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## National Priority Chemicals Trends Report (2004-2006)

### Section 3 Summary Trends Analyses for Priority Chemicals (2004-2006)

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# SECTION 3

## SUMMARY TRENDS ANALYSIS FOR PRIORITY CHEMICALS (2004–2006)

### Introduction

Section 3 provides an overview of the national, EPA region, state, county, and industry sector quantities of the PCs<sup>8</sup> reported to the TRI for the 2004–2006 reporting years. The data focuses on the generation and management trends for these PCs.

The quantities of PCs generated each year are influenced by numerous factors, including:

- pollution prevention (e.g., waste minimization) measures
- changes in production levels
- process changes
- closure of facilities
- clean-up of spills/releases
- maintenance activities (e.g., clean-out of tanks and piping).

Based on our discussions with a number of facilities, we provide some basis or reasons for significant increases or decreases in the quantities of PCs that they report to TRI.

### How Much Priority Chemicals Was Generated?

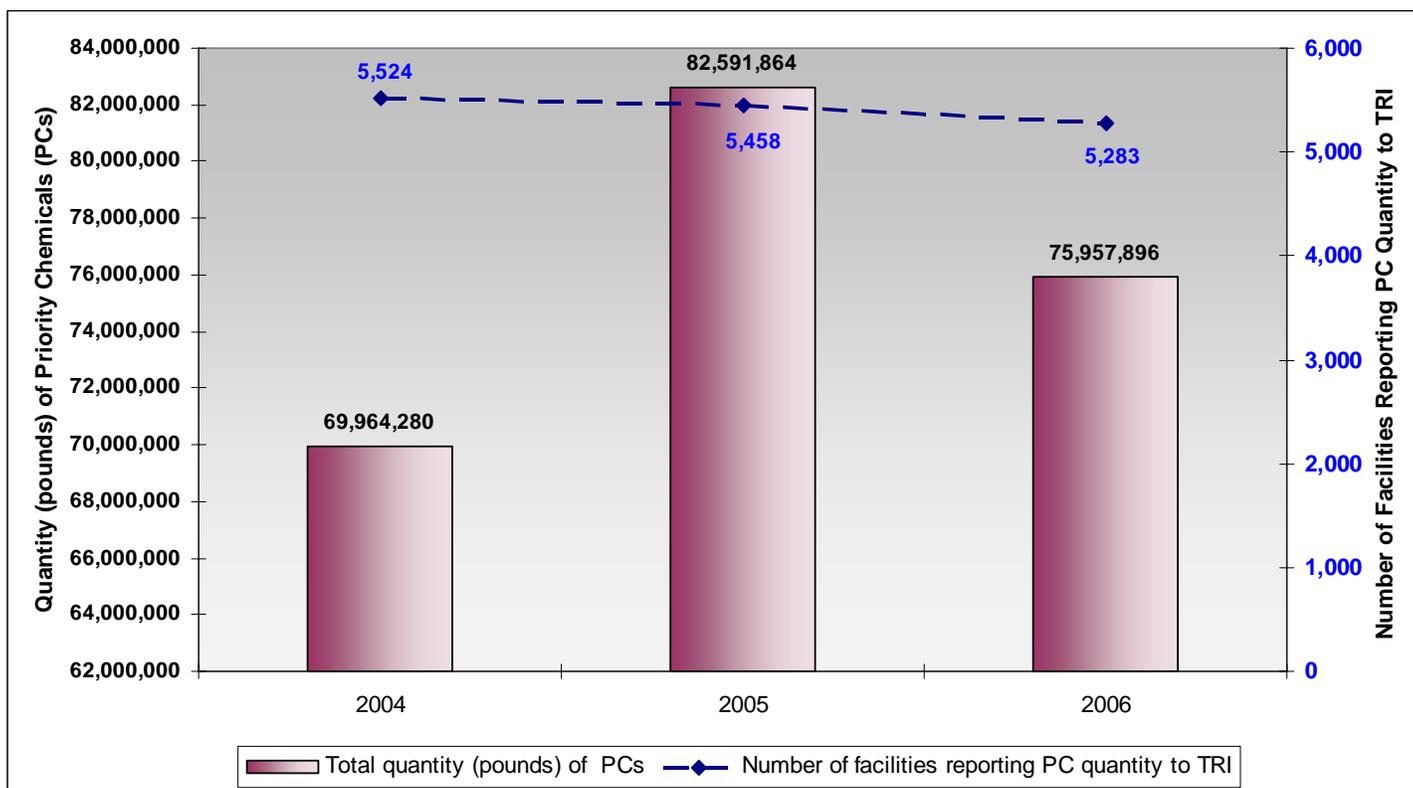
For 2006, approximately 5,300 facilities reported almost 76 million pounds of PCs. As noted in Section 1, these facilities and quantity of PCs are a subset of the total universe of PCs reported to TRI for which we focus on the quantities of PCs most amenable to waste minimization (i.e., the PC quantities reported to TRI as land disposal, treatment, and energy recovery). Compared to the quantities reported in 2004 and 2005, this represents an increase of almost 6.0 million pounds (+ 8.5 %) and a decrease of 6.6 million pounds (- 8.0 %), respectively. From 2004 to 2006, the number of reporting facilities steadily decreased (Exhibits 3.1 and 3.2).

**Exhibit 3.1. Total Quantity and Number of Facilities for the Priority Chemicals (2004–2006)**

TRI Reporting Year	2004	2005	2006
Total Quantity of PCs (pounds)	69,964,280	82,591,864	75,957,896
Number of TRI Facilities Reporting PC Quantity	5,524	5,458	5,283

<sup>8</sup> The current list of PCs consists of 31 chemicals of which 24 are reportable to TRI. For TRI reporting years 2004 to 2006, one of the PCs—lindane—had no reported quantity.

### Exhibit 3.2. Total Quantity (pounds) and Number of Facilities Reporting Priority Chemicals (2004–2006)



Compared to the quantity of PCs reported in 2004, the total quantity of PCs increased by approximately 12.6 million pounds in 2005 and then decreased by approximately 6.6 million pounds in 2006. Since 2004, four of the PCs (lead and lead compounds, naphthalene, polycyclic aromatic compounds (PACs), and hexachlor-1,3-butadiene) accounted for approximately 86 percent of the national total quantity of PCs (Exhibit 3.3).

The reported quantity of each PC varied significantly from 2004 to 2006. We believe much of these year-to-year changes resulted from quantities of several PCs reported by a few large facilities, for example:

- Lead and lead compounds increased by approximately 3.4 million pounds from 2004 to 2005. A pressed and blown glass facility in Ohio reported an increase of approximately 2.7 million pounds due to cleanup and closure activities.
- Naphthalene increased by approximately 4.3 million pounds from 2004 to 2005 and then decreased by approximately 3.5 million pounds from 2005 to 2006. Several facilities reported large changes in quantities of naphthalene, including:
  - A petroleum refining facility in Texas reported an increase of approximately 2.4 million pounds for 2005 due to compliance with federal air standards and the recalculation of quantities sent to flare followed by a decrease of approximately 2.6 million pounds for 2006 by recycling dewatered wastewater sludge, containing naphthalene, rather than land disposing it;
  - A chemical facility in Texas reported an increase of approximately 1.6 million pounds from the demolition and cleanup of tanks in 2005 followed by a decrease of approximately 0.5 million pounds by substituting with a cleaner feedstock in 2006; and
  - A cyclic crudes and intermediates facility being shutdown in Michigan reported an increase of approximately 600,000 pounds for 2005 due to the cleanout of tanks and processing of residuals followed by a decrease of approximately 760,000 pounds as it completed shutdown activities.
- Polycyclic aromatic compounds decreased by approximately 1.1 million pounds from 2005 to 2006. A carbon and graphite product manufacturing facility in North Carolina reported a decrease of approximately 690,000 pounds due to a change in composition of the coal tar pitch used as feedstock. Also, a basic chemical manufacturing facility in Ohio reported a decrease of approximately 360,000 pounds due to improved data regarding the composition and combustion of fuel oil.
- Hexachloro-1,3-butadiene increased by approximately 2.5 million pounds from 2004 to 2005. An alkalis and chlorine manufacturing facility in Louisiana reported an increase of approximately 3.1 million pounds resulting from an increased concentration of this PC in its feedstock, while another alkalis and chlorine manufacturing facility, also located in Louisiana, reported a decrease of approximately 618,000 pounds due to hurricane-related operational problems.

