

Appendix A

**Chemical-specific TRI
Release and Waste Management
Data, 1988, 1995 and 1998**



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
71751-41-2	* Abamectin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	16	0	0	16	0	16
		98o	2	0	12	0	0	12	0	12
		98n	No reports							
30560-19-1	* Acephate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	2,250	0	0	0	2,250	1,000	3,250
		98o	7	1,775	0	0	0	1,775	0	1,775
		98n	No reports							
75-07-0	*,‡ Acetaldehyde	88	66	6,949,249	98,236	2,219,105	194,958	9,461,548	24,930	9,486,478
		95	236	13,370,984	227,091	605,886	155,360	14,359,321	1,099	14,360,420
		98o	270	12,602,135	191,219	412,152	21,533	13,227,039	5,676	13,232,715
		98n	5	2,233	0	0	0	2,233	7	2,240
60-35-5	‡ Acetamide	88	1	0	0	0	0	0	250	250
		95	4	8	0	920,000	0	920,008	0	920,008
		98o	8	106	1	2,157,694	0	2,157,801	0	2,157,801
		98n	3	63	0	0	25,474	25,537	10	25,547
75-05-8	Acetonitrile	88	67	2,194,739	42,223	16,739,010	1,790	18,977,762	416,333	19,394,095
		95	89	1,020,917	7,474	30,336,181	12	31,364,584	10,892	31,375,476
		98o	111	1,027,512	28,862	20,733,190	33	21,789,597	1,155,984	22,945,581
		98n	20	3,251	0	0	0	3,251	31,825	35,076
98-86-2	* Acetophenone	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	39	205,888	971	629,201	3,369	839,429	19,427	858,856
		98o	46	138,515	655	732,358	0	871,528	49,744	921,272
		98n	6	33,106	0	1,649	0	34,755	0	34,755
53-96-3	‡ 2-Acetylaminofluorene	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	110	0	0	8,500	8,610	1,205	9,815
62476-59-9	* Acifluorfen, sodium salt	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	60	5	0	5	70	0	70
		98o	4	476	2,193	0	0	2,669	421,514	424,183
		98n	No reports							
107-02-8	* Acrolein	88	12	33,652	0	68,950	500	103,102	0	103,102
		95	21	71,302	4	83,465	0	154,771	0	154,771
		98o	29	184,134	270	95,900	1,351	281,655	665	282,320
		98n	No reports							
79-06-1	*,‡ Acrylamide	88	59	26,019	3,124	2,198,000	756	2,227,899	97,582	2,325,481
		95	80	19,077	1,801	6,120,154	235	6,141,267	3,083	6,144,350
		98o	77	23,349	2,272	6,333,564	0	6,359,185	6,789	6,365,974
		98n	8	17,129	0	0	0	17,129	922	18,051

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Abamectin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	106	5,582	16	5,704	0
	98o	0	0	0	0	2,561	122	12	2,695	0
	98n	No reports								
* Acephate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	10	0	0	0	183,000	15,728	1,409	200,147	0
	98o	90	0	0	0	9,800	12,683	2,186	24,759	0
	98n	No reports								
*‡ Acetaldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	10,000	32,190	9,238,985	358,459	14,509,704	1,755,026	14,377,294	40,281,658	1,689
	98o	14,000	694	10,275,584	266,784	16,875,294	1,672,903	13,295,228	42,400,487	1,171
	98n	0	0	0	12,964,868	166,000	45	2,281	13,133,194	1
‡ Acetamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	1,000	0	0	88	920,000	921,088	0
	98o	0	0	81,220	40,954	2	294	2,157,761	2,280,231	0
	98n	0	0	0	21,133	90,561	0	25,547	137,241	1
Acetonitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,309,962	2,071,150	23,162,787	4,704,330	11,104,608	5,742,679	31,916,551	82,012,067	1,076
	98o	12,941,704	1,880,831	20,414,930	7,024,953	19,270,706	7,630,788	22,919,628	92,083,540	1,030
	98n	158,085	0	5,904	4,349,055	1,973,227	368,264	33,506	6,888,041	1
* Acetophenone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	920,000	9,710	24,949,642	1,171,212	1,313,510	185,062	886,541	29,435,677	519
	98o	0	3,448	32,071,882	1,355,425	719,096	161,672	929,213	35,240,736	0
	98n	0	0	0	59,772	137,644	0	34,752	232,168	1
‡ 2-Acetylaminofluorene	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	310	41	9,800	10,151	0
* Acifluorfen, sodium salt	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	600	1,272	65	1,937	0
	98o	0	0	0	0	13,105	3,237	423,965	440,307	0
	98n	No reports								
* Acrolein	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,800	0	3,752,847	43,323	5,168,260	11,361	154,579	9,135,170	86
	98o	0	0	3,712,551	38,933	16,385,121	12	278,469	20,415,086	194
	98n	No reports								
*‡ Acrylamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,037	0	820	43,304	187,170	210,283	6,146,092	6,591,706	3,985
	98o	162	144	90,200	6,627	160,009	311,265	6,363,850	6,932,257	49,724
	98n	0	0	0	228,142	62,489	0	17,291	307,922	1

Note: Data from Section 8 (Current Year) of Form R.

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NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

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CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
79-10-7	Acrylic acid	88	158	800,046	16,646	22,262,010	15,950	23,094,652	134,139	23,228,791
		95	189	527,544	2,648	7,840,000	47	8,370,239	35,421	8,405,660
		98o	195	322,046	6,973	4,499,600	79	4,828,698	72,698	4,901,396
		98n	15	368	0	44	48,617	49,029	13,772	62,801
107-13-1	*‡ Acrylonitrile	88	113	4,796,161	6,531	4,562,713	2,150	9,367,555	151,450	9,519,005
		95	105	1,525,446	7,137	5,193,028	618	6,726,229	4,917	6,731,146
		98o	103	1,145,380	1,100	4,005,290	321	5,152,091	8,156	5,160,247
		98n	11	1,264	0	0	0	1,264	3,635	4,899
15972-60-8	* Alachlor	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	756	280	0	0	1,036	2,940	3,976
		98o	2	1,510	220	0	0	1,730	9,100	10,830
		98n	3	54	0	0	0	54	613	667
116-06-3	* Aldicarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	3,477	0	0	6	3,483	0	3,483
		98o	3	154	0	0	15	169	0	169
		98n	2	1	0	0	0	1	0	1
309-00-2	* Aldrin	88	No reports							
		95	No reports							
		98o	No reports							
		98n	3	307	7	0	22,000	22,314	3,308	25,622
28057-48-9	d-trans-Allethrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
107-18-6	* Allyl alcohol	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	31	168,141	6,519	298,801	1,100	474,561	11,296	485,857
		98o	32	256,587	7,931	424,120	0	688,638	10,569	699,207
		98n	3	34	0	0	0	34	0	34
107-11-9	Allylamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	2	951	40	0	0	991	0	991
		98n	1	0	0	0	0	0	0	0
107-05-1	Allyl chloride	88	20	149,369	430	250	200	150,249	747	150,996
		95	21	52,698	95	0	481	53,274	13	53,287
		98o	23	70,809	5	0	2	70,816	860	71,676
		98n	2	91	0	0	0	91	864	955
7429-90-5	* Aluminum (fume or dust)	88	357	3,681,998	91,518	250	3,177,625	6,951,391	14,482,254	21,433,645
		95	324	1,981,874	36,949	250	1,872,483	3,891,556	6,329,533	10,221,089
		98o	314	1,301,497	3,818	0	1,906,677	3,211,992	6,720,761	9,932,753
		98n	18	109,949	0	5	3,752,538	3,862,492	52,889	3,915,381

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

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Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Acrylic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,339,863	34,800	26,544,419	5,033,613	26,801,759	471,790	8,396,927	70,623,171	3,411
	98o	4,863,156	0	31,350,455	5,605,884	24,168,363	1,069,991	4,891,791	71,949,640	6,994
	98n	0	101,540	1,605	659,051	452,945	9,417	63,584	1,288,142	1
* ‡ Acrylonitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	12,408,043	69,716	3,326,652	666,245	10,649,989	1,125,461	6,765,974	35,012,080	8,110
	98o	12,827,695	190	4,841,082	158,067	10,879,297	867,233	5,130,060	34,703,624	1,573
	98n	0	0	0	24,762	433,873	1,519,681	2,043	1,980,359	0
* Alachlor	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	5,481	120,000	217,179	3,930	346,590	30,000
	98o	0	0	0	0	17,300	181,800	10,830	209,930	0
	98n	0	0	0	0	64,944	0	183	65,127	0
* Aldicarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	580	20,011	3,472	24,063	1
	98o	0	0	0	0	502	40,611	149	41,262	10
	98n	0	0	0	0	16,633	0	1	16,634	0
* Aldrin	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	1	77,986	110	26,045	104,142	0
d-trans-Allethrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Allyl alcohol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	189,517	0	1,531,138	363,377	1,414,321	422,499	486,288	4,407,140	133
	98o	248,764	0	1,413,165	1,168,713	1,157,533	173,575	646,116	4,807,866	0
	98n	0	0	0	0	76,299	0	30	76,329	0
Allylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	360	0	991	1,351	0
	98n	0	0	0	5	20	0	0	25	0
Allyl chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	520,000	0	186,000	1,756	750,979	412,357	52,568	1,923,660	65
	98o	780,000	68,000	5,349,016	321,228	243,860	194,934	70,054	7,027,092	1
	98n	0	0	0	0	127,076	282	955	128,313	0
* Aluminum (fume or dust)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	15,378,165	24,132,767	0	164,604	15,628,491	332,192	8,094,462	63,730,681	712
	98o	15,726,418	29,110,094	0	4,289	18,291,037	173,519	9,857,954	73,163,311	29,063
	98n	0	210,000	0	76	226,635	550	3,781,933	4,219,194	10,984

Note: Data from Section 8 (Current Year) of Form R.

