

**Table 381. Toxic Chemical Releases and Transfers by Media: 2004 to 2009**

[In millions of pounds (4,253.6 represents 4,253,600,000), except as indicated. Based on reports filed as required by Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), or Title III of the Superfund Amendments and Reauthorization Act of 1986), Public Law 99-499. The Pollution Prevention Act (PPA) of 1990 mandates collection of data on toxic chemicals that are treated on-site, recycled, and combusted for energy recovery. Owners and operators of facilities that are classified within North American Industrial Classification Code groups 31 through 33, 2121, 2122, 2211, 4246, 4247 and 562; have 10 or more full-time employees, and that manufacture, process, or otherwise use any listed toxic chemical in quantities greater than the established threshold in the course of a calendar year are covered and required to report. Includes all Persistent, Toxic (PBT) chemicals and vanadium and vanadium compounds. Does not include off-site disposal or other releases transferred to other TRI facilities that reported the amounts as on-site disposal or other releases]

Media	2004	2005	2006	2007	2008 <sup>1</sup>	2009
<b>Total facilities reporting</b> . . . . .	<b>24,428</b>	<b>24,140</b>	<b>23,543</b>	<b>22,775</b>	<b>22,319</b>	<b>21,020</b>
<b>Total on- and off-site disposal or other releases</b> . . . . .	<b>4,253.6</b>	<b>4,364.7</b>	<b>4,322.7</b>	<b>4,118.7</b>	<b>3,872.5</b>	<b>3,386.4</b>
On-site releases . . . . .	3,738.1	3,829.5	3,784.6	3,559.8	3,383.8	3,015.3
Air emissions <sup>2</sup> . . . . .	1,544.1	1,516.4	1,413.5	1,319.8	1,151.2	915.3
Surface water discharges . . . . .	253.3	256.7	250.0	238.7	249.3	204.8
Underground injection class I . . . . .	210.3	211.5	199.8	184.1	174.1	153.2
Underground injection class II-V . . . . .	27.7	20.2	20.1	21.5	18.2	26.3
RCRA subtitle C landfills <sup>3</sup> . . . . .	151.9	155.2	151.8	150.6	123.9	71.7
Other landfills . . . . .	267.8	266.9	263.1	267.2	282.1	280.4
Land treatment/application farming . . . . .	21.5	23.7	26.8	22.0	24.9	17.1
Surface impoundments . . . . .	719.3	782.0	822.2	764.9	738.6	746.8
Other land disposal . . . . .	542.1	596.9	637.3	590.9	621.6	599.7
Off-site releases . . . . .	515.5	535.2	538.1	558.8	488.6	371.1
<b>Total transfers offsite for further waste management</b> . . . . .	<b>4,006.4</b>	<b>3,944.6</b>	<b>3,989.0</b>	<b>3,885.1</b>	<b>3,511.4</b>	<b>2,842.4</b>
Transfers to recycling . . . . .	2,085.0	2,095.8	2,181.6	2,142.3	1,970.4	1,628.9
Transfers to energy recovery . . . . .	650.4	609.0	555.3	525.4	450.9	365.0
Transfers to treatment . . . . .	326.6	335.4	328.1	286.5	257.4	229.1
Transfers to POTWs (non metals) <sup>4</sup> . . . . .	259.9	264.6	260.1	252.5	256.7	216.4
Transfers to POTWs metal and metal compounds <sup>4</sup> . . . . .	1.7	1.8	1.8	2.0	1.2	3.3
Other off-site transfers . . . . .	71.5	0.4	0.5	0.2	0.2	(Z)
Transfers off-site for disposal or other releases . . . . .	611.3	637.6	661.5	676.3	574.5	399.8
<b>Total production-related waste managed</b> . . . . .	<b>25,863.8</b>	<b>24,863.3</b>	<b>24,305.5</b>	<b>24,377.3</b>	<b>22,990.2</b>	<b>20,390.7</b>
Recycled on-site . . . . .	7,135.9	6,719.6	6,822.9	6,878.2	6,807.9	6,035.9
Recycled off-site . . . . .	2,085.3	2,100.7	2,185.2	2,121.5	1,968.9	1,615.1
Energy recovery on-site . . . . .	2,617.1	2,462.9	2,392.7	2,286.9	2,269.4	1,871.7
Energy recovery off-site . . . . .	649.5	608.9	554.6	523.3	449.7	367.0
Treated on-site . . . . .	8,447.8	7,918.0	7,314.6	7,755.4	7,050.5	6,644.4
Treated off-site . . . . .	566.2	574.9	555.7	515.1	484.1	423.2
Quantity disposed or otherwise release of on- and off-site . . . . .	4,362.1	4,478.3	4,479.9	4,296.9	3,959.8	3,433.5
Non-production-related waste managed . . . . .	19.3	24.1	18.1	14.3	34.0	11.5