### Exhibit 3.3. Total Quantity by Priority Chemical (2004–2006)

Priority Chemical	Number of Facilities That Reported This PC in 2006*	Quantity (pounds)			Percent of National Total PC Quantity (2006)	Change in Quantity (2005–2006)
		2004	2005	2006		
Lead and lead compounds	4,488	32,879,547	36,293,990	36,270,099	47.8%	-23,891
Naphthalene	632	12,926,922	17,217,979	13,755,764	18.1%	-3,462,215
Polycyclic aromatic compounds	693	8,613,992	9,072,983	7,968,088	10.5%	-1,104,895
Hexachloro-1,3-butadiene	5	4,965,637	7,514,661	7,081,116	9.3%	-433,545
Anthracene	42	520,978	601,973	2,374,123	3.1%	1,772,150
Hexachloroethane	7	775,987	3,413,266	2,139,851	2.8%	-1,273,415
1,2,4-trichlorobenzene	10	1,888,685	1,269,417	1,370,487	1.8%	101,070
Hexachlorobenzene	32	1,615,404	2,322,712	1,219,738	1.6%	-1,102,974
Cadmium and cadmium compounds	63	865,619	611,375	953,335	1.3%	341,960
Benzo(g,h,i)perylene	418	553,833	688,220	784,130	1.0%	95,910
Phenanthrene	62	2,378,127	1,429,732	776,219	1.0%	-653,513
Pentachlorobenzene	4	384,668	345,197	397,529	0.5%	52,331
Pendimethalin	7	475,698	558,624	291,521	0.4%	-267,103
Quintozene	3	281,001	303,237	248,538	0.3%	-54,699
Polychlorinated biphenyls	39	67,756	143,479	108,558	0.1%	-34,921
Dibenzofuran	13	25,012	139,463	89,871	0.1%	-49,593
Mercury and mercury compounds	604	62,293	78,614	74,043	0.1%	-4,572
Trifluralin	13	81,787	46,600	37,200	<0.1%	-9,399
Pentachlorophenol	13	117,264	77,281	14,814	<0.1%	-62,467
2,4,5-trichlorophenol	1	5,083	3,800	2,255	<0.1%	-1,545
Dioxin and dioxin-like compounds**	362	489	482	504	<0.1%	22
Heptachlor	2	775	109	69	<0.1%	-40
Methoxychlor	1	766	0	45	<0.1%	45
Lindane	0	0	0	0	<0.1%	0
<b>Total</b>		<b>69,487,324</b>	<b>82,133,195</b>	<b>75,957,896</b>	<b>100.0%</b>	<b>-6,175,299</b>

\* Please note that the total number of facilities shown may differ from the total number of facilities shown in Exhibits 3.1 and 3.2 because numerous facilities reported more than one PC.

\*\* Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

Only a relatively small number of facilities reported the majority of PC quantities (Exhibit 3.4). For example, of the 4,488 facilities that reported lead and lead compounds for 2006, 70 facilities accounted for over 77 percent of the total quantity. In another example, of the 42 facilities that reported anthracene, one facility accounted for approximately 85 percent of the total quantity.

**Exhibit 3.4. Number of Facilities That Reported Each Priority Chemical by Quantity Range (2006)**

Name of Priority Chemical (Number of Facilities, Total PC Quantity)	Distribution of Priority Chemical Quantity													
	up to 10 Pounds		11–100 pounds		101–1,000 pounds		1,001–10,000 pounds		10,001–100,000 pounds		100,001–1 million pounds		> 1 million pounds	
	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC
1,2,4-trichlorobenzene (10 facilities; 1,370,487 pounds)	1	< 0.1%	0	0.0%	2	0.1%	4	1.1%	2	4.0%	0	0.0%	1	94.9%
2,4,5- trichlorophenol (1 facility; 2,255 pounds)	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
Anthracene (42 facilities; 2,374,123 pounds)	8	< 0.1%	7	< 0.1%	11	0.2%	10	1.1%	4	7.5%	1	5.9%	1	85.2%
Benzo(g,h,i)perylene (418 facilities; 784,130 pounds)	259	0.1%	93	0.4%	48	1.8%	8	3.2%	8	35.3%	2	59.2%	0	0.0%
Cadmium and cadmium compounds ( 63 facilities; 953,335 pounds)	12	< 0.1%	6	< 0.1%	17	0.6%	17	9.0%	9	27.5%	2	62.9%	0	0.0%
Dibenzofuran (13 facilities; 89,871 pounds)	2	< 0.1%	2	< 0.1%	4	1.7%	4	18.9%	1	79.3%	0	0.0%	0	0.0%
Dioxin and dioxin-Like compounds (362 facilities; 504 pounds)*	354	12.6%	7	51.8%	1	35.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Heptachlor (2 facilities; 69 pounds)	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Hexachloro-1,3-butadiene (5 facilities; 7,081,116 pounds)	0	0.0%	0	0.0%	0	0.0%	1	0.1%	2	0.9%	0	0.0%	2	99.0%
Hexachlorobenzene (32 facilities; 1,219,738 pounds)	10	< 0.1%	4	< 0.1%	4	0.1%	8	2.1%	4	21.4%	2	76.3%	0	0.0%
Hexachloroethane (7 facilities; 2,139,851 pounds)	0	0.0%	0	0.0%	0	0.0%	1	0.1%	1	4.1%	4	43.2%	1	52.7%
Lead and lead compounds (4,488 facilities; 36,270,099 pounds)	1,629	< 0.1%	1,054	< 0.1%	984	1.0%	538	5.0%	213	16.8%	64	52.1%	6	25.0%

**Exhibit 3.4. Number of Facilities That Reported Each Priority Chemical by Quantity Range (2006) (Continued)**

Name of Priority Chemical (Number of Facilities, Total PC Quantity)	Distribution of Priority Chemical Quantity													
	up to 10 Pounds		11–100 pounds		101–1,000 pounds		1,001–10,000 pounds		10,001–100,000 pounds		100,001–1 million pounds		> 1 million pounds	
	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC	Number of Facilities	Percent of Total Quantity for this PC
Mercury and mercury compounds (604 facilities; 74,043 pounds)	356	1.2%	185	7.8%	52	18.8%	10	43.3%	1	28.9%	0	0.0%	0	0.0%
Methoxychlor (1 facility; 45 pounds)	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Naphthalene (632 facilities; 13,755,764 pounds)	126	< 0.1%	87	< 0.1%	136	0.5%	146	4.3%	105	25.9%	30	49.3%	2	20.1%
Pendimethalin (7 facilities; 291,521 pounds)	0	0.0%	0	0.0%	2	0.5%	1	1.5%	3	50.6%	1	47.4%	0	0.0%
Pentachlorobenzene (4 facilities; 397,529 pounds)	0	0.0%	1	< 0.1%	0	0.0%	1	0.5%	1	16.8%	1	82.7%	0	0.0%
Pentachlorophenol (13 facilities; 14,814 pounds)	1	< 0.1%	0	0.0%	6	14.3%	6	85.7%	0	0.0%	0	0.0%	0	0.0%
Phenanthrene (62 facilities; 776,219 pounds)	8	< 0.1%	6	< 0.1%	18	0.9%	20	8.3%	9	40.9%	1	49.8%	0	0.0%
Polychlorinated biphenyls (39 facilities; 108,558 pounds)	7	< 0.1%	12	0.6%	10	3.3%	9	35.0%	1	61.1%	0	0.0%	0	0.0%
Polycyclic aromatic compounds (693 facilities; 7,968,088 pounds)	242	< 0.1%	190	0.1%	136	0.6%	87	3.5%	26	8.9%	11	60.2%	1	26.7%
Quintozene (3 facilities; 248,538 pounds)	0	0.0%	0	0.0%	1	0.1%	1	1.5%	0	0.0%	1	98.3%	0	0.0%
Trifluralin (13 facilities; 37,200 pounds)	2	< 0.1%	2	0.3%	3	4.0%	5	50.4%	1	45.4%	0	0.0%	0	0.0%

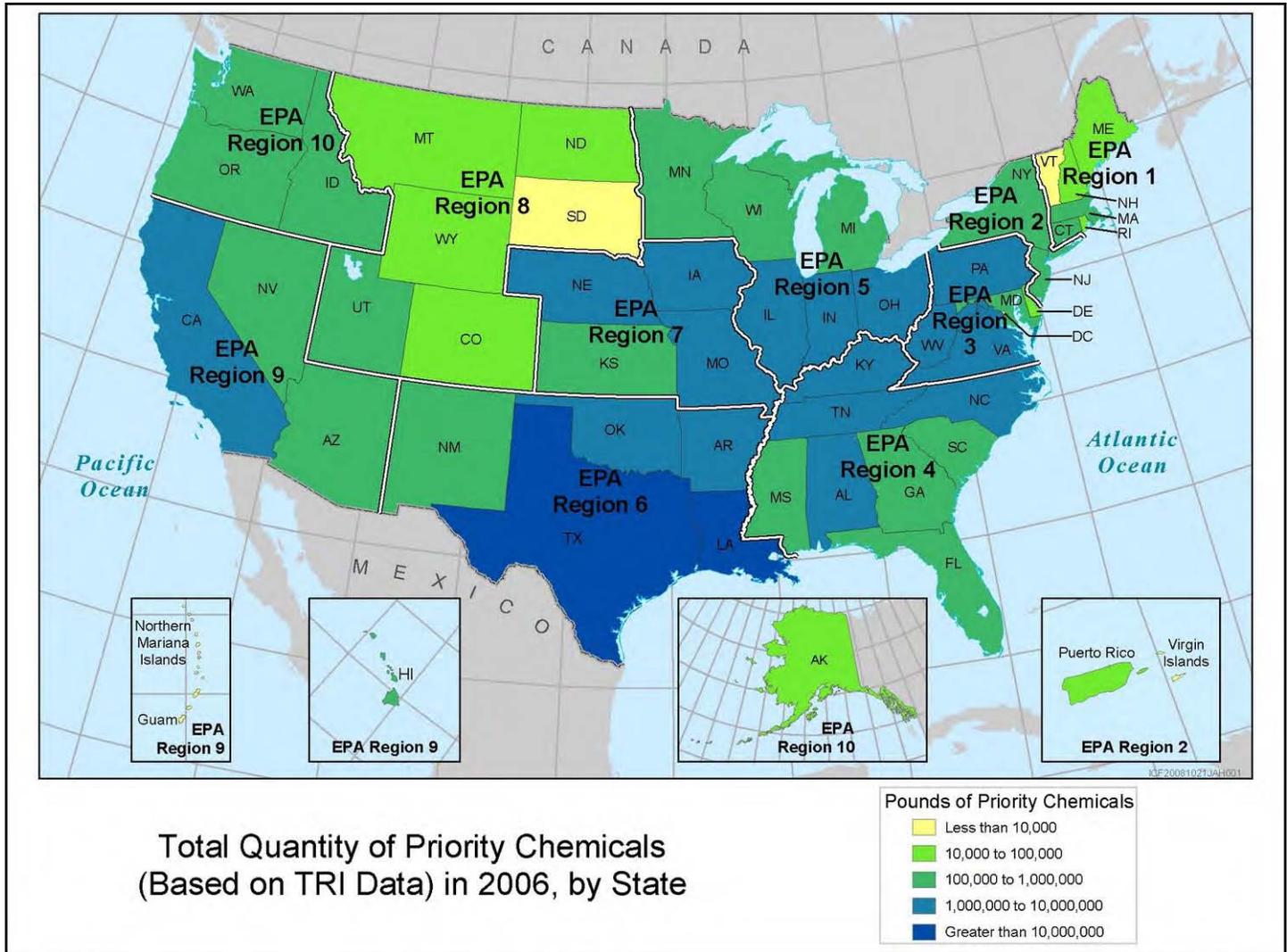
Shading indicates ranges in which facilities account for at least 85 percent of the total quantity for the PC.

\* Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

# Where Were Priority Chemicals Generated?

In 2006, facilities in five states (Louisiana, Texas, Indiana, Kentucky, and Alabama) accounted for approximately 52 percent of the total quantity of PCs generated (Exhibits 3.5 and 3.6).

**Exhibit 3.5 Distribution of Priority Chemicals, by State (2006)**



**Exhibit 3.6. Priority Chemical Quantity, by State (2004–2006)**

EPA Region	State	Quantity (pounds)			Change in Quantity (2005–2006)	Percent of National Total PC Quantity (2006)
		2004	2005	2006		
6	LA	11,277,028	13,678,997	12,719,192	-959,805	16.7%
6	TX	8,611,297	14,287,024	10,368,667	-3,918,357	13.7%
5	IN	6,335,661	6,805,255	6,514,853	-290,402	8.6%
4	KY	3,576,285	3,743,625	4,898,116	1,154,491	6.4%
4	AL	4,712,420	5,134,498	4,855,071	-279,427	6.4%
3	PA	3,824,245	3,108,608	3,471,476	362,868	4.6%
9	CA	2,291,201	3,175,846	3,002,185	-173,661	4.0%
7	MO	1,938,442	2,500,182	2,946,182	445,999	3.9%
6	AR	1,782,765	1,970,628	2,666,128	695,500	3.5%
5	OH	2,883,992	5,441,580	2,433,828	-3,007,752	3.2%

**Exhibit 3.6. Priority Chemical Quantity, by State (2004–2006) (Continued)**

EPA Region	State	Quantity (pounds)			Change in Quantity (2005–2006)	Percent of National Total PC Quantity (2006)
		2004	2005	2006		
4	TN	2,644,540	2,675,655	2,041,564	-634,091	2.7%
5	IL	2,008,598	1,577,658	1,827,403	249,745	2.4%
3	WV	1,553,267	1,485,338	1,550,753	65,415	2.0%
7	NE	1,403,200	1,019,892	1,510,043	490,151	2.0%
4	NC	1,643,485	1,953,298	1,506,921	-446,377	2.0%
7	IA	1,193,532	1,211,618	1,297,883	86,265	1.7%
6	OK	680,439	518,703	1,204,630	685,927	1.6%
3	VA	722,361	802,495	1,122,288	319,793	1.5%
4	SC	965,948	1,092,067	959,363	-132,705	1.3%
10	ID	245,313	152,406	954,430	802,025	1.3%
8	UT	1,093,115	984,378	803,461	-180,917	1.1%
10	WA	529,923	832,129	715,592	-116,537	0.9%
2	NJ	920,417	805,020	710,866	-94,154	0.9%
5	MI	973,836	2,132,184	677,807	-1,454,377	0.9%
4	GA	573,318	565,056	631,816	66,760	0.8%
4	MS	411,838	490,508	612,654	122,146	0.8%
10	OR	562,802	579,221	587,546	8,325	0.8%
4	FL	674,867	641,515	557,180	-84,335	0.7%
5	WI	581,749	475,210	539,848	64,638	0.7%
2	NY	541,303	478,304	381,676	-96,629	0.5%
5	MN	342,243	362,143	345,985	-16,158	0.5%
6	NM	166,444	211,500	240,754	29,254	0.3%
7	KS	148,216	181,955	181,530	-425	0.2%
3	MD	365,111	266,801	156,302	-110,498	0.2%
1	MA	154,866	132,164	144,058	11,894	0.2%
9	NV	114,108	61,044	130,667	69,623	0.2%
9	AZ	83,296	67,251	125,748	58,497	0.2%
1	CT	123,238	131,944	113,409	-18,535	0.1%
9	HI	128,712	41,539	105,226	63,687	0.1%
8	CO	391,487	94,242	74,963	-19,279	0.1%
1	NH	93,619	70,226	60,998	-9,228	0.1%
1	ME	32,020	20,249	40,955	20,706	0.1%
10	AK	42,722	50,963	35,570	-15,393	<0.1%
2	PR	17,336	30,700	35,521	4,822	<0.1%
8	WY	47,994	33,738	24,178	-9,560	<0.1%
3	DE	16,309	10,481	20,689	10,209	<0.1%
8	MT	12,408	10,853	15,383	4,529	<0.1%
1	RI	14,194	8,268	12,186	3,918	<0.1%
8	ND	5,616	4,470	10,586	6,116	<0.1%
1	VT	21,972	12,471	8,124	-4,347	<0.1%
2	VI	4,833	7,170	2,033	-5,137	<0.1%
8	SD	1,918	1,432	1,987	555	<0.1%
3	DC	442	1,703	858	-845	<0.1%
9	GU	1,030	987	766	-221	<0.1%
9	MP	0	0	<1	<1	<0.1%
<b>Total</b>		<b>69,487,324</b>	<b>82,133,195</b>	<b>75,957,896</b>	<b>-6,175,300</b>	<b>100.0%</b>

For 2006, facilities in each of 12 counties (located in eight states) accounted for at least 1 million pounds of PCs and represented approximately 44 percent of the total quantity of PCs generated (Exhibit 3.7).

**Exhibit 3.7. Priority Chemical Quantity, by County, for Facilities Reporting 80 Percent of the Total Quantity (2006)**

EPA Region	State	County	Quantity (pounds)			Change in Quantity (2005–2006)	Percent of Total PC Quantity (2006)
			2004	2005	2006		
6	LA	Calcasieu	7,152,696	6,084,159	6,465,177	381,018	8.5%
6	LA	Ascension	1,277,652	5,793,529	4,754,773	-1,038,756	6.3%
4	KY	Hancock	2,615,225	2,508,135	3,362,961	854,827	4.4%
6	TX	Brazoria	1,932,396	3,204,727	3,223,753	19,026	4.2%
6	TX	Harris	1,829,193	3,312,385	2,997,428	-314,957	3.9%
9	CA	Los Angeles	1,726,339	2,333,574	2,318,518	-15,056	3.1%
4	AL	Pike	1,816,565	2,107,678	2,274,578	166,900	3.0%
5	IN	Marion	2,257,212	2,345,829	2,136,231	-209,598	2.8%
6	TX	Jefferson	1,928,835	4,607,869	1,940,598	-2,667,272	2.6%
3	PA	Berks	1,909,041	1,451,716	1,506,633	54,917	2.0%
7	MO	Iron	1,379,460	1,691,895	1,499,007	-192,888	2.0%
4	AL	Mobile	943,420	1,033,235	1,085,813	52,578	1.4%
7	IA	Muscatine	839,444	873,033	979,404	106,370	1.3%
4	TN	Mauzy	2,047,613	2,019,439	966,726	-1,052,713	1.3%
7	MO	Pulaski	97,648	124,882	936,227	811,346	1.2%
4	AL	Jefferson	1,262,053	1,453,853	934,659	-519,194	1.2%
3	WV	Kanawha	777,385	706,036	933,610	227,574	1.2%
5	IN	Whitley	658,045	726,986	925,574	198,589	1.2%
7	NE	Jefferson	735,051	690,644	923,845	233,201	1.2%
6	AR	Pope	674,556	628,392	870,098	241,706	1.1%
6	AR	Lonoke	96,627	493,770	718,093	224,323	0.9%
5	IN	Hancock	132,957	85,735	705,388	619,653	0.9%
3	PA	Beaver	388,600	360,170	645,992	285,821	0.9%
6	OK	Mayes	5,473	2,364	623,443	621,079	0.8%
6	LA	East Baton Rouge	1,007,383	653,361	603,959	-49,402	0.8%
5	IL	Madison	626,236	494,387	567,540	73,153	0.7%
7	NE	Stanton	629,570	301,767	564,467	262,700	0.7%
3	WV	Brooke	627,081	730,488	557,304	-173,184	0.7%
4	KY	Fulton	481,265	524,952	543,739	18,787	0.7%
10	ID	Butte	476,957	458,668	535,529	76,860	0.7%
5	IN	Delaware	719,464	640,347	525,974	-114,373	0.7%
5	IN	Lake	626,275	656,704	519,368	-137,336	0.7%
10	OR	Yamhill	393,278	457,324	517,411	60,087	0.7%
8	UT	Box Elder	692,827	731,467	511,349	-220,117	0.7%
3	PA	Allegheny	788,179	546,203	463,086	-83,117	0.6%
6	AR	Franklin	364,642	371,159	462,841	91,682	0.6%
6	TX	Galveston	732,673	752,130	462,385	-289,746	0.6%
4	NC	Hertford	513,886	344,755	457,556	112,801	0.6%
5	OH	Stark	483,234	443,734	454,127	10,393	0.6%
6	AR	Mississippi	404,517	291,886	435,690	143,804	0.6%
4	TN	Davidson	14,571	17,303	422,488	405,185	0.6%
5	OH	Cuyahoga	392,408	267,202	409,270	142,068	0.5%
10	ID	Caribou	209,635	110,437	381,804	271,367	0.5%
4	NC	Burke	502,029	1,013,052	365,239	-647,812	0.5%
3	VA	Roanoke (City)	346,965	349,325	364,961	15,636	0.5%
10	WA	Spokane	197,447	343,102	344,225	1,123	0.5%
4	MS	Hinds	229,917	276,323	334,881	58,558	0.4%
6	TX	Collin	169,111	241,722	332,175	90,453	0.4%