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1344-28-1	Aluminum oxide (fibrous forms)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	60	133,416	2,805	0	593,000	729,221	4,499,941	5,229,162
		98o	55	26,672	750	0	46,575	73,997	2,952,419	3,026,416
		98n	12	35	0	0	4,451,957	4,451,992	141,030	4,593,022
20859-73-8	* Aluminum phosphide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
834-12-8	* Ametryn	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	836	83	0	5	924	250	1,174
		98o	5	1,168	51	0	0	1,219	0	1,219
		98n	No reports							
60-09-3	‡ 4-Aminoazobenzene	88	1	0	0	537	0	537	0	537
		95	1	0	0	64	0	64	0	64
		98o	2	0	0	124	0	124	0	124
		98n	No reports							
92-67-1	‡ 4-Aminobiphenyl	88	1	10	0	4	0	14	0	14
		95	1	0	0	2	0	2	0	2
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
61-82-5	*,‡ Amitrole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	No reports							
		98n	2	1	0	0	0	1	0	1
7664-41-7	* Ammonia	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2,930	157,664,129	9,212,903	23,959,031	5,585,753	196,421,816	1,551,715	197,973,531
		98o	2,705	147,704,529	7,136,859	25,288,008	3,307,207	183,436,603	1,990,966	185,427,569
		98n	264	7,564,659	359,178	502,580	1,341,465	9,767,882	17,649	9,785,531
62-53-3	* Aniline	88	68	712,769	16,105	3,582,975	12,822	4,324,671	346,206	4,670,877
		95	66	200,570	8,943	1,221,381	4,193	1,435,087	21,546	1,456,633
		98o	69	216,502	19,549	1,076,445	252	1,312,748	25,340	1,338,088
		98n	13	721	0	85,466	0	86,187	1,479	87,666
90-04-0	‡ o-Anisidine	88	6	2,293	285	0	250	2,828	3	2,831
		95	7	1,031	74	0	0	1,105	3	1,108
		98o	7	1,373	39	0	0	1,412	2	1,414
		98n	No reports							
104-94-9	p-Anisidine	88	2	10	250	0	250	510	0	510
		95	2	5	0	0	0	5	0	5
		98o	1	45	0	0	0	45	0	45
		98n	No reports							

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

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Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Aluminum oxide (fibrous forms)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	25,100	15,627	0	9,991	21,448	2,986,600	2,315,726	5,374,492	7
	98o	7,716,545	254,780	0	0	0	1,147,081	1,800,089	10,918,495	3
	98n	0	12,691	0	0	46,453	524,087	15,713,418	16,296,649	0
* Aluminum phosphide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Ametryn	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	108,500	12,502	256	121,258	1
	98o	25	0	0	0	120,083	85,000	592	205,700	0
	98n	No reports								
‡ 4-Aminoazobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3	0	64	67	0
	98o	0	0	0	0	0	74	124	198	0
	98n	No reports								
‡ 4-Aminobiphenyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	91,000	0	2	91,002	0
	98o	0	0	0	0	98,000	810	0	98,810	0
	98n	No reports								
*‡ Amitrole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	22,788	0	1	22,789	0
* Ammonia	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	191,242,857	12,098,036	44,141,891	72,879	305,738,363	18,623,826	196,506,159	768,424,011	1,096,459
	98o	347,738,402	10,366,466	103,213,467	111,893	266,286,067	17,095,486	185,565,166	930,376,947	525,742
	98n	7,934,375	1,883	0	97,656	5,093,864	91,284	9,730,879	22,949,941	61,159
* Aniline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	7,243,251	0	7,419,516	354,598	3,748,063	1,257,647	1,454,979	21,478,054	1,148
	98o	7,549,987	2	8,579,301	2,940,299	3,611,723	3,537,666	1,358,789	27,577,767	6,698
	98n	0	0	0	42,378	837,519	305,977	86,811	1,272,685	0
‡ o-Anisidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	143	0	14,704	5,100	1,061	21,008	0
	98o	0	0	2,756	0	991	5,176	1,413	10,336	0
	98n	No reports								
p-Anisidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	9	9	18	0
	98o	0	0	0	0	61	0	45	106	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
120-12-7	Anthracene	88	139	199,823	4,382	0	10,905	215,110	204,665	419,775
		95	70	81,471	4,943	0	939	87,353	48,140	135,493
		98o	69	56,059	580	0	3,564	60,203	69,966	130,169
		98n	3	15	0	0	0	15	0	15
7440-36-0	Antimony	88	152	69,916	11,114	2,100	903,916	987,046	625,682	1,612,728
		95	135	34,418	6,592	0	18,786	59,796	122,672	182,468
		98o	113	6,299	14,466	0	30,292	51,057	322,128	373,185
		98n	13	83	47	18,994	1,226,450	1,245,574	91,613	1,337,187
—	Antimony compounds	88	272	166,290	31,178	9,200	1,935,018	2,141,686	2,281,080	4,422,766
		95	556	104,692	33,705	11,332	1,600,694	1,750,423	3,391,623	5,142,046
		98o	578	74,785	33,660	11,298	1,242,265	1,362,008	3,307,602	4,669,610
		98n	56	11,854	22,136	170,062	23,471,944	23,675,996	150,536	23,826,532
7440-38-2	‡ Arsenic	88	78	7,687	1,282	0	181,267	190,236	65,342	255,578
		95	93	129,252	363	0	27,351	156,966	80,802	237,768
		98o	50	16,672	533	0	5,065	22,270	112,462	134,732
		98n	39	40,471	1,340	269,393	76,526,637	76,837,841	304,021	77,141,862
—	Arsenic compounds	88	274	268,528	6,243	27,400	4,946,184	5,248,355	1,407,110	6,655,465
		95	304	83,495	4,825	55,000	1,723,347	1,866,667	1,556,059	3,422,726
		98o	342	106,413	6,052	169,000	7,126,553	7,408,018	670,192	8,078,210
		98n	201	199,163	159,587	760,075	520,840,853	521,959,678	1,336,267	523,295,945
1332-21-4	*,‡ Asbestos (friable)	88	146	48,496	10,699	0	2,111,880	2,171,075	12,135,707	14,306,782
		95	74	5,950	1	0	131,404	137,355	4,860,165	4,997,520
		98o	66	2,592	1	0	610,554	613,147	8,320,051	8,933,198
		98n	17	138	0	0	13,527,506	13,527,644	2,142,048	15,669,692
1912-24-9	*,‡ Atrazine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	20	22,689	1,656	0	637,036	661,381	101,631	763,012
		98o	23	30,971	2,756	336	554,456	588,519	15,780	604,299
		98n	5	12	0	0	73,687	73,699	3,690	77,389
7440-39-3	Barium	88	142	266,811	18,650	0	6,721,686	7,007,147	1,883,903	8,891,050
		95	76	96,117	6,279	0	227,523	329,919	492,999	822,918
		98o	69	54,419	7,807	0	285,353	347,579	638,554	986,133
		98n	70	224,161	141,463	25,000	9,593,162	9,983,786	2,156,311	12,140,097
—	Barium compounds	88	629	1,027,722	104,302	2,773	5,791,655	6,926,452	17,532,268	24,458,720
		95	580	235,169	106,467	0	1,606,522	1,948,158	6,285,522	8,233,680
		98o	684	675,163	1,031,379	29,000	6,902,956	8,638,498	5,857,687	14,496,185
		98n	421	2,197,288	989,273	1,327,250	165,086,097	169,599,908	36,692,329	206,292,237
22781-23-3	* Bendiocarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	555	0	0	0	555	0	555
		98o	3	2	0	0	0	2	0	2
		98n	1	3	0	0	0	3	10	13