<sup>1</sup> Data have been revised. <sup>2</sup> Air emissions include both fugitive and point source. <sup>3</sup> RCRA=Resource Conservation and Recovery Act. <sup>4</sup> POTW (Publicly Owned Treatment Work) is a wastewater treatment facility that is owned by a state or municipality. Source: U.S. Environmental Protection Agency, Toxic Release Inventory (TRI) Program, 2009 TRI National Analysis. See also <[http://www.epa.gov/tri/tridata/tri09/national\\_analysis/index.htm](http://www.epa.gov/tri/tridata/tri09/national_analysis/index.htm)>, 2009 data as of April 18, 2011.

**Table 382. Toxic Chemical Releases by Industry: 2009**

[In millions of pounds (3,386.4 represents 3,386,400,000), except as indicated. See headnote, Table 381]

Industry	2002 NAICS <sup>1</sup> code	Total on- and off-site releases	On-site releases			Off-site releases/transfers to disposal <sup>2</sup>
			Total	Air emissions	Other surface impoundments	
<b>Total<sup>3</sup></b> . . . . .	<b>(X)</b>	<b>3,386.4</b>	<b>3,015.3</b>	<b>915.3</b>	<b>744.8</b>	<b>371.1</b>
Coal mining . . . . .	2121	11.3	11.3	0.4	1.8	(Z)
Metal mining . . . . .	2122	1,137.0	1,135.5	3.1	563.7	1.5
Electric utilities . . . . .	2211	797.0	730.1	386.4	128.0	66.9
Food/beverages/tobacco . . . . .	311/312	142.5	134.8	40.7	0.1	7.7
Textiles . . . . .	313/314	1.8	1.3	1.2	0.1	0.4
Apparel . . . . .	315	(Z)	(Z)	(Z)	—	(Z)
Leather . . . . .	316	0.6	0.2	0.2	—	0.4
Wood products . . . . .	321	8.6	8.0	7.9	(Z)	0.6
Paper . . . . .	322	175.0	167.6	128.8	3.8	7.4
Printing and publishing . . . . .	323/51	9.9	9.7	9.7	—	0.2
Petroleum . . . . .	324	63.9	58.7	35.2	(Z)	5.2
Chemicals . . . . .	325	420.3	377.5	157.5	15.8	42.8
Plastics and rubber . . . . .	326	39.9	32.0	31.4	(Z)	7.8
Stone/clay/glass . . . . .	327	23.2	20.8	15.0	0.1	2.4
Cement . . . . .	32731	5.4	5.3	4.2	(Z)	0.1
Primary metals . . . . .	331	305.9	148.6	31.2	29.2	157.3
Fabricated metals . . . . .	332	44.3	22.8	21.2	(Z)	21.5
Machinery . . . . .	333	5.6	3.5	3.5	—	2.1
Computers/electronic products . . . . .	334	5.2	3.0	1.4	—	2.2
Electrical equipment . . . . .	335	5.1	1.8	1.8	(Z)	3.3
Transportation equipment . . . . .	336	30.3	21.5	21.1	(Z)	8.7
Furniture . . . . .	337	4.4	4.3	4.3	—	0.1
Miscellaneous Manufacturing . . . . .	339	4.7	2.8	2.8	—	1.9
Chemical wholesalers . . . . .	4246	1.3	1.2	1.1	—	0.1
Petroleum bulk terminals . . . . .	4247	3.2	3.1	3.1	(Z)	0.1
Hazardous waste . . . . .	562	108.3	79.8	0.5	1.2	28.4
No codes <sup>3</sup> . . . . .	(X)	32.0	30.1	1.7	1.0	1.9

— Represents zero. X Not applicable. Z less than 50,000 lbs. <sup>1</sup> North American Industry Classification System, see text, Section 12. <sup>2</sup> Includes off-site disposal to underground injection for Class I wells, Class II to V wells, other surface impoundments, land releases, and other releases, not shown separately. <sup>3</sup> Includes industries with no specific industry identified.

Source: U.S. Environmental Protection Agency, 2009 TRI National Analysis. See also <[http://www.epa.gov/tri/tridata/tri09/national\\_analysis/index.htm](http://www.epa.gov/tri/tridata/tri09/national_analysis/index.htm)>. Data as of April 18, 2011.