurgical Ferroalloy Product Manufacturing	7	3,262,128	6,585	3,268,713	0.7%
324110	Petroleum Refineries	93	2,864,788	15,184	2,879,972	0.6%
331511	Iron Foundries	39	2,722,370	12,958	2,735,328	0.6%
335910	Battery Manufacturing	6	2,577,313	0	2,577,313	0.6%
331221	Rolled Steel Shape Manufacturing	19	2,488,005	12,295	2,500,300	0.6%
921110	Executive Offices	20	2,358,734	0	2,358,734	0.5%
325110	Petrochemical Manufacturing	26	802,663	1,454,215	2,256,877	0.5%
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	7	2,126,516	314	2,126,830	0.5%
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	19	1,768,755	295,483	2,064,238	0.5%
335912	Primary Battery Manufacturing	6	933,767	1,124,914	2,058,682	0.5%
237310	Highway, Street, and Bridge Construction	61	1,769,174	0	1,769,174	0.4%
336411	Aircraft Manufacturing	57	800,883	936,814	1,737,696	0.4%
334412	Bare Printed Circuit Board Manufacturing	152	409,965	1,289,368	1,699,333	0.4%
332992	Small Arms Ammunition Manufacturing	9	504,025	1,061,308	1,565,333	0.3%
331513	Steel Foundries (except Investment)	12	1,532,775	0	1,532,775	0.3%

Exhibit 4.42. Estimated Quantity of Lead in Primary Generation Hazardous Waste for Facilities Reporting 95 Percent of the Total Priority Chemical Quantity, by NAICS Code (2005) (Continued)

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Lead			Percent of Total Quantity
			Non-Wastewaters	Wastewaters	Total Quantity	
325188	All Other Basic Inorganic Chemical Manufacturing	46	1,448,965	11,485	1,460,450	0.3%
423930	Recyclable Material Merchant Wholesalers	9	1,341,010	19,376	1,360,385	0.3%
325211	Plastics Material and Resin Manufacturing	54	1,181,332	131,554	1,312,886	0.3%
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	300	749,057	536,591	1,285,648	0.3%
611710	Educational Support Services	19	1,185,677	0	1,185,677	0.3%
327212	Other Pressed and Blown Glass and Glassware Manufacturing	27	1,068,903	78,386	1,147,289	0.3%
325199	All Other Basic Organic Chemical Manufacturing	91	897,882	231,810	1,129,693	0.2%
331419	Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)	17	1,050,041	25,063	1,075,104	0.2%
221122	Electric Power Distribution	213	1,049,100	4,483	1,053,584	0.2%
561210	Facilities Support Services	7	826,364	51,143	877,507	0.2%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	39	827,510	22,380	849,890	0.2%
335211	Electric Housewares and Household Fan Manufacturing	2	148,667	673,506	822,173	0.2%
331525	Copper Foundries (except Die-Casting)	18	794,942	662	795,604	0.2%
323111	Commercial Gravure Printing	16	17,058	772,088	789,146	0.2%
339999	All Other Miscellaneous Manufacturing	30	777,571	11,219	788,790	0.2%
238320	Painting and Wall Covering Contractors	41	721,597	0	721,597	0.2%
331110	Iron and Steel Mills and Ferroalloy Manufacturing	3	651,946	287	652,233	0.1%
332919	Other Metal Valve and Pipe Fitting Manufacturing	7	651,157	0	651,157	0.1%
327213	Glass Container Manufacturing	25	603,779	204	603,983	0.1%
488190	Other Support Activities for Air Transportation	32	586,281	11,271	597,552	0.1%
541710	Research and Development in the Physical, Engineering, and Life Sciences	115	500,550	69,209	569,759	0.1%
Total		2,445	265,505,015	164,049,999	429,555,015	95.0%