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Anthracene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	176,705	20,744	183,121	200,541	1,693,357	5,084	115,722	2,395,274	34,354
	98o	244,557	33,782	333,554	97,248	100,138	63,167	130,316	1,002,762	2
	98n	0	0	0	0	4,354	37	8	4,399	1
Antimony	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,831,021	5,481,500	0	1,730	818,680	95,894	126,888	10,355,713	463
	98o	4,433,693	723,479	30,405	66,732	308,925	52,560	321,513	5,937,307	10
	98n	0	0	0	0	0	38,018	1,303,760	1,341,778	2
Antimony compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,394,153	3,185,356	0	50,997	79,188	939,944	4,030,568	13,680,206	27,841
	98o	4,668,214	3,968,438	6,820	17,049	566,510	521,072	4,309,432	14,057,535	142,991
	98n	10,441	0	0	0	16,484	8	23,924,190	23,951,123	158
‡ Arsenic	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,349,279	157,586	7,700	496	13,030	45,969	65,627	1,639,687	749
	98o	3,403,468	205,974	0	0	64,685	3,058	223,391	3,900,576	2,534
	98n	542,954	1	0	0	60,800	52,222	76,953,343	77,609,320	5
Arsenic compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,445,203	294,539	0	231	227,628	1,302,052	2,883,454	7,153,107	93,392
	98o	2,476,096	828,492	0	0	68,898	120,598	7,019,410	10,513,494	2,154,034
	98n	58,677	12	0	1	43,270	7,039	552,208,840	552,317,839	39
*‡ Asbestos (friable)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	398,800	0	0	0	1,548,870	1,102	4,280,979	6,229,751	176,200
	98o	375,107	0	0	0	1,207,292	362	6,740,743	8,323,504	2,206,599
	98n	0	0	0	0	0	0	15,514,537	15,514,537	4
*‡ Atrazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	73	0	0	0	556,057	180,643	685,144	1,421,917	17,002
	98o	250	0	0	0	654,669	213,479	612,381	1,480,779	254
	98n	0	0	0	0	268,583	10	77,389	345,982	0
Barium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	14,719	448,944	0	102	43,195	37,552	695,339	1,239,851	4
	98o	159,389	413,535	601,788	418	399,046	120,846	1,010,948	2,705,970	651
	98n	4,992	547,318	0	0	431,304	289,982	11,865,389	13,138,985	9
Barium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	26,551,789	1,892,515	200	70,062	6,364,467	3,496,403	7,589,652	45,965,088	33,067
	98o	34,371,224	5,648,698	110,288	117,770	5,804,593	780,863	14,546,025	61,379,461	534
	98n	563,428	648,952	0	0	146,646	170,748	206,339,838	207,869,612	24,189
* Bendiocarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	560	0	0	0	0	0	560	1,120	0
	98o	0	0	0	0	0	580	0	580	0
	98n	0	0	0	0	0	0	30	30	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
1861-40-1	* Benfluralin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	8	2,977	0	0	0	2,977	14,000	16,977
		98o	8	1,564	0	0	0	1,564	3	1,567
		98n	No reports							
17804-35-2	* Benomyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	3	1	0	0	0	1	0	1
		98n	1	10	0	0	0	10	5	15
98-87-3	Benzal chloride	88	3	5,258	0	0	0	5,258	7,308	12,566
		95	4	1,112	0	0	0	1,112	0	1,112
		98o	3	398	0	0	0	398	0	398
		98n	3	20	0	0	0	20	0	20
55-21-0	Benzamide	88	1	500	250	250	0	1,000	750	1,750
		95	No reports							
		98o	No reports							
		98n	No reports							
71-43-2	*,‡ Benzene	88	483	32,341,184	46,732	825,035	126,728	33,339,679	396,880	33,736,559
		95	474	9,405,593	21,290	282,642	18,583	9,728,108	71,391	9,799,499
		98o	482	7,342,652	15,648	504,109	50,489	7,912,898	130,454	8,043,352
		98n	517	363,403	3,938	71,697	2,727	441,765	404,906	846,671
92-87-5	‡ Benzidine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	4	38	0	0	0	38	0	38
98-07-7	‡ Benzoic trichloride	88	4	24,963	0	0	0	24,963	9,777	34,740
		95	7	6,496	0	0	0	6,496	250	6,746
		98o	6	2,253	0	0	0	2,253	330	2,583
		98n	2	2	0	0	0	2	110	112
98-88-4	Benzoyl chloride	88	22	33,014	0	130,000	250	163,264	2,399	165,663
		95	22	16,749	0	0	0	16,749	1,460	18,209
		98o	25	11,905	0	0	0	11,905	0	11,905
		98n	1	88	0	0	0	88	3,980	4,068
94-36-0	* Benzoyl peroxide	88	50	6,294	0	5,350	36,050	47,694	23,954	71,648
		95	64	2,043	255	0	10,345	12,643	4,760	17,403
		98o	58	803	250	0	736	1,789	5,540	7,329
		98n	5	0	0	0	0	0	0	0
100-44-7	Benzyl chloride	88	51	43,329	640	0	500	44,469	9,687	54,156
		95	48	19,664	40	0	247	19,951	3,870	23,821
		98o	45	26,872	347	150	261	27,630	4,506	32,136
		98n	3	41	250	0	0	291	1	292