**Exhibit 3.7. Priority Chemical Quantity, by County, for Facilities Reporting 80 Percent of the Total Quantity (2006) (Continued)**

EPA Region	State	County	Quantity (pounds)			Change in Quantity (2005–2006)	Percent of Total PC Quantity (2006)
			2004	2005	2006		
6	OK	Washington	451,786	309,477	315,916	6,439	0.4%
2	NJ	Middlesex	500,260	403,552	312,374	-91,178	0.4%
5	IL	Cook	391,865	326,316	305,676	-20,640	0.4%
5	IN	De Kalb	304,537	267,297	305,037	37,740	0.4%
5	MI	Wayne	608,542	1,741,479	296,833	-1,444,646	0.4%
5	IN	Montgomery	258,994	295,171	292,739	-2,432	0.4%
5	IN	Hendricks	179,605	186,759	288,781	102,022	0.4%
5	OH	Marion	32	23	285,622	285,599	0.4%
5	IL	Peoria	378,615	238,388	283,587	45,199	0.4%
5	MN	Dakota	243,485	271,520	262,028	-9,492	0.3%
4	KY	Boyle	95,902	238,568	256,488	17,921	0.3%
6	TX	Ector	214,989	663,001	253,217	-409,784	0.3%
4	KY	Boyd	63,813	138,381	251,533	113,152	0.3%
4	SC	Richland	192,529	197,716	242,607	44,891	0.3%
4	AL	Tuscaloosa	286,531	236,130	235,526	-603	0.3%
4	SC	Berkeley	224,011	328,947	231,498	-97,449	0.3%
4	TN	Sullivan	218,038	217,818	227,411	9,593	0.3%
5	OH	Pickaway	468,820	219,826	225,830	6,004	0.3%
4	NC	Cumberland	192,051	191,328	223,388	32,060	0.3%
3	VA	Buckingham	0	21,360	216,305	194,945	0.3%
4	NC	Onslow	145,408	148,249	215,015	66,766	0.3%
4	SC	Aiken	70,958	235,799	214,043	-21,756	0.3%
9	CA	San Bernardino	150,147	293,644	213,012	-80,632	0.3%

For 2006, facilities in several of the counties reported a significant portion of two or more of the PCs generated in 2006 (Exhibit 3.8), including:

**Ascension County in Louisiana:**

- 52.7% of the hexachloroethane
- 49.5 % of the hexachloro-1,3-butadiene

**Brazoria County in Texas:**

- 85.2% of the anthracene
- 30.7 % of the hexachlorobenzene

**Calcasieu County in Louisiana:**

- 94.9 % of the 1,2,4-trichlorobenzene
- 82.7 % of the pentachlorobenzene
- 49.5 % of the hexachloro-1,3-butadiene
- 45.5% of the hexachlorobenzene

**Hancock County in Kentucky:**

- 49.8 % of the phenanthrene
- 33.2 % of the benzo(g,h,i)perylene
- 26.7 % of the polycyclic aromatic compounds

## Harris County in Texas:

- 100.0% of the heptachlor
- 100.0% of the methoxychlor
- 79.3 % of the dibenzofuran
- 18.4 % of the dioxins
- 12.3 % of the naphthalene
- 7.7% of the PACs

**Exhibit 3.8. Counties in Which Facilities Reported the Majority of the Total Quantity of Individual Priority Chemicals (2006)**

Priority Chemical	EPA Region	State	County	Quantity (pounds)			Percent of National Total Quantity of this PC (2006)	
				2004	2005	2006		
1,2,4-Trichlorobenzene	6	LA	Calcasieu	1,500,850	1,199,452	1,300,732	94.9%	
2,4,5-Trichlorophenol	2	NJ	Salem	5,083	3,800	2,255	100.0%	
Anthracene	6	TX	Brazoria	26,362	0	2,022,653	85.2%	
Benzo(g,h,i)Perylene	4	KY	Hancock	0	137,849	260,240	33.2%	
	4	KY	Fulton	181,504	197,280	203,997	26.0%	
Cadmium and cadmium compounds	10	ID	Caribou	146,000	68,005	306,044	32.1%	
	6	OK	Washington	386,377	287,766	293,666	30.8%	
Dibenzofuran	6	TX	Harris	0	87,651	71,242	79.3%	
Dioxin and dioxin-like compounds*	6	LA	Iberville	133	226	185	36.6%	
	6	TX	Harris	52	37	93	18.4%	
Heptachlor	6	TX	Harris	766	0	45	100.0%	
Hexachloro-1,3-butadiene	6	LA	Ascension	964,016	4,035,132	3,505,325	49.5%	
	6	LA	Calcasieu	3,998,427	3,380,388	3,502,329	49.5%	
Hexachlorobenzene	6	LA	Calcasieu	630,532	522,498	555,380	45.5%	
	6	TX	Brazoria	676,640	1,303,955	374,996	30.7%	
Hexachloroethane	6	LA	Ascension	165,210	1,436,915	1,126,704	52.7%	
	4	AL	Pike	1,789,929	2,068,070	2,235,064	6.2%	
Lead and lead compounds	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	0	0	525,720	1.4%	
	10	OR	Yamhill	392,983	456,972	517,176	1.4%	
	8	UT	Box Elder	692,710	731,310	511,213	1.4%	
	Mercury and mercury compounds	1	CT	New Haven	155	123	21,536	29.1%
		6	LA	Iberville	269	632	9,259	12.5%
		5	OH	Richland	5,000	5,900	5,460	7.4%
		1	VT	Rutland	9,357	5,510	4,886	6.6%

**Exhibit 3.8. Counties in Which Facilities Reported the Majority of the Total Quantity of Individual Priority Chemicals (2006) (Continued)**

Priority Chemical	EPA Region	State	County	Quantity (pounds)			Percent of National Total Quantity of this PC (2006)
				2004	2005	2006	
Methoxychlor	6	TX	Harris	766	0	45	100.0%
Naphthalene	6	TX	Jefferson	1,871,846	4,545,791	1,864,797	13.6%
	6	TX	Harris	1,387,951	2,339,697	1,697,917	12.3%
	3	WV	Kanawha	775,857	703,295	932,598	6.8%
	5	IN	Hancock	132,774	85,682	705,338	5.1%
	6	LA	Calcasieu	352,455	359,426	492,707	3.6%
	6	TX	Brazoria	219,997	201,657	445,898	3.2%
	4	KY	Hancock	128,697	163,970	444,903	3.2%
	3	PA	Allegheny	523,682	403,823	422,033	3.1%
Pendimethalin	7	MO	Marion	260,235	391,287	138,326	47.4%
	4	FL	Palm Beach	95,733	80,058	83,820	28.8%
Pentachlorobenzene	6	LA	Calcasieu	380,240	305,962	328,698	82.7%
Pentachlorophenol	4	MS	Grenada	55,261	29,324	3,708	25.0%
	4	SC	Florence	43,660	3,112	3,592	24.2%
	6	LA	Rapides	1,500	1,720	1,480	10.0%
Phenanthrene	4	KY	Hancock	804,286	758,174	386,800	49.8%
	4	AL	Jefferson	118,165	155,954	89,431	11.5%
Polychlorinated biphenyls	4	TN	Mauzy	41,263	45,843	66,343	61.1%
Polycyclic aromatic compounds	4	KY	Hancock	1,389,221	1,171,896	2,129,500	26.7%
	6	AR	Pope	674,556	628,392	870,098	10.9%
	4	TN	Mauzy	1,775,195	1,728,070	760,744	9.5%
	6	TX	Harris	13,308	756,633	612,121	7.7%
Quintozene	9	CA	Los Angeles	254,979	297,549	244,406	98.3%
	7	IA	Polk	61,770	19,545	16,871	45.4%
Trifluralin	6	TX	Ellis	10,000	12,200	7,200	19.4%
	7	MO	Buchanan	6,522	5,784	6,731	18.1%

\* Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

## Which Industries Generated the Greatest Quantities of Priority Chemicals?

For 2006, facilities in 350 different NAICS codes reported generating PCs; approximately 90 percent of the facilities in 24 of the NAICS codes. Facilities in three industries accounted for approximately 46 percent of the total quantity of the PCs generated in 2006 (Exhibit 3.9):

- NAICS 325181 (Alkalies and chlorine manufacturing): 17.7%
- NAICS 331492 (Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum): 15.0%
- NAICS 331111 (Iron and steel mills): 13.3%