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Benfluralin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,205	0	0	0	6,200	175	16,910	27,490	4
	98o	79,000	0	0	0	31	897	1,347	81,275	1
	98n	No reports								
* Benomyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	482,000	122,000	0	604,000	0
	98o	0	0	45,000	65,600	20,000	20,375	1	150,976	0
	98n	0	0	0	0	95,374	0	20	95,394	0
Benzal chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	260,000	2,800	0	1,105	263,905	0
	98o	0	0	0	120,000	84,000	200	400	204,600	0
	98n	0	0	0	0	235,247	0	20	235,267	0
Benzamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	No reports								
* ‡ Benzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	47,987,022	420,034	20,222,877	1,579,955	54,065,446	1,974,430	9,791,019	136,040,783	65,959
	98o	36,113,652	638,832	16,882,843	1,086,690	47,608,850	3,811,272	8,019,782	114,161,921	51,762
	98n	911,783	502,103	569,513	8,720,615	3,949,506	337,845	917,936	15,909,301	35,014
‡ Benzidine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	101,123	58	34	101,215	1
‡ Benzoic trichloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	3,001	150,000	32	6,242	159,275	0
	98o	0	0	0	20,000	160,000	34,870	2,557	217,427	0
	98n	0	0	0	0	15,768	0	112	15,880	0
Benzoyl chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	80	1,676,545	615,127	18,213	2,309,965	0
	98o	0	0	0	0	2,011,461	498,362	11,903	2,521,726	0
	98n	0	0	0	0	570,508	0	4,068	574,576	0
* Benzoyl peroxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,600	10,800	863	1,520	57,214	42,461	16,769	134,227	1
	98o	10,364	0	0	1,191	81,890	48,890	7,429	149,764	0
	98n	0	0	0	0	12,360	18	0	12,378	0
Benzyl chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,000	0	25,481	430,300	256,947	10,947	21,501	746,176	81
	98o	4,800	0	17,000	420,878	250,883	76,610	31,342	801,513	1
	98n	0	0	0	0	483,947	0	66	484,013	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
7440-41-7	‡ Beryllium	88	12	2,763	74	0	37,000	39,837	3,160	42,997
		95	9	832	26	0	21,250	22,108	7,340	29,448
		98o	13	792	26	0	57,750	58,568	20,404	78,972
		98n	5	0	0	0	0	0	0	0
—	‡ Beryllium compounds	88	5	862	17	0	12,000	12,879	8,261	21,140
		95	7	360	2	0	23,000	23,362	2,391	25,753
		98o	8	383	6	0	0	389	2,804	3,193
		98n	54	20,999	1,859	0	733,229	756,087	91,126	847,213
82657-04-3	* Bifenthrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	10	0	0	5	15	0	15
		98o	5	760	5	0	0	765	0	765
		98n	1	0	0	0	0	0	19	19
92-52-4	* Biphenyl	88	181	1,211,292	88,197	82,760	222,297	1,604,546	227,492	1,832,038
		95	135	744,535	6,242	30,337	71,864	852,978	38,088	891,066
		98o	122	537,849	2,768	29,574	1,159	571,350	49,880	621,230
		98n	10	36	0	0	0	36	305	341
111-91-1	Bis(2-chloroethoxy) methane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	12,510	0	250	0	12,760	0	12,760
		98o	1	1,434	0	930	1,024	3,388	0	3,388
		98n	1	0	0	0	0	0	0	0
111-44-4	* Bis(2-chloroethyl) ether	88	8	4,922	1,351	0	0	6,273	0	6,273
		95	11	564	3	0	0	567	0	567
		98o	11	850	4	0	0	854	8	862
		98n	3	0	0	0	0	0	0	0
542-88-1	‡ Bis(chloromethyl) ether	88	2	1	0	0	0	1	0	1
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
108-60-1	Bis(2-chloro-1-methylethyl) ether	88	2	7,959	30,000	0	0	37,959	0	37,959
		95	2	6,130	0	0	0	6,130	0	6,130
		98o	2	3,360	46	0	2	3,408	0	3,408
		98n	No reports							
56-35-9	* Bis(tributyltin) oxide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	32	0	0	32	13,873	13,905
		98o	3	0	6	0	2	8	3,372	3,380
		98n	No reports							
10294-34-5	Boron trichloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	5	0	0	0	5	0	5
		98o	5	750	0	0	0	750	0	750
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Beryllium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	39,689	11,363	0	0	780	423	27,079	79,334	0
	98o	160,399	80,546	0	0	10	8	63,281	304,244	1
	98n	0	0	0	0	0	0	0	0	0
‡ Beryllium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	7	23,880	0	0	0	1,011	24,661	49,559	0
	98o	0	26,450	0	0	0	1,090	1,833	29,373	1
	98n	9,700	0	0	0	194	0	849,871	859,765	308
* Bifenthrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	10	10	20	0
	98o	0	0	0	0	0	402	230	632	0
	98n	0	0	0	0	11,275	0	19	11,294	0
* Biphenyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	268,053	156,081	1,088,381	346,055	963,993	600,999	904,287	4,327,849	11,639
	98o	306,564	260,334	1,209,699	131,946	485,153	761,284	626,667	3,781,647	3,939
	98n	0	0	0	12,840	279,525	263	89	292,717	0
Bis(2-chloroethoxy) methane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	12,796	12,796	0
	98o	0	0	0	0	0	15	3,388	3,403	0
	98n	0	0	0	0	0	0	0	0	0
* Bis(2-chloroethyl) ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	146,118	302,700	203,775	0	88,893	570	742,056	0
	98o	0	159,909	426,404	9,541	540,375	349,619	859	1,486,707	0
	98n	0	0	0	0	10,234	0	0	10,234	0
‡ Bis(chloromethyl) ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	13,000	0	0	13,000	0
	98o	0	0	0	0	36,500	0	0	36,500	0
	98n	No reports								
Bis(2-chloro-1-methylethyl) ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,200,000	0	8,540,000	0	10,840,000	0	6,100	24,586,100	1
	98o	8,900,000	0	6,000,000	0	1,410,000	0	3,500	16,313,500	0
	98n	No reports								
* Bis(tributyltin) oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	39,840	0	0	336	0	13,903	54,079	0
	98o	0	58,478	0	0	336	0	3,380	62,194	0
	98n	No reports								
Boron trichloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,000	0	0	0	200	0	1	5,201	0
	98o	6,700	0	0	0	53,000	0	335	60,035	2
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
7637-07-2	Boron trifluoride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	23	18,569	0	0	0	18,569	929	19,498
		98o	23	38,142	5	0	0	38,147	0	38,147
		98n	No reports							
314-40-9	* Bromacil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	500	27,897	0	0	28,397	0	28,397
		98o	1	10	0	0	0	10	0	10
		98n	1	25	0	0	0	25	0	25
7726-95-6	* Bromine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	44	112,466	880	7	10	113,363	250	113,613
		98o	52	104,083	7,110	7	7,705	118,905	0	118,905
		98n	4	84	0	0	0	84	2	86
35691-65-7	* 1-Bromo-1-(bromo-methyl)-1,3-propane-dicarbonitrile	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
353-59-3	Bromochlorodifluoromethane (Halon 1211)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	4,811	0	0	0	4,811	0	4,811
		98o	4	3,673	0	0	0	3,673	0	3,673
		98n	No reports							
75-25-2	Bromoform	88	2	0	8,600	0	0	8,600	0	8,600
		95	No reports							
		98o	No reports							
		98n	3	3	0	0	0	3	0	3
74-83-9	* Bromomethane	88	36	2,784,795	0	1,546	0	2,786,341	0	2,786,341
		95	42	2,601,734	14	3,817	0	2,605,565	0	2,605,565
		98o	46	1,559,127	30	230	11	1,559,398	0	1,559,398
		98n	2	5	0	0	0	5	0	5
75-63-8	Bromotrifluoromethane (Halon 1301)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	8	33,632	0	0	0	33,632	0	33,632
		98o	6	26,842	0	0	0	26,842	0	26,842
		98n	1	0	0	0	0	0	0	0
1689-84-5	* Bromoxynil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	6	0	0	0	6	990	996
		98o	2	506	0	0	0	506	1,483	1,989
		98n	No reports							
1689-99-2	* Bromoxynil octanoate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	500	0	0	0	500	13,569	14,069
		98o	5	1,566	0	0	0	1,566	14,420	15,986
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Boron trifluoride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	425,701	1,027	17,919	444,647	5
	98o	0	0	0	35	462,635	15,255	35,396	513,321	449
	98n	No reports								
* Bromacil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5	0	0	0	30,687	27,829	27,947	86,468	0
	98o	0	0	0	0	0	0	1,192	1,192	0
	98n	0	0	0	0	32,434	0	25	32,459	0
* Bromine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,960,000	740	0	0	14,808,669	283,435	112,386	20,165,230	29
	98o	5,670,000	230	0	0	18,611,926	20,778	121,930	24,424,864	195
	98n	0	0	0	162,356	12,791	0	86	175,233	1
* 1-Bromo-1-(bromo-methyl)-1,3-propane-dicarbonitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	10,957	0	10,957	0
	98o	0	0	0	0	12,000	9,824	0	21,824	0
	98n	No reports								
Bromochlorodifluoromethane (Halon 1211)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	282,800	0	0	0	0	0	4,832	287,632	2
	98o	501,947	0	0	0	0	0	3,673	505,620	175
	98n	No reports								
Bromoform	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	10,594	2	3	10,599	1
* Bromomethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	165,182	0	101,000	380	4,876,073	0	2,578,001	7,720,636	5
	98o	12,780	0	222,300	280	488,585	0	1,561,274	2,285,219	14,072
	98n	0	0	0	0	3,007	30	1	3,038	1
Bromotrifluoromethane (Halon 1301)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	200,661	0	0	0	0	0	36,155	236,816	806
	98o	583,803	0	0	0	0	0	26,592	610,395	6,468
	98n	0	0	0	0	0	0	0	0	0
* Bromoxynil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	996	996	0
	98o	0	0	0	0	0	0	1,244	1,244	0
	98n	No reports								
* Bromoxynil octanoate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	173	13,689	13,862	0
	98o	0	0	0	0	0	40	21,215	21,255	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
357-57-3	Brucine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
106-99-0	‡ 1,3-Butadiene	88	157	7,004,622	522,504	1,500	7,817	7,536,443	185,398	7,721,841
		95	185	3,048,679	5,393	0	277	3,054,349	4,892	3,059,241
		98o	187	2,738,079	8,834	732	7,998	2,755,643	2,067	2,757,710
		98n	6	1,035	0	0	0	1,035	500	1,535
141-32-2	Butyl acrylate	88	166	411,862	3,528	0	602	415,992	18,766	434,758
		95	164	228,768	2,919	0	559	232,246	73,301	305,547
		98o	157	205,717	7,790	0	546	214,053	24,983	239,036
		98n	13	6,009	0	0	0	6,009	22,581	28,590
71-36-3	n-Butyl alcohol	88	1,109	37,715,221	128,130	3,006,660	175,819	41,025,830	924,519	41,950,349
		95	1,122	26,074,428	115,353	2,263,357	4,631	28,457,769	286,766	28,744,535
		98o	1,015	21,389,243	94,529	3,169,538	5,209	24,658,519	494,854	25,153,373
		98n	179	27,549	5	0	1,279	28,833	62,002	90,835
78-92-2	* sec-Butyl alcohol	88	92	1,097,163	122,291	0	2,600	1,222,054	21,351	1,243,405
		95	113	898,282	6,782	136,172	2,805	1,044,041	18,376	1,062,417
		98o	115	959,272	3,950	169,243	7	1,132,472	16,535	1,149,007
		98n	36	2,526	0	0	13,000	15,526	23,670	39,196
75-65-0	* tert-Butyl alcohol	88	54	1,574,137	14,989	674,798	818	2,264,742	56,502	2,321,244
		95	91	657,818	20,183	1,082,071	751	1,760,823	30,783	1,791,606
		98o	83	420,574	30,330	861,956	7,352	1,320,212	178,217	1,498,429
		98n	27	25,805	21	0	1,089	26,915	27,728	54,643
106-88-7	1,2-Butylene oxide	88	18	99,931	3,500	0	250	103,681	898	104,579
		95	15	11,083	1	0	0	11,084	5	11,089
		98o	13	10,781	8,401	0	0	19,182	0	19,182
		98n	1	1	0	0	0	1	0	1
123-72-8	* Butyraldehyde	88	26	2,218,692	3,812	1,997	31	2,224,532	117,741	2,342,273
		95	28	291,440	821	149,783	10	442,054	41	442,095
		98o	32	289,796	618	29,000	1,478	320,892	1,530	322,422
		98n	1	122	0	0	0	122	3	125
7440-43-9	‡ Cadmium	88	90	22,430	2,598	0	94,602	119,630	155,313	274,943
		95	47	11,941	458	0	19,856	32,255	90,264	122,519
		98o	49	2,102	542	0	158,602	161,246	100,907	262,153
		98n	20	1,318	0	166,607	2,282,416	2,450,341	60,410	2,510,751
—	‡ Cadmium compounds	88	116	118,728	1,549	2,409	294,877	417,563	1,066,648	1,484,211
		95	118	55,060	880	109	797,776	853,825	1,739,506	2,593,331
		98o	93	69,390	873	130,033	851,468	1,051,764	1,309,414	2,361,178
		98n	40	16,676	1,218	96,875	7,920,029	8,034,798	291,937	8,326,735

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Brucine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	1
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
‡ 1,3-Butadiene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,513,939	13,652,736	31,663,920	34,519	58,474,775	96,310	2,877,482	112,313,681	200,548
	98o	5,428,029	15,574,853	15,171,040	260,947	52,970,163	3,918,622	2,721,067	96,044,721	776,816
	98n	0	0	0	218,662	130,866	9,120	1,035	359,683	1
Butyl acrylate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	173,995	207,325	4,059,201	1,143,139	4,173,410	228,382	299,618	10,285,070	5,271
	98o	270,060	950	3,912,069	932,014	11,725,663	90,747	223,544	17,155,047	6,129
	98n	0	0	0	91,548	178,664	18,241	7,554	296,007	1
n-Butyl alcohol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	8,438,990	3,351,225	24,665,663	8,571,718	37,978,683	3,346,704	28,813,584	115,166,567	52,340
	98o	8,305,734	2,561,478	29,184,143	8,317,124	42,767,511	5,215,984	25,387,873	121,739,847	58,887
	98n	1,680,333	8,376	32,154	11,311,419	1,740,894	997,335	34,580	15,805,091	22
* sec-Butyl alcohol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	748,440	24,774	13,041,102	6,275,927	2,249,797	99,596	1,079,508	23,519,144	2,810
	98o	171,903	9,319	10,701,253	1,012,818	1,532,676	204,123	1,159,021	14,791,113	8
	98n	220	0	0	1,813,002	49	267,862	15,367	2,096,500	1
* tert-Butyl alcohol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	466,023	2,256	64,310,733	27,469,833	2,447,778	1,794,551	2,230,055	98,721,229	2,078
	98o	662,776	231,209	37,637,302	7,506,442	2,331,750	1,841,732	1,494,052	51,705,263	61
	98n	31,188	200	0	5,408,737	129,572	42,110	24,190	5,635,997	16
1,2-Butylene oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	990	0	330,194	329,270	93	10,804	671,351	0
	98o	1	0	0	275,443	498,660	307	19,015	793,426	0
	98n	0	0	0	50	0	35	1	86	0
* Butyraldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	1,300	2,545,861	22,000	1,982,004	169,714	440,778	5,161,657	10
	98o	0	31,000	2,136,982	20,760	1,928,392	651,126	317,546	5,085,806	5,207
	98n	0	0	0	19,950	392	409	122	20,873	0
‡ Cadmium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,471,697	538,690	29,191	633	91,725	53,384	74,015	2,259,335	3,918
	98o	1,101,823	316,539	0	0	27,779	52,294	276,597	1,775,032	9,411
	98n	0	8,110	0	0	914,735	21,317	1,538,429	2,482,591	1
‡ Cadmium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	8,221,108	1,482,852	0	1,082	86,561	141,412	2,468,201	12,401,216	11,698
	98o	2,561,776	643,605	0	5,236	24,555	47,350	3,198,248	6,480,770	59,620
	98n	4,137	71,989	0	0	3,000	4,771	8,333,611	8,417,508	93

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries; 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
156-62-7	* Calcium cyanamide	88	3	12,600	0	0	66,000	78,600	0	78,600
		95	5	10	0	0	0	10	0	10
		98o	4	134	0	0	0	134	0	134
		98n	No reports							
133-06-2	* Captan	88	18	14,869	750	5,100	1,000	21,719	12,434	34,153
		95	15	7,280	5	0	5	7,290	3,868	11,158
		98o	11	9,211	5	0	0	9,216	1,761	10,977
		98n	4	2	0	0	0	2	138	140
63-25-2	* Carbaryl	88	23	7,923	877	0	500	9,300	6,198	15,498
		95	21	7,824	10	0	1,060	8,894	26,861	35,755
		98o	22	7,824	10	0	100	7,934	9,156	17,090
		98n	3	7	0	0	0	7	132	139
1563-66-2	* Carbofuran	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	4,187	2	0	250	4,439	250	4,689
		98o	4	2,921	1	0	0	2,922	0	2,922
		98n	3	16	0	0	0	16	5,181	5,197
75-15-0	* Carbon disulfide	88	88	124,109,904	39,501	13,400	43,436	124,206,241	58,473	124,264,714
		95	91	84,120,292	39,864	3,985	265	84,164,406	2,949	84,167,355
		98o	93	43,442,463	4,687	16,599	1,651	43,465,400	5,801	43,471,201
		98n	7	924	1	0	0	925	24	949
56-23-5	*,‡ Carbon tetrachloride	88	95	3,795,248	15,627	98,050	14,759	3,923,684	49,703	3,973,387
		95	71	420,756	717	53,966	0	475,439	7,735	483,174
		98o	54	275,192	2,586	23,163	1,679	302,620	9,956	312,576
		98n	17	1,061	250	5	0	1,316	17,336	18,652
463-58-1	Carbonyl sulfide	88	38	25,954,103	0	0	0	25,954,103	0	25,954,103
		95	63	17,933,774	0	0	0	17,933,774	0	17,933,774
		98o	80	19,356,525	0	0	0	19,356,525	0	19,356,525
		98n	1	0	0	0	0	0	0	0
5234-68-4	* Carboxin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	8	0	0	0	8	428	436
		98o	3	5	0	0	0	5	17	22
		98n	No reports							
120-80-9	Catechol	88	113	3,789	320,546	0	84,332	408,667	89,474	498,141
		95	127	3,457	24,747	0	3,729	31,933	563	32,496
		98o	137	5,095	23,865	0	1,021	29,981	907	30,888
		98n	4	3	0	0	0	3	24	27
133-90-4	* Chloramben	88	1	1,418	250	0	0	1,668	1,159	2,827
		95	No reports							
		98o	No reports							
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Calcium cyanamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	6	6	0
	98o	0	0	0	0	0	0	130	130	0
	98n	No reports								
* Captan	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,070	0	0	0	9,834	1,072	7,479	23,455	2
	98o	2,697	0	0	0	9,000	3,944	11,297	26,938	1
	98n	0	0	0	0	68,416	0	140	68,556	0
* Carbaryl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	36,618	0	0	0	467,593	7,885	32,697	544,793	1
	98o	80,456	0	79,931	0	365,862	24,121	14,478	564,848	101
	98n	0	0	0	0	77,947	0	139	78,086	0
* Carbofuran	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	1	3	47,158	5,422	52,584	1
	98o	0	0	0	0	3	35,601	2,922	38,526	275
	98n	0	0	0	0	243,290	0	15	243,305	1
* Carbon disulfide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	20,874,450	18	5,775,132	368,509	16,592,770	361,938	84,767,916	128,740,733	
	98o	30,024,800	1,985	10,070,374	216,999	30,170,826	239,776	43,255,494	113,980,254	24,335
	98n	0	0	0	25,038	779,188	13,888	849	818,963	0
* ‡ Carbon tetrachloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,677,422	365,067	317,149	50,068	52,784,536	733,254	463,276	56,390,772	34,525
	98o	2,038,866	2,075,495	808,627	43,116	14,046,412	462,232	300,036	19,774,784	4,829
	98n	4,399	0	468,751	396,805	985,513	2,582,828	4,842	4,443,138	1
Carbonyl sulfide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	1,508,252	0	14,242,854	16,000	18,778,129	34,545,235	1
	98o	207,700	2,800	2,403,251	0	17,446,371	180	19,106,792	39,167,094	5
	98n	0	0	0	0	0	0	0	0	0
* Carboxin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,817	0	0	0	0	402	436	3,655	0
	98o	1,110	0	0	0	0	218	22	1,350	0
	98n	No reports								
Catechol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	7,329,290	94,995	1,481,057	54,221	68,220	9,027,783	2,774
	98o	0	0	9,747,608	105,259	3,936,863	50,634	34,743	13,875,107	1
	98n	0	0	3,384	0	9,997	0	27	13,408	0
* Chloramben	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
57-74-9	*,‡ Chlordane	88	2	2,698	4	4,262	0	6,964	0	6,964
		95	1	823	22	0	0	845	0	845
		98o	No reports							
		98n	7	45	0	20,106	25,548	45,699	22	45,721
115-28-6	‡ Chlorendic acid	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	6	0	0	0	6	0	6
		98o	2	30	0	0	0	30	0	30
		98n	No reports							
90982-32-4	* Chlorimuron ethyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1	0	0	0	1	0	1
		98o	2	3	0	0	0	3	0	3
		98n	No reports							
7782-50-5	* Chlorine	88	1,800	133,085,601	6,622,187	107,624	439,547	140,254,959	1,003,531	141,258,490
		95	1,377	65,769,700	413,446	74,124	13,095	66,270,365	40,771	66,311,136
		98o	1,183	59,750,572	232,817	61,637	56,122	60,101,148	26,435	60,127,583
		98n	150	86,002	195,579	27,639	274,480	583,700	3,000	586,700
10049-04-4	* Chlorine dioxide	88	122	12,251,050	2,350	0	41,000	12,294,400	41,750	12,336,150
		95	127	1,304,926	5	0	0	1,304,931	0	1,304,931
		98o	117	1,020,827	71	0	0	1,020,898	0	1,020,898
		98n	4	13,000	510	0	0	13,510	0	13,510
79-11-8	* Chloroacetic acid	88	37	26,819	850	10	0	27,679	2,506	30,185
		95	31	6,474	16	0	0	6,490	600	7,090
		98o	25	3,585	16	0	0	3,601	500	4,101
		98n	1	0	0	0	0	0	0	0
4080-31-3	* 1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	93	10	0	521	624	2,514	3,138
		98o	16	437	11	0	653	1,101	5,138	6,239
		98n	No reports							
106-47-8	*,‡ p-Chloroaniline	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	267	827	0	0	1,094	11	1,105
		98o	4	6,181	12	0	0	6,193	0	6,193
		98n	1	20	0	0	0	20	0	20
108-90-7	* Chlorobenzene	88	66	4,375,887	98,354	84,457	4,127	4,562,825	117,624	4,680,449
		95	62	1,132,073	1,850	27,405	5	1,161,333	92,582	1,253,915
		98o	74	774,104	662	184,106	16	958,888	19,488	978,376
		98n	19	1,137	250	250	0	1,637	5,881	7,518
510-15-6	* Chlorobenzilate	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
*‡ Chlordane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	5,150	95	845	6,090	0
	98o	No reports								
	98n	0	0	0	25,778	187,264	35	45,721	258,798	1
‡ Chlorendic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	488	6	494	0
	98o	0	0	0	0	0	567	30	597	0
	98n	No reports								
* Chlorimuron ethyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	5,838	1	5,839	0
	98o	0	0	0	0	0	33,861	3	33,864	0
	98n	No reports								
* Chlorine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	84,997,609	1,791,968	499	1,585	220,645,991	1,179,749	66,292,262	374,909,663	13,373
	98o	71,150,772	64,394	0	50,291	249,828,594	945,830	60,158,549	382,198,430	9,243
	98n	760,238	0	0	0	4,501,103	26,089	443,435	5,730,865	629
* Chlorine dioxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,446,060	0	0	0	40,533,897	0	1,326,611	44,306,568	3,933
	98o	2,858,988	0	0	0	48,655,136	6,000	1,074,116	52,594,240	862
	98n	0	0	0	0	0	0	13,510	13,510	0
* Chloroacetic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	25,013	0	0	0	1,342,493	2,726	6,607	1,376,839	0
	98o	85,721	0	0	0	1,209,175	568	3,250	1,298,714	0
	98n	0	0	0	0	10,132	0	0	10,132	0
* 1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,700	0	0	0	720	4,700	3,570	11,690	0
	98o	78,111	0	0	0	2,310	12,150	6,753	99,324	0
	98n	No reports								
*‡ p-Chloroaniline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	540	0	120,301	940	121,781	0
	98o	0	0	46,000	520	0	6,424	16,097	69,041	0
	98n	0	0	0	0	25,861	0	20	25,881	0
* Chlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	9,123,869	1,016,982	2,099,757	1,366,145	11,231,684	1,503,368	1,242,678	27,584,483	20,613
	98o	1,107,325	976,071	5,510,105	3,476,264	10,333,365	4,804,121	983,533	27,190,784	831
	98n	260,432	0	20,907	89,425	1,819,899	1,460	2,047	2,194,170	3
* Chlorobenzilate	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	25	6,954,443	771	6	0	6,955,220	21,600	6,976,820
		98o	28	5,529,844	40	0	0	5,529,884	4,979	5,534,863
		98n	3	11	0	0	0	11	4,833	4,844
75-45-6	* Chlorodifluoromethane (HCFC-22)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	242	12,558,571	2,279	22	1	12,560,873	55,084	12,615,957
		98o	237	8,885,070	3,652	0	1	8,888,723	50,648	8,939,371
		98n	1	64,602	0	0	0	64,602	0	64,602
75-00-3	Chloroethane	88	50	4,907,292	27,448	1,510	1	4,936,251	32,260	4,968,511
		95	55	2,890,354	2,320	0	116	2,892,790	4,400	2,897,190
		98o	57	2,171,417	1,024	67	50	2,172,558	3,900	2,176,458
		98n	2	16	0	0	0	16	3	19
67-66-3	* ‡ Chloroform	88	169	25,988,609	1,114,965	36,000	68,647	27,208,221	143,124	27,351,345
		95	161	10,275,919	330,352	33,276	4,297	10,643,844	6,636	10,650,480
		98o	139	6,389,594	135,414	44,102	12,335	6,581,445	42,857	6,624,302
		98n	21	1,909	5	5	0	1,919	11,313	13,232
74-87-3	* Chloromethane	88	81	11,567,647	115,985	165,250	0	11,848,882	59,140	11,908,022
		95	111	4,394,298	57,430	50,198	35	4,501,961	1,557	4,503,518
		98o	100	2,638,494	1,742	323,201	57	2,963,494	952	2,964,446
		98n	9	2,812	0	0	0	2,812	7	2,819
107-30-2	‡ Chloromethyl methyl ether	88	4	3,033	0	0	0	3,033	0	3,033
		95	3	2,865	10	0	0	2,875	70	2,945
		98o	2	1,000	0	0	0	1,000	0	1,000
		98n	1	0	0	0	0	0	0	0
563-47-3	‡ 3-Chloro-2-methyl-1-propene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	19,859	0	0	0	19,859	0	19,859
		98o	3	7,353	0	0	0	7,353	0	7,353
		98n	No reports							
—	‡ Chlorophenols	88	9	2,573	272	71,554	0	74,399	2	74,401
		95	9	4,997	30	105,687	0	110,714	940	111,654
		98o	6	4,864	36	73,548	0	78,448	8,000	86,448
		98n	5	16	0	0	0	16	4,175	4,191
76-06-2	* Chloropicrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	15	11,229	0	0	0	11,229	36	11,265
		98o	16	7,176	0	0	0	7,176	27,000	34,176
		98n	1	4	0	0	0	4	0	4
126-99-8	Chloroprene	88	13	1,948,008	287	68,792	0	2,017,087	0	2,017,087
		95	15	983,932	0	60,000	5,104	1,049,036	7,102	1,056,138
		98o	11	977,626	0	100,000	0	1,077,626	0	1,077,626
		98n	2	528	0	0	0	528	1	529