### Exhibit 3.9. Priority Chemical Quantity, By Industry (2006)

NAICS Code	NAICS Code Description	Quantity (pounds)			Percent of National Total PC Quantity (2006)
		2004	2005	2006	
325181	Alkalies and Chlorine Manufacturing	8,434,467	13,125,343	13,408,621	17.7%
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	10,213,273	11,027,809	11,410,674	15.0%
331111	Iron and Steel Mills	9,830,019	9,270,225	10,108,076	13.3%
928110	National Security	2,576,059	2,740,057	4,406,113	5.8%
335991	Carbon and Graphite Product Manufacturing	4,115,195	4,651,306	3,291,125	4.3%
331312	Primary Aluminum Production	2,974,060	2,756,294	3,233,397	4.3%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	2,085,146	2,199,369	3,000,504	4.0%
324110	Petroleum Refineries	3,338,171	6,149,521	2,944,295	3.9%
325192	Cyclic Crude and Intermediate Manufacturing	1,378,335	3,916,502	2,597,531	3.4%
325188	All Other Basic Inorganic Chemical Manufacturing	2,292,261	1,655,987	1,926,879	2.5%
325110	Petrochemical Manufacturing	2,115,254	2,828,812	1,714,644	2.3%
331511	Iron Foundries	1,960,075	1,626,420	1,617,805	2.1%
325320	Pesticide and Other Agricultural Chemical Manufacturing	1,471,180	1,541,579	1,377,295	1.8%
325199	All Other Basic Organic Chemical Manufacturing	2,364,209	1,241,040	1,373,750	1.8%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	332,498	694,526	958,058	1.3%
332992	Small Arms Ammunition Manufacturing	182,316	565,013	790,921	1.0%
325211	Plastics Material and Resin Manufacturing	945,158	1,271,826	666,773	0.9%
335110	Electric Lamp Bulb and Part Manufacturing	232,099	567,422	613,853	0.8%
541710	Research and Development in the Physical, Engineering, and Life Sciences	479,037	459,021	592,124	0.8%
324191	Petroleum Lubricating Oil and Grease Manufacturing	448,910	485,393	515,286	0.7%
331421	Copper Rolling, Drawing, and Extruding	129,314	120,883	482,704	0.6%
335912	Primary Battery Manufacturing	456,055	422,775	427,678	0.6%
331222	Steel Wire Drawing	483,927	375,907	409,519	0.5%
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	218,690	204,649	400,799	0.5%

For many of the PCs, facilities in only a relatively small number of industries reported most of the total quantity of PCs generated. Exhibit 3.10 shows the industries in which facilities accounted for much of the total quantity of each PC generated for 2006. Exhibit 3.11 shows the quantity and percentage of individual PCs reported by facilities in the industries that accounted for 80 percent of the total national quantity of PCs generated in 2006.

### Exhibit 3.10. Key Industries Reporting Priority Chemicals (2006)

Primary NAICS Code	NAICS Code Description	Quantity (pounds) Reported By This Industry (2006)	Percent of Total Quantity (2006)
<b>1,2,4-trichlorobenzene: 1,370,487 total pounds reported by facilities in 8 industries</b>			
325181	Alkalies and Chlorine Manufacturing	1,307,675	95.4%
<b>2,4,5-trichlorophenol: 2,255 total pounds reported by facilities in 1 industry</b>			
325188	All Other Basic Inorganic Chemical Manufacturing	2,255	100.0%
<b>Anthracene: 2,374,123 total pounds reported by facilities in 13 industries</b>			
325181	Alkalies and Chlorine Manufacturing	2,022,651	85.2%
<b>Benzo(g,h,i)perylene: 784,130 total pounds reported by facilities in 47 industries</b>			
335991	Carbon and Graphite Product Manufacturing	388,130	49.5%
331312	Primary Aluminum Production	274,014	34.9%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	70,362	9.0%

**Exhibit 3.10. Key Industries Reporting Priority Chemicals (2006) (Continued)**

Primary NAICS Code	NAICS Code Description	Quantity (pounds) Reported By This Industry (2006)	Percent of Total Quantity (2006)
<b>Cadmium and cadmium compounds: 953,335 total pounds reported by facilities in 31 industries</b>			
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	344,408	36.1%
325188	All Other Basic Inorganic Chemical Manufacturing	336,053	35.3%
331513	Steel Foundries (except Investment)	86,140	9.0%
<b>Dibenzofuran: 89,871 total pounds reported by facilities in 9 industries</b>			
325192	Cyclic Crude and Intermediate Manufacturing	75,505	84.0%
325110	Petrochemical Manufacturing	11,268	12.5%
<b>Dioxin and dioxin-like compounds: 504 total pounds* reported by facilities in 47 industries</b>			
324110	Petroleum Refineries	179	35.5%
325199	All Other Basic Organic Chemical Manufacturing	94	18.6%
325320	Pesticide and Other Agricultural Chemical Manufacturing	92	18.3%
325181	Alkalies and Chlorine Manufacturing	80	15.9%
<b>Heptachlor: 69 total pounds reported by facilities in 2 industries</b>			
325188	All Other Basic Inorganic Chemical Manufacturing	45	65.2%
325320	Pesticide and Other Agricultural Chemical Manufacturing	24	34.8%
<b>Hexachloro-1,3-butadiene: 7,081,116 total pounds reported by facilities in 3 industries</b>			
325181	Alkalies and Chlorine Manufacturing	7,014,209	99.1%
<b>Hexachlorobenzene: 1,219,738 total pounds reported by facilities in 13 industries</b>			
325181	Alkalies and Chlorine Manufacturing	644,768	52.9%
325212	Synthetic Rubber Manufacturing	374,996	30.7%
325199	All Other Basic Organic Chemical Manufacturing	186,172	15.3%
<b>Hexachloroethane: 2,139,851 total pounds reported by facilities in 3 industries</b>			
325181	Alkalies and Chlorine Manufacturing	1,611,218	75.3%
325199	All Other Basic Organic Chemical Manufacturing	441,456	20.6%
<b>Lead and lead compounds: 36,270,099 total pounds reported by facilities in 334 industries</b>			
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	11,065,070	30.5%
331111	Iron and Steel Mills	10,032,736	27.7%
928110	National Security	4,350,944	12.0%
331511	Iron Foundries	1,557,493	4.3%
325188	All Other Basic Inorganic Chemical Manufacturing	1,074,482	3.0%
<b>Mercury and mercury compounds: 74,043 total pounds reported by facilities in 101 industries</b>			
325199	All Other Basic Organic Chemical Manufacturing	22,462	30.3%
325181	Alkalies and Chlorine Manufacturing	15,997	21.6%
331111	Iron and Steel Mills	9,201	12.4%
335110	Electric Lamp Bulb and Part Manufacturing	5,863	7.9%
325312	Phosphatic Fertilizer Manufacturing	4,767	6.4%
<b>Methoxychlor: 45 total pounds reported by facilities in 1 industry</b>			
325188	All Other Basic Inorganic Chemical Manufacturing	45	100.0%
<b>Naphthalene: 13,755,764 total pounds reported by facilities in 71 industries</b>			
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	2,931,264	21.3%
324110	Petroleum Refineries	2,393,048	17.4%
325192	Cyclic Crude and Intermediate Manufacturing	1,650,297	12.0%
325110	Petrochemical Manufacturing	1,190,021	8.7%
325320	Pesticide and Other Agricultural Chemical Manufacturing	946,212	6.9%

### Exhibit 3.10. Key Industries Reporting Priority Chemicals (2006) (Continued)

Primary NAICS Code	NAICS Code Description	Quantity (pounds) Reported By This Industry (2006)	Percent of Total Quantity (2006)
<b>Pendimethalin: 291,521 total pounds reported by facilities in 4 industries</b>			
325320	Pesticide and Other Agricultural Chemical Manufacturing	138,326	47.4%
111930	Sugarcane Farming	135,081	46.3%
<b>Pentachlorobenzene: 397,529 total pounds reported by facilities in 4 industries</b>			
325181	Alkalies and Chlorine Manufacturing	328,698	82.7%
325520	Adhesive Manufacturing	66,940	16.8%
<b>Pentachlorophenol: 14,814 total pounds reported by facilities in 2 industries</b>			
321114	Wood Preservation	14,628	98.7%
<b>Phenanthrene: 776,219 total pounds reported by facilities in 16 industries</b>			
331312	Primary Aluminum Production	386,800	49.8%
325110	Petrochemical Manufacturing	154,116	19.9%
324110	Petroleum Refineries	97,727	12.6%
325192	Cyclic Crude and Intermediate Manufacturing	96,178	12.4%
<b>Polychlorinated biphenyls: 108,558 total pounds reported by facilities in 21 industries</b>			
325199	All Other Basic Organic Chemical Manufacturing	66,949	61.7%
325181	Alkalies and Chlorine Manufacturing	15,632	14.4%
325188	All Other Basic Inorganic Chemical Manufacturing	9,166	8.4%
<b>Polycyclic aromatic compounds: 7,968,088 total pounds reported by facilities in 76 industries</b>			
335991	Carbon and Graphite Product Manufacturing	2,899,886	36.4%
331312	Primary Aluminum Production	2,264,506	28.4%
325192	Cyclic Crude and Intermediate Manufacturing	668,368	8.4%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	572,424	7.2%
324191	Petroleum Lubricating Oil and Grease Manufacturing	501,738	6.3%
<b>Quintozene: 248,538 total pounds reported by facilities in 1 industry</b>			
325320	Pesticide and Other Agricultural Chemical Manufacturing	248,538	100.0%
<b>Trifluralin: 37,200 total pounds reported by facilities in 4 industries</b>			
325320	Pesticide and Other Agricultural Chemical Manufacturing	33,891	91.1%

Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

### Exhibit 3.11. Quantity of Priority Chemicals Reported by Key Industries (2006)

Priority Chemical	Quantity (pounds) of This PC Reported (2006)	Percent of Total Quantity of This PC (2006)
<b>Alkalies and Chlorine Manufacturing (NAICS 325181): 13,408,621 total pounds reported by 18 facilities</b>		
Hexachloro-1,3-butadiene	7,014,209	99.1%
Anthracene	2,022,651	85.2%
Hexachloroethane	1,611,218	75.3%
1,2,4-trichlorobenzene	1,307,675	95.4%
Hexachlorobenzene	644,768	52.9%
Naphthalene	446,124	3.2%
Pentachlorobenzene	328,698	82.7%
Mercury and mercury compounds	15,997	21.6%
Polychlorinated biphenyls	15,632	14.4%
Lead and lead compounds	1,346	<0.1%
Pentachlorophenol	186	1.3%
Dioxin and dioxin-like compounds*	80	15.9%
Cadmium and cadmium compounds	36	<0.1%

### Exhibit 3.11. Quantity of Priority Chemicals Reported by Key Industries (2006) (Continued)

Priority Chemical	Quantity (pounds) of This PC Reported (2006)	Percent of Total Quantity of This PC (2006)
<b>Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum) (NAICS 331492): 11,410,674 total pounds reported by 30 facilities</b>		
Lead and lead compounds	11,065,070	30.5%
Cadmium and cadmium compounds	344,408	36.1%
Mercury and mercury compounds	1,197	1.6%
Dioxin and dioxin-like compounds*	<1	<0.1%
<b>Iron and Steel Mills (NAICS 331111): 10,108,076 total pounds reported by 87 facilities</b>		
Lead and lead compounds	10,032,736	27.7%
Cadmium and cadmium compounds	46,076	4.8%
Naphthalene	11,880	<0.1%
Mercury and mercury compounds	9,201	12.4%
Polychlorinated biphenyls	4,480	4.1%
Polycyclic aromatic compounds	2,974	<0.1%
Phenanthrene	447	0.1%
Anthracene	177	<0.1%
Dibenzofuran	86	0.1%
Benzo(g,h,i)perylene	19	<0.1%
Dioxin and dioxin-like compounds*	<1	<0.1%
<b>National Security (NAICS 928110): 4,406,113 total pounds reported by 140 facilities</b>		
Lead and lead compounds	4,350,944	12.0%
Naphthalene	52,765	0.4%
Mercury and mercury compounds	2,404	3.2%
<b>Carbon and Graphite Product Manufacturing (NAICS 335991): 3,291,125 total pounds reported by 21 facilities</b>		
Polycyclic aromatic compounds	2,899,886	36.4%
Benzo(g,h,i)perylene	388,130	49.5%
Phenanthrene	1,607	0.2%
Lead and lead compounds	1,450	<0.1%
Naphthalene	52	<0.1%
<b>Primary Aluminum Production (NAICS 331312): 3,233,397 total pounds reported by 15 facilities</b>		
Polycyclic aromatic compounds	2,264,506	28.4%
Phenanthrene	386,800	49.8%
Benzo(g,h,i)perylene	274,014	34.9%
Anthracene	141,100	5.9%
Lead and lead compounds	101,170	0.3%
Naphthalene	65,314	0.5%
Mercury and mercury compounds	488	0.7%
Dioxin and dioxin-like compounds*	6	1.1%
<b>Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers (NAICS 332812): 3,000,504 total pounds reported by 105 facilities</b>		
Naphthalene	2,931,264	21.3%
Lead and lead compounds	69,240	0.2%
<b>Petroleum Refineries (NAICS 324110): 2,944,295 total pounds reported by 137 facilities</b>		
Naphthalene	2,393,048	17.4%
Polycyclic aromatic compounds	264,400	3.3%
Lead and lead compounds	167,463	0.5%
Phenanthrene	97,727	12.6%
Benzo(g,h,i)perylene	14,085	1.8%
Anthracene	4,914	0.2%

**Exhibit 3.11. Quantity of Priority Chemicals Reported by Key Industries (2006) (Continued)**

Priority Chemical	Quantity (pounds) of This PC Reported (2006)	Percent of Total Quantity of This PC (2006)
Mercury and mercury compounds	2,449	3.3%
Dioxin and dioxin-like compounds*	179	35.5%
Cadmium and cadmium compounds	29	<0.1%
Dibenzofuran	1	<0.1%
<b>Cyclic Crude and Intermediate Manufacturing (NAICS 325192): 2,597,531 total pounds reported by 9 facilities</b>		
Naphthalene	1,650,297	12.0%
Polycyclic aromatic compounds	668,368	8.4%
Phenanthrene	96,178	12.4%
Anthracene	91,139	3.8%
Dibenzofuran	75,505	84.0%
1,2,4-trichlorobenzene	10,378	0.8%
Benzo(g,h,i)perylene	4,593	0.6%
Lead and lead compounds	984	<0.1%
Mercury and mercury compounds	85	0.1%
Polychlorinated biphenyls	4	<0.1%
Dioxin and dioxin-like compounds*	<1	<0.1%
<b>All Other Basic Inorganic Chemical Manufacturing (NAICS 325188): 1,926,879 total pounds reported by 68 facilities</b>		
Lead and lead compounds	1,074,482	3.0%
Naphthalene	453,985	3.3%
Cadmium and cadmium compounds	336,053	35.3%
Hexachloro-1,3-butadiene	44,897	0.6%
Polychlorinated biphenyls	9,166	8.4%
Polycyclic aromatic compounds	3,822	<0.1%
2,4,5-trichlorophenol	2,255	100.0%
Hexachlorobenzene	1,683	0.1%
Mercury and mercury compounds	356	0.5%
Pentachlorobenzene	90	<0.1%
Heptachlor	45	65.2%
Methoxychlor	45	100.0%
Dioxin and dioxin-like compounds*	<1	<0.1%
<b>Petrochemical Manufacturing (NAICS 325110): 1,714,644 total pounds reported by 46 facilities</b>		
Naphthalene	1,190,021	8.7%
Polycyclic aromatic compounds	226,270	2.8%
Phenanthrene	154,116	19.9%
Anthracene	92,384	3.9%
Lead and lead compounds	22,515	0.1%
Benzo(g,h,i)perylene	14,702	1.9%
Dibenzofuran	11,268	12.5%
Hexachlorobenzene	2,896	0.2%
Mercury and mercury compounds	282	0.4%
Polychlorinated biphenyls	177	0.2%
Dioxin and dioxin-like compounds*	12	2.4%
<b>Iron Foundries (NAICS 331511): 1,617,805 total pounds reported by 142 facilities</b>		
Lead and lead compounds	1,557,493	4.3%
Naphthalene	59,870	0.4%
Mercury and mercury compounds	395	0.5%
Polycyclic aromatic compounds	47	<0.1%
Dioxin and dioxin-like compounds	<1	<0.1%

### Exhibit 3.11. Quantity of Priority Chemicals Reported by Key Industries (2006) (Continued)

Priority Chemical	Quantity (pounds) of This PC Reported (2006)	Percent of Total Quantity of This PC (2006)
<b>Pesticide and Other Agricultural Chemical Manufacturing (NAICS 325320): 1,377,295 total pounds reported by 23 facilities</b>		
Naphthalene	946,212	6.9%
Quintozene	248,538	100.0%
Pendimethalin	138,326	47.4%
Trifluralin	33,891	91.1%
Hexachlorobenzene	6,407	0.5%
1,2,4-trichlorobenzene	3,282	0.2%
Lead and lead compounds	380	<0.1%
Dioxin and dioxin-like compounds*	92	18.3%
Polychlorinated biphenyls	68	0.1%
Polycyclic aromatic compounds	59	<0.1%
Heptachlor	24	34.8%
Mercury and mercury compounds	16	<0.1%

\* Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

## How Were Priority Chemicals Managed?

Some highlights concerning the overall methods that facilities used for the management of PCs (Exhibits 3.12 and 3.13):

### Disposal

- In 2006, facilities used disposal for approximately 39 million pounds, or 51 percent, of non-recycled PCs; offsite disposal accounted for 75 percent of this quantity.
- Compared to the quantity of PCs disposed of in 2004, the quantity disposed of decreased by approximately 1.2 million pounds in 2006; offsite disposal decreased by 2.9 million pounds—offsetting an increase of approximately 1.7 million pounds of onsite disposal.
- For the three metal PCs: cadmium, lead, and mercury (and their compounds) accounted for approximately 93 percent of the quantity disposed of.
- For non-metals, approximately 500,000 pounds of both naphthalene and PACs were land disposed in 2006, accounting for approximately 70 percent of the non-metal PC quantity disposed of.

### Energy Recovery

- In 2006, facilities used energy recovery for approximately 11.7 million pounds, or 15 percent, of the quantity of non-recycled PCs generated; onsite energy recovery accounted for approximately 69 percent of the total energy recovery.
- From 2004 to 2006, energy recovery represented a steady 15 percent of the non-recycled PC quantity generated.
- Three PCs: naphthalene (50.6%), PACs (20.5%), and anthracene (17.6%) accounted for approximately 89 percent of the total quantity of PCs burned for energy recovery in 2006.