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
1-Chloro-1,1-difluoroethane (HCFC-142b)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	52,560	0	0	320	304,070	26,330	6,933,797	7,317,077	459
	98o	67	0	0	5,400	534,586	165,589	5,537,482	6,243,124	103
	98n	0	0	0	0	136,697	0	625	137,322	0
* Chlorodifluoromethane (HCFC-22)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,374,126	242,386	0	27,002	401,771	258,992	12,447,343	15,751,620	196,364
	98o	698,765	168,042	0	237	505,214	291,198	9,035,247	10,698,703	125,565
	98n	0	0	0	0	0	0	63,090	63,090	1,512
Chloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,321,094	155,726	13,500,359	45,855	28,074,197	492,722	2,896,879	47,486,832	8,570
	98o	5,135,802	175,104	11,263,574	17,934	35,309,891	332,191	2,179,178	54,413,674	135
	98n	0	0	0	0	48,025	14	15	48,054	1
* ‡ Chloroform	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,138,816	175,713	17,199,219	103,558	17,351,138	2,061,635	10,608,515	52,638,594	27,208
	98o	6,749,489	1,871,565	5,133,726	164,858	16,308,023	1,721,899	6,615,517	38,565,077	21,625
	98n	35,795	0	1,650	495,666	1,473,283	2,410,324	3,296	4,420,014	6
* Chloromethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,803,788	650	4,517,896	4,505	14,364,276	240,406	4,521,719	26,453,240	7,918
	98o	3,447,064	23,740	4,341,426	17,950	8,368,819	292,447	2,918,607	19,410,053	12,983
	98n	0	0	0	0	342,535	1,997,213	2,861	2,342,609	1
‡ Chloromethyl methyl ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	15,900	0	2,909	18,809	0
	98o	0	0	0	0	280	0	1,000	1,280	0
	98n	0	0	0	0	0	0	0	0	0
‡ 3-Chloro-2-methyl-1-propene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	544,134	14,819	19,859	578,812	10
	98o	0	0	0	0	637,973	344	7,353	645,670	0
	98n	No reports								
‡ Chlorophenols	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,919,075	0	0	6,400	237,484	26,212	109,847	3,299,018	1,776
	98o	2,737,000	0	0	0	297,377	7,807	85,720	3,127,904	725
	98n	0	0	1,009	62,967	281,511	9,645	3,940	359,072	0
* Chloropicrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	9,981	0	0	54	441	34,387	10,434	55,297	0
	98o	2,250	0	0	0	1,110	14,705	33,890	51,955	0
	98n	0	0	0	0	0	0	4	4	0
Chloroprene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	480,972	466,280	9,105	4,233,572	138,421	1,051,019	6,379,369	518
	98o	0	306,514	1,200,000	66,206	8,827,286	209,184	1,077,630	11,686,820	10
	98n	0	0	0	13,385	102,414	173	299	116,271	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries; 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
63938-10-3	Chlorotetrafluoroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	504,553	0	0	0	504,553	0	504,553
		98o	3	23,336	0	0	0	23,336	0	23,336
		98n	No reports							
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	752,215	1,255	0	0	753,470	0	753,470
		98o	23	750,474	5	0	0	750,479	0	750,479
		98n	1	852	0	0	0	852	0	852
1897-45-6	* Chlorothalonil	88	10	28,476	250	0	0	28,726	396,274	425,000
		95	25	7,440	35	0	750	8,225	97,420	105,645
		98o	25	9,236	35	0	0	9,271	301,801	311,072
		98n	1	0	0	5	32,000	32,005	5	32,010
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	35,523	0	0	0	35,523	0	35,523
		98o	4	162,775	52	0	0	162,827	0	162,827
		98n	No reports							
75-72-9	Chlorotrifluoromethane (CFC-13)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	250	0	0	0	250	0	250
		98o	1	14,700	5	0	0	14,705	0	14,705
		98n	No reports							
5598-13-0	* Chlorpyrifos methyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	510	0	0	6,000	6,510	0	6,510
		98o	5	500	0	0	0	500	0	500
		98n	No reports							
64902-72-3	* Chlorsulfuron	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1	0	0	0	1	0	1
		98o	1	1	0	0	0	1	0	1
		98n	No reports							
7440-47-3	Chromium	88	1,255	566,459	75,442	2,249	9,282,766	9,926,916	11,710,612	21,637,528
		95	1,962	420,975	17,279	33	1,106,303	1,544,590	5,656,611	7,201,201
		98o	1,892	476,661	13,096	9	546,965	1,036,731	11,988,859	13,025,590
		98n	67	7,755	25,225	260,448	14,883,133	15,176,561	1,915,109	17,091,670
—	Chromium compounds	88	1,214	764,851	326,027	52,653	30,938,106	32,081,637	14,898,699	46,980,336
		95	1,458	649,335	137,834	60,747	22,181,150	23,029,066	19,985,397	43,014,463
		98o	1,467	351,838	112,325	874,795	30,269,748	31,608,706	14,024,492	45,633,198
		98n	314	302,049	114,308	675,155	58,055,829	59,147,341	5,461,238	64,608,579

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A–1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Chlorotetrafluoroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n		0	0	0	29,571	0	0	29,571	0
1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,725	0	504,011	505,736	0
	98o	0	0	0	0	165,890	0	23,136	189,026	0
	98n	No reports								
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	239,200	0	0	193,194	35,816	753,296	1,221,506	401
	98o	44,530	282,345	0	0	501,437	0	749,963	1,578,275	32
	98n	0	0	0	0	0	0	852	852	0
* Chlorothalonil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,339	0	0	2,294	24,716	139,966	102,279	274,594	5
	98o	4,726	0	0	0	65,406	195,241	311,120	576,493	419
	98n	0	0	0	0	0	0	32,000	32,000	0
2-Chloro-1,1,1-tri-fluoroethane (HCFC-133a)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	35,608	35,608	0
	98o	0	0	0	0	33,000	0	162,925	195,925	4
	98n	No reports								
Chlorotrifluoromethane (CFC-13)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	30	30	0
	98o	0	0	0	0	0	0	14,705	14,705	0
	98n	No reports								
* Chlorpyrifos methyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	400	0	0	0	0	6,095	6,402	12,897	0
	98o	2,000	0	0	0	0	4,990	285	7,275	0
	98n	No reports								
* Chlorsulfuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	3,444	1	3,445	0
	98o	0	0	0	0	0	10,508	1	10,509	0
	98n	No reports								
Chromium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	29,727,918	102,392,594	9,781,278	51,738	404,205	1,659,401	8,055,909	152,073,043	41,527
	98o	86,824,937	84,606,063	86,318	16,249	844,605	1,159,177	14,861,891	188,399,240	44,774
	98n	1	197,601	0	0	135,406	258,068	16,546,875	17,137,951	10
Chromium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	36,654,183	42,918,151	44,280	67,119	94,214,040	3,530,577	38,880,906	216,309,256	1,658,998
	98o	37,971,016	33,139,466	63,846	33,652	9,408,815	2,620,215	44,594,582	127,831,592	175,629
	98n	55,057	868,937	0	2	476,627	129,755	64,355,367	65,885,745	2,857

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
6459-94-5	‡ C.I. Acid Red 114	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
569-64-2	* C.I. Basic Green 4	88	6	750	0	0	0	750	250	1,000
		95	2	5	0	0	0	5	0	5
		98o	3	5	0	0	0	5	750	755
		98n	1	0	0	0	0	0	0	0
989-38-8	C.I. Basic Red 1	88	No reports							
		95	2	0	0	0	0	0	668	668
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
28407-37-6	C.I. Direct Blue 218	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	6	10	6	0	0	16	1,400	1,416
		98o	6	0	10	0	5	15	2,142	2,157
		98n	No reports							
16071-86-6	‡ C.I. Direct Brown 95	88	No reports							
		95	1	0	0	0	0	0	0	0
		98o	No reports							
		98n	No reports							
2832-40-8	C.I. Disperse Yellow 3	88	1	398	302	0	0	700	899	1,599
		95	3	450	27	0	0	477	1,061	1,538
		98o	3	205	25	0	0	230	876	1,106
		98n	No reports							
81-88-9	C.I. Food Red 15	88	2	250	0	0	0	250	0	250
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
97-56-3	C.I. Solvent Yellow 3	88	1	250	0	0	0	250	0	250
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
842-07-9	C.I. Solvent Yellow 14	88	2	0	0	0	0	0	0	0
		95	No reports							
		98o	No reports							
		98n	No reports							
492-80-8	*‡ C.I. Solvent Yellow 34	88	No reports							
		95	No reports							
		98o	1	0	0	0	0	0	0	0
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ C.I. Acid Red 114	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* C.I. Basic Green 4	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	110	499	10	619	0
	98o	0	0	0	0	0	998	20	1,018	0
	98n	0	0	0	0	0	0	0	0	0
C.I. Basic Red 1	88	No reports								
	95	0	0	0	54	0	289	668	1,011	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
C.I. Direct Blue 218	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5	0	0	0	619	5,151	1,411	7,186	0
	98o	0	260	0	0	312	1,417	2,144	4,133	0
	98n	No reports								
‡ C.I. Direct Brown 95	88	No reports								
	95	0	0	0	0	0	0	0	0	0
	98o	No reports								
	98n	No reports								
C.I. Disperse Yellow 3	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,061	5,189	1,410	7,660	0
	98o	0	0	0	0	0	1,882	1,106	2,988	1
	98n	No reports								
C.I. Food Red 15	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
C.I. Solvent Yellow 3	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
C.I. Solvent Yellow 14	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	No reports								
*‡ C.I. Solvent Yellow 34	88	No reports								
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
7440-48-4	‡ Cobalt	88	177	44,005	16,744	0	213,204	273,953	248,089	522,042
		95	257	50,168	17,055	0	46,482	113,705	222,100	335,805
		98o	265	40,392	3,603	0	85,060	129,055	411,658	540,713
		98n	9	504	7	0	133,731	134,242	35,143	169,385
—	‡ Cobalt compounds	88	150	56,410	63,662	18,500	38,960	177,532	300,641	478,173
		95	225	29,093	70,392	22,657	505,624	627,766	304,508	932,274
		98o	279	31,816	34,860	32,950	499,891	599,517	310,159	909,676
		98n	154	54,897	24,067	12,006	12,516,853	12,607,823	443,633	13,051,456
7440-50-8	* Copper	88	1,975	1,525,310	117,147	15,646	10,466,155	12,124,258	17,233,013	29,357,271
		95	2,769	1,217,758	50,340	29,787	1,658,394	2,956,279	14,952,264	17,908,543
		98o	2,731	722,229	39,500	56,634	1,527,548	2,345,911	17,899,250	20,245,161
		98n	65	118,502	17,215	23,211	278,555,543	278,714,471	2,997,467	281,711,938
—	Copper compounds	88	1,045	3,158,742	185,292	165,957	29,683,607	33,193,598	14,135,121	47,328,719
		95	1,431	2,021,700	91,125	264,852	40,760,958	43,138,635	9,100,518	52,239,153
		98o	1,520	3,527,756	92,518	187,400	52,024,109	55,831,783	8,389,933	64,221,716
		98n	370	587,519	368,012	1,383,146	1,233,507,560	1,235,846,237	3,991,921	1,239,838,158
8001-58-9	*,‡ Creosote	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	85	928,376	8,427	0	500	937,303	2,595,570	3,532,873
		98o	78	857,442	24,842	0	12,275	894,559	1,204,510	2,099,069
		98n	14	1,142	0	0	2,176,468	2,177,610	59,022	2,236,632
120-71-8	‡ p-Cresidine	88	6	7,080	250	0	750	8,080	4,700	12,780
		95	5	4,606	0	0	0	4,606	2,200	6,806
		98o	4	2,400	0	0	0	2,400	0	2,400
		98n	No reports							
108-39-4	* m-Cresol	88	15	18,432	283	0	455	19,170	13,503	32,673
		95	29	48,000	1,675	680,000	0	729,675	3,218	732,893
		98o	26	44,999	141	502,670	4,655	552,465	502	552,967
		98n	4	9	0	0	0	9	0	9
95-48-7	o-Cresol	88	28	89,793	448	0	1,667	91,908	12,458	104,366
		95	23	12,425	82	590,000	0	602,507	5,257	607,764
		98o	21	9,270	16	466,578	20	475,884	39,525	515,409
		98n	6	12	0	0	0	12	0	12
106-44-5	p-Cresol	88	18	640,703	1,143	152,000	62,291	856,137	643	856,780
		95	30	44,901	1,066	342,500	0	388,467	3,168	391,635
		98o	30	57,003	43	299,485	0	356,531	50,556	407,087
		98n	5	13	0	0	0	13	0	13
1319-77-3	* Cresol (mixed isomers)	88	111	787,305	6,811	1,804,060	4,516	2,602,692	483,488	3,086,180
		95	154	1,606,566	15,011	648,882	2,350	2,272,809	47,059	2,319,868
		98o	147	1,655,565	8,641	489,033	12,273	2,165,512	17,710	2,183,222
		98n	22	2,506	251	750	12,984	16,491	86,726	103,217