### Treatment

- In 2006, facilities treated approximately 25.5 million pounds, or 34 percent, of the quantity of non-recycled PCs generated; onsite treatment accounted for approximately 93 percent of the total quantity treated.
- Since 2004, facilities used offsite treatment to manage an average of 1.6 million pounds of PCs each year. Onsite treatment increased by 7.8 million pounds in 2005 followed by a decrease of 5.1 million pounds in 2006.
- Three PCs: naphthalene (28.8%), hexachloro-1,3-butadiene (27.8%), and PACs (19.8%), accounted for approximately 76 percent of the total quantity treated in 2006.

## Recycling<sup>9</sup>

- Approximately 532 million pounds of PCs were recycled in both 2005 and in 2006; onsite recycling accounted for an average of 57 percent of the total quantity recycled.
- Lead and lead compounds accounted for approximately 95 percent of the total quantity of PCs recycled in 2006. Facilities also recycled significant quantities of naphthalene, hexachloroethane, PACs, phenanthrene, cadmium, and mercury.

**Exhibit 3.12. Trends in Management Methods for Priority Chemicals (2004–2006)**

Management Method	Quantity (pounds)		
	2004	2005	2006
Onsite Disposal	7,430,831	8,011,793	9,745,172
Offsite Disposal	28,202,259	31,916,602	28,988,756
<b>Total Disposal</b>	<b>35,633,090</b>	<b>39,928,395</b>	<b>38,733,929</b>
Onsite Energy Recovery	7,883,131	6,424,461	8,043,973
Offsite Energy Recovery	3,163,177	5,195,350	3,666,947
<b>Total Energy Recovery</b>	<b>11,046,308</b>	<b>11,619,811</b>	<b>11,710,920</b>
Onsite Treatment	21,370,607	28,998,582	23,735,990
Offsite Treatment	1,437,319	1,586,408	1,777,057
<b>Total Treatment</b>	<b>22,807,926</b>	<b>30,584,990</b>	<b>25,513,047</b>
Onsite Recycling	448,166,426	288,037,168	293,746,763
Offsite Recycling	266,153,272	243,694,083	238,560,214
<b>Total Recycling</b>	<b>714,319,698</b>	<b>531,731,251</b>	<b>532,306,977</b>

**Exhibit 3.13. Management Methods for Priority Chemicals (2006)**

Priority Chemical	Total PC Quantity (does not include recycling quantity)	Disposal (pounds)	Energy Recovery (pounds)	Treatment (pounds)	Recycling (pounds)
Lead and lead compounds	36,270,099	36,268,943	0	1,156	506,960,827
Naphthalene	13,755,764	483,933	5,927,888	7,343,944	16,950,878
Polycyclic aromatic compounds	7,968,088	515,848	2,397,725	5,054,514	1,611,417
Hexachloro-1,3-butadiene	7,081,116	21	14	7,081,081	300,775
Anthracene	2,374,123	81,566	2,065,045	227,512	387,887
Hexachloroethane	2,139,851	55	196,714	1,943,081	3,365,588
1,2,4-Trichlorobenzene	1,370,487	3,561	46,620	1,320,306	8,141
Hexachlorobenzene	1,219,738	5,063	318,468	896,207	8,907
Cadmium and cadmium compounds	953,335	953,335	0	0	375,961
Benzo(g,h,i)perylene	784,130	47,973	363,373	372,784	74,651
Phenanthrene	776,219	119,443	76,361	580,415	1,165,879
Pentachlorobenzene	397,529	38	45	397,445	35
Pendimethalin	291,521	147,778	0	143,743	3,117
Quintozene	248,538	0	244,406	4,132	102
Polychlorinated biphenyls	108,558	14,624	119	93,815	990
Dibenzofuran	89,871	13,342	73,223	3,306	100,407
Mercury and mercury compounds	74,043	74,043	0	0	990,392
Trifluralin	37,200	3,230	0	33,970	1,006
Pentachlorophenol	14,814	1,025	918	12,871	16
2,4,5-Trichlorophenol	2,255	11	0	2,244	0

<sup>8</sup> In this Report, we focus on the quantities of PCs that offer the greatest opportunities for waste minimization. To provide perspective regarding the extent to which PCs are already recycled, we present the recycled quantities reported to TRI by facilities that also reported a non-recycled PC quantity (disposal, treatment, energy recovery).

### Exhibit 3.13. Management Methods for Priority Chemicals (2006) (Continued)

Priority Chemical	Total PC Quantity (does not include recycling quantity)	Disposal (pounds)	Energy Recovery (pounds)	Treatment (pounds)	Recycling (pounds)
Dioxin and dioxin-like compounds*	504	96	1	407	0
Heptachlor	69	0	0	69	0
Methoxychlor	45	0	0	45	0
<b>Total</b>	<b>75,957,896</b>	<b>38,733,929</b>	<b>11,710,920</b>	<b>25,513,047</b>	<b>532,306,977</b>

\* Facilities report dioxin and dioxin-like compounds to TRI in grams, with a reporting threshold of 0.1 grams. For the purposes of this table, we converted the quantity reported as grams to pounds.

Some highlights concerning facilities in 24 NAICS codes with approximately 90 percent of the total quantity of non-recycled PC generated in 2006 (Exhibit 3.14):

#### Disposal

- In 2006, facilities in these 24 NAICS codes reported approximately 33.8 million pounds or 87 percent of the total national quantity of PCs managed using disposal.
- Facilities in 12 of the 24 NAICS codes used disposal to manage at least 74 percent of their non-recycled PCs:
  - Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)
  - Iron and Steel Mills
  - National Security
  - All Other Basic Inorganic Chemical Manufacturing
  - Iron Foundries
  - Small Arms Ammunition Manufacturing
  - Electric Lamp Bulb and Part Manufacturing
  - Research and Development in the Physical, Engineering, and Life Sciences
  - Copper Rolling, Drawing, and Extruding
  - Primary Battery Manufacturing
  - Steel Wire Drawing

#### Energy Recovery

- In 2006, facilities in these 24 NAICS codes reported approximately 10.4 million pounds or 26.8 percent of the total national quantity of PCs managed using energy recovery.
- Facilities in 6 of the 24 NAICS codes used energy recovery to manage at least 40 percent of their non-recycled PCs:
  - Cyclic Crude and Intermediate Manufacturing
  - Pesticide and Other Agricultural Chemical Manufacturing
  - All Other Miscellaneous Chemical Product and Preparation Manufacturing
  - Plastics Material and Resin Manufacturing
  - Carbon and Graphite Product Manufacturing
  - Iron and Steel Pipe and Tube Manufacturing from Purchased Steel

#### Treatment

- In 2006, facilities in these 24 NAICS codes reported approximately 24 million pounds or 62 percent of the total national quantity of PCs managed using treatment.
- Facilities in 9 of the 24 NAICS codes used treatment to manage at least 55 percent of their non-recycled PCs:
  - Alkalies and Chlorine Manufacturing
  - Carbon and Graphite Product Manufacturing
  - Primary Aluminum Production
  - Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers
  - Petroleum Refineries
  - Petrochemical Manufacturing
  - All Other Basic Organic Chemical Manufacturing
  - Petroleum Lubricating Oil and Grease Manufacturing
  - Iron and Steel Pipe and Tube Manufacturing from Purchased Steel

- Facilities in the Plastics Material and Resin Manufacturing industry treated approximately 23 percent of their non-recycled PCs.

## Recycling

- In 2006, facilities in these 24 NAICS codes recycled approximately 207 million pounds or 39 percent of the total national quantity of PCs recycled (for those facilities that also reported non-recycled PCs).
- Facilities in the Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum) industry recycled approximately 136 million pounds of PCs in 2006. Facilities in eight other NAICS codes recycled more than 1 million pounds:
  - Primary Battery Manufacturing (23,237,971 pounds)
  - Iron and Steel Mills (12,243,278 pounds)
  - Petroleum Refineries (8,799,115 pounds)
  - Small Arms Ammunition Manufacturing (7,479,680 pounds)
  - All Other Basic Organic Chemical Manufacturing (6,178,069 pounds)
  - Alkalies and Chlorine Manufacturing (4,004,078 pounds)
  - Cyclic Crude and Intermediate Manufacturing (2,426,878 pounds)
  - Steel Wire Drawing (1,775,724)

**Exhibit 3.14. Management Methods for Priority Chemicals, by NAICS Code, for Facilities Reporting 90 Percent of the Total PC Quantity (2006)**

Primary NAICS Code	NAICS Code Description	Quantity (pounds)							
		Disposal		Energy Recovery		Treatment		Recycling	
		Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
325181	Alkalies and Chlorine Manufacturing	1,545	16,222	2,840,794	18	10,502,974	47,068	3,833,027	171,051
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	3,039,003	8,371,671	0	0	0	0	108,074,170	27,744,300
331111	Iron and Steel Mills	458,492	9,635,486	0	3	11,430	2,666	592,058	11,651,220
928110	National Security	4,049,807	305,208	10,489	39,684	306	619	372,200	345,420
335991	Carbon and Graphite Product Manufacturing	21,846	39,359	1,380,644	329	1,837,583	11,363	224,707	6,248
331312	Primary Aluminum Production	81,337	86,869	58,718	183	3,003,973	2,317	189,501	30,064
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	230	69,831	549,892	95,039	2,277,197	8,314	4,239	463,418
324110	Petroleum Refineries	28,454	208,152	31,733	21,205	2,432,019	222,732	8,661,860	137,255
325192	Cyclic Crude and Intermediate Manufacturing	102,210	269,437	1,834	2,003,991	19,144	200,914	1,933,538	493,340
325188	All Other Basic Inorganic Chemical Manufacturing	369,897	1,052,861	383,498	1,083	103,725	15,815	693,551	120,558
325110	Petrochemical Manufacturing	2,940	287,461	24,375	240,605	544,081	615,181	280,445	246,425
331511	Iron Foundries	278,020	1,329,142	0	0	10,642	1	57,529	232,813
325320	Pesticide and Other Agricultural Chemical Manufacturing	243	535	928,411	247,500	96,946	103,660	1,110	0
325199	All Other Basic Organic Chemical Manufacturing	4,498	78,217	107,341	112,450	653,202	418,043	881,981	5,296,088
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	3,567	217,388	659,379	16,160	47,807	13,757	11,002	81,333
332992	Small Arms Ammunition Manufacturing	0	790,921	0	0	0	0	3,261,100	4,218,580
325211	Plastics Material and Resin Manufacturing	40,283	17,805	14,326	434,059	155,053	5,247	642	28,446
335110	Electric Lamp Bulb and Part Manufacturing	0	613,853	0	0	0	0	145,784	515,329
541710	Research and Development in the Physical, Engineering, and Life Sciences	18,342	573,600	0	119	57	5	0	10,628
324191	Petroleum Lubricating Oil and Grease Manufacturing	3	27,651	0	5,188	482,444	0	9,735	685
331421	Copper Rolling, Drawing, and Extruding	253	467,975	0	597	13,879	0	29,481	846,203
335912	Primary Battery Manufacturing	541	427,136	0	0	0	0	13,736,909	9,501,062
331222	Steel Wire Drawing	332	409,186	0	0	1	0	0	1,775,724
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	0	2,932	172,915	0	218,792	6,160	113,831	58,320
<b>Total</b>		<b>8,501,844</b>	<b>25,298,901</b>	<b>7,164,349</b>	<b>3,218,212</b>	<b>22,411,256</b>	<b>1,673,863</b>	<b>143,108,401</b>	<b>63,974,509</b>

\* We present recycled quantities of the PCs to show these quantities relative to the quantities potentially still available for waste minimization.

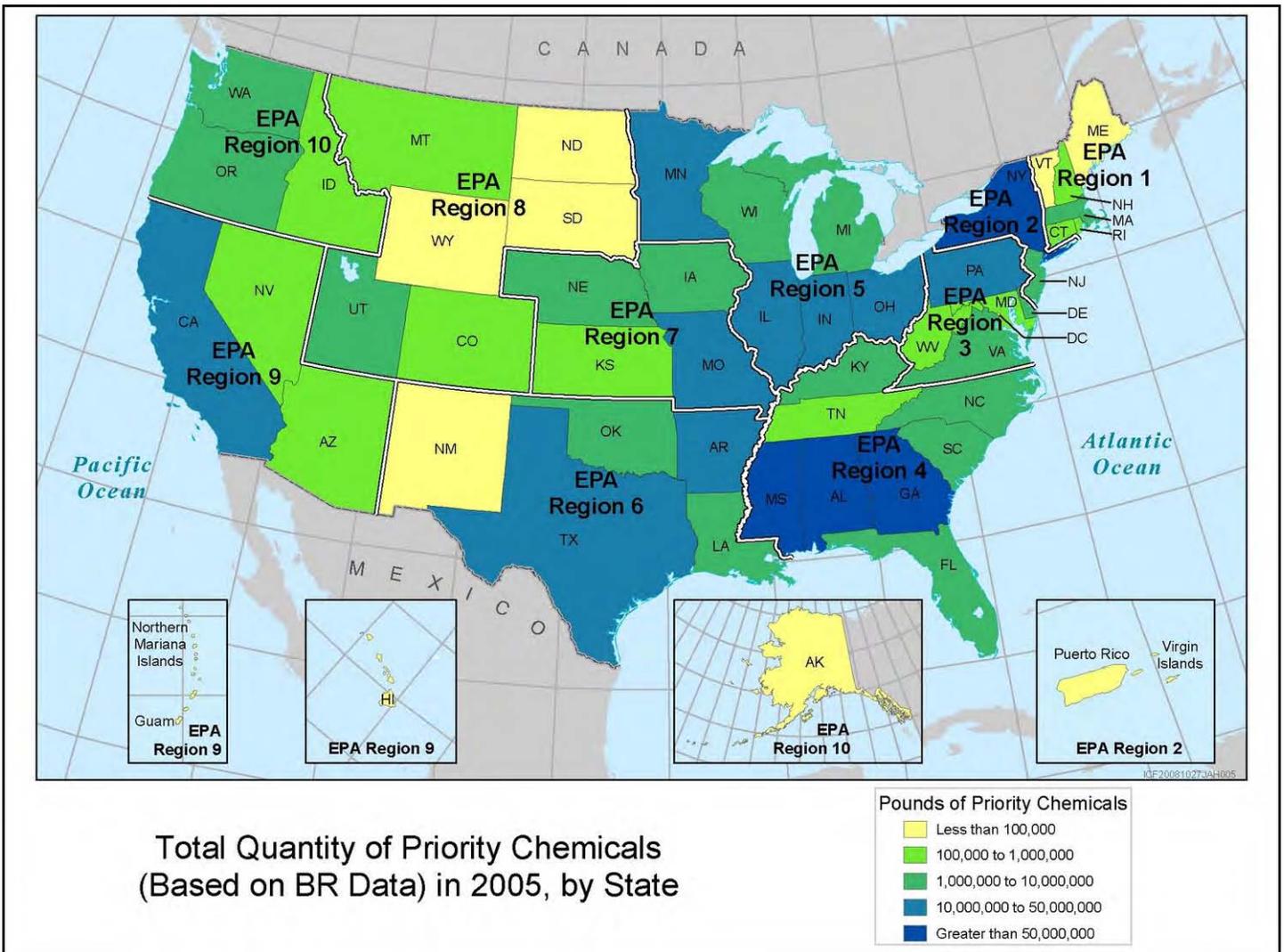
## How Much and Where Were Biennial Report Hazardous Wastes Containing Priority Chemicals Generated?

As discussed in Section 1, we developed a methodology that estimates the quantity of PCs contained in BR waste streams that are reported under RCRA. The data derived from applying this methodology to the BR data supplements the data for the 24 PCs reported to TRI and, for the first time, provides data for six of the seven PCs that are not reported to TRI. The focus of this methodology is primary generation activities because the waste streams associated with primary generation represent an opportunity to reduce PCs in hazardous waste streams. It only includes waste streams generated from a production process, service activity, or routine/periodic cleanup, where potential opportunities for direct waste minimization (e.g., source reduction, recycling) are the greatest. Based on applying this methodology to the 2005 BR data, we estimate that facilities reported hazardous wastes containing approximately 488.2 million pounds of PCs (Exhibit 3.15). Exhibit 3.16 shows the distribution of this quantity of PCs contained in BR wastes. 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 3.15. Quantities of Priority Chemicals Contained in Hazardous Wastes (2005)**

Priority Chemical	Estimated Quantity (pounds) of Priority Chemical Contained in BR Wastes (2005)			Percent of Total Quantity
	Non-wastewaters	Wastewaters	Total Quantity	
1,2,4,5-Tetrachlorobenzene	180,057	6,008,142	6,188,199	1.3%
1,2,4-Trichlorobenzene	412,098	1,341	413,439	0.1%
2,4,5-Trichlorophenol	130	14	144	<0.1%
4-Bromophenyl phenyl ether	NA	NA	NA	NA
Acenaphthene	495,812	4,247,758	4,743,571	1.0%
Acenaphthylene	24,024	0	24,024	<0.1%
Anthracene	126,008	31,996	158,004	<0.1%
Benzo(g,h,i)perylene	10,110	14	10,124	<0.1%
Cadmium	13,485,998	677,332	14,163,330	2.9%
Dibenzofuran	2	21	23	<0.1%
Dioxins/Furans	188	4	192	<0.1%
Endosulfan, alpha- and beta-	<1	<1	<1	<0.1%
Fluorene	80,040	17,238	97,278	<0.1%
Heptachlor	<1	<1	<1	<0.1%
Hexachloro-1, 3-butadiene	1,594,738	2,475	1,597,213	0.3%
Hexachlorobenzene	1,002,049	839	1,002,888	0.2%
Hexachloroethane	1,082,469	272	1,082,741	0.2%
Lead	283,972,156	168,119,991	452,092,147	92.6%
Lindane	NA	NA	NA	NA
Mercury	2,221,379	1,181,147	3,402,525	0.7%
Methoxychlor	NA	NA	NA	NA
Naphthalene	586,939	94,653	681,592	0.1%
Pendimethalin	NA	NA	NA	NA
Pentachlorobenzene	468,303	722	469,025	0.1%
Pentachlorophenol	220,376	66,153	286,530	0.1%
Phenanthrene	522,815	45,605	568,421	0.1%
Polychlorinated biphenyls (PCBs)	<1	<1	<1	<0.1%
Polycyclic aromatic compounds (PACs)	695,247	16,657	711,903	0.1%
Pyrene	179,826	323,011	502,837	0.1%
Quintozene	<1	0	<1	<0.1%
Trifluralin	NA	NA	NA	NA
<b>Total</b>	<b>307,360,765</b>	<b>180,835,385</b>	<b>488,196,150</b>	<b>100.0%</b>

**Exhibit 3.16. Distribution of PC Quantities Contained in Hazardous Wastes (2005)**



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