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A–1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Cobalt	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,853,817	12,021,673	0	1	379,265	85,327	250,162	16,590,245	20
	98o	4,229,534	7,367,509	0	10,000	14,257	32,815	324,305	11,978,420	309
	98n	0	0	0	0	0	0	180,156	180,156	1
‡ Cobalt compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	222,882	1,573,341	0	847	1,394,877	92,172	865,222	4,149,341	4,239
	98o	153,821	1,642,060	0	10,105	1,459,617	64,757	888,637	4,218,997	1,600
	98n	40,259	1,600	0	0	11,009	15	13,107,389	13,160,272	4,019
* Copper	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	611,330,987	566,940,502	506	43,366	41,198,595	1,800,543	11,412,658	1,232,727,157	92,242
	98o	590,689,257	557,219,409	189,372	499,055	45,069,194	1,500,744	8,694,278	1,203,861,309	952,130
	98n	2,708,008	960,711	0	0	87,176	53,655	281,556,220	285,365,770	5
Copper compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	215,002,488	190,203,455	0	31,078	60,463,597	2,453,764	49,560,560	517,714,942	1,323,182
	98o	186,530,689	158,679,945	0	23,314	2,731,081	1,871,198	61,082,321	410,918,548	4,149,252
	98n	5,146,951	1,690,317	0	0	483,340	121,343	1,349,400,312	1,356,842,263	297,953
*‡ Creosote	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	64,447,471	2,180	6,100	94,871	163,131	298,027	3,208,184	68,219,964	322,992
	98o	11,514,469	717,808	2,626,352	81,103	842,960	902,470	1,891,484	18,576,646	541,707
	98n	0	0	10	49,454	523,727	41,936	2,177,407	2,792,534	3
‡ p-Cresidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	51,611	6,806	58,417	3,400
	98o	0	0	0	0	0	29,000	2,400	31,400	0
	98n	No reports								
* m-Cresol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,309,373	1,500,001	615,425	17,910	329,024	91,159	737,708	5,600,600	151
	98o	1,769,226	1,064,540	649,489	18,878	240,659	8,216	554,441	4,305,449	719
	98n	0	0	0	45,524	40,473	0	9	86,006	0
o-Cresol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	171,098	76	304,801	321	184,032	125,072	606,682	1,392,082	117
	98o	95,701	0	339,395	1,218	206,884	17,724	516,766	1,177,688	376
	98n	0	0	0	45,524	58,649	0	12	104,185	0
p-Cresol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	137,136	900,001	454,288	58,641	239,766	989,315	392,942	3,172,089	100
	98o	83,138	654,268	449,080	76,711	1,156,104	54,263	387,019	2,860,583	280
	98n	0	0	0	45,524	58,586	0	13	104,123	0
* Cresol (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,052,270	187,427	5,107,270	637,169	8,558,967	1,143,472	2,203,531	18,890,106	6,814
	98o	125,717	645,573	7,311,004	434,321	12,194,972	313,764	2,189,512	23,214,863	8
	98n	0	0	0	3,040,937	1,748,792	111,942	17,223	4,918,894	2

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
4170-30-3	Crotonaldehyde	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	101,579	680	391,500	0	493,759	0	493,759
		98o	6	29,584	3,800	1,300	0	34,684	0	34,684
		98n	1	0	0	0	0	0	0	0
98-82-8	Cumene	88	118	5,239,958	3,201	30,165	8,591	5,281,915	83,287	5,365,202
		95	239	1,876,790	1,490	9,403	1,102	1,888,785	70,457	1,959,242
		98o	241	1,346,368	660	1,040	9,537	1,357,605	32,676	1,390,281
		98n	161	11,839	10	0	928	12,777	1,220	13,997
80-15-9	Cumene hydroperoxide	88	40	192,523	1,784	371,000	250	565,557	22,944	588,501
		95	43	72,898	68	280,000	3,400	356,366	9,725	366,091
		98o	45	75,036	79	210,000	11,000	296,115	10,492	306,607
		98n	1	0	0	0	0	0	0	0
135-20-6	‡ Cupferron	88	4	920	0	0	0	920	0	920
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
21725-46-2	* Cyanazine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	991	492	0	0	1,483	2,527	4,010
		98o	6	193	0	0	0	193	0	193
		98n	1	9	0	0	12,000	12,009	0	12,009
—	Cyanide compounds	88	393	1,248,012	195,244	3,707,326	107,208	5,257,790	581,408	5,839,198
		95	242	1,074,879	89,725	4,429,640	18,580	5,612,824	149,457	5,762,281
		98o	233	692,029	54,638	3,762,384	16,809	4,525,860	138,788	4,664,648
		98n	86	62,250	2,996	18,750	3,882,176	3,966,172	45,428	4,011,600
1134-23-2	* Cycloate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	26	1,108	16	0	1,150	242	1,392
		98o	3	97	113	77	0	287	4	291
		98n	No reports							
110-82-7	* Cyclohexane	88	303	13,984,542	20,071	334,471	38,190	14,377,274	211,575	14,588,849
		95	364	8,086,260	18,908	238,200	10,809	8,354,177	105,429	8,459,606
		98o	374	5,989,227	13,718	310,589	1,602	6,315,136	55,782	6,370,918
		98n	195	89,349	28	8,430	266	98,073	39,560	137,633
108-93-0	* Cyclohexanol	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	24	167,949	154	3,623,000	0	3,791,103	70	3,791,173
		98o	25	300,614	298	4,307,800	0	4,608,712	740	4,609,452
		98n	3	43	0	0	0	43	13	56
68359-37-5	* Cyfluthrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	10	0	0	0	10	0	10
		98o	2	4	1	0	0	5	0	5
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Crotonaldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	202,400	0	498,820	701,220	0
	98o	0	0	1,837,500	0	569,220	16	34,884	2,441,620	0
	98n	0	0	0	0	0	0	0	0	0
Cumene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	17,285,493	60,160	7,052,013	1,380,577	6,411,952	169,307	2,048,371	34,407,873	2,276
	98o	19,165,910	145,837	9,226,663	623,049	16,050,026	187,394	1,502,656	46,901,535	916
	98n	161,872	512	14,642	617,688	75,400	27,918	10,201	908,233	877
Cumene hydroperoxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	6	482,755	21,434	375,758	879,953	1
	98o	0	0	0	1,066	399,343	264,990	304,590	969,989	1
	98n	0	0	0	0	0	0	0	0	0
‡ Cupferron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	5,648	0	5,648	0
	98o	0	0	13,228	659	0	0	0	13,887	0
	98n	No reports								
* Cyanazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	545,000	8,100	3,887	556,987	0
	98o	0	0	0	0	43,000	27,576	453	71,029	0
	98n	0	0	0	0	0	0	12,000	12,000	1
Cyanide compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	664,976	32,526	19,000	3,523	9,276,391	713,925	5,684,723	16,395,064	6,221
	98o	1,692,214	65,263	7,028,885	2,185	11,836,917	715,201	4,564,176	25,904,841	2,493
	98n	4,803,744	0	143	195	22,335,888	55,905	3,886,986	31,082,861	23
* Cycloate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	2,000	6,001	1,346	9,347	0
	98o	0	0	0	0	1,148	3,574	289	5,011	0
	98n	No reports								
* Cyclohexane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	54,644,021	1,585,367	10,345,060	5,145,025	23,741,493	1,250,210	8,406,837	105,118,013	123,188
	98o	67,097,911	638,827	18,411,353	3,403,978	21,853,521	4,398,320	6,176,460	121,980,370	9,056
	98n	404,236	1,685	3,156	4,891,082	3,431,997	248,265	105,048	9,085,469	357
* Cyclohexanol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	677,199	9,673	154,921	19,284	3,836,677	4,697,754	1
	98o	0	0	3,040,709	61,661	150,421	100,440	4,648,301	8,001,532	0
	98n	0	0	29	144	12,360	0	33	12,566	0
* Cyfluthrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	989	890	20	1,899	0
	98o	0	0	0	0	3,496	964	5	4,465	0
	98n	0	0	0	0	15,916	0	0	15,916	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
94-75-7	*‡ 2,4-D (acetic acid)	88	28	7,020	549	3,789	38,000	49,358	68,422	117,780
		95	27	6,888	1,083	250	4,325	12,546	17,430	29,976
		98o	28	3,970	88	1,300	1,798	7,156	2,887	10,043
		98n	6	18	0	29,909	0	29,927	2,557	32,484
533-74-4	* Dazomet	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	1,042	230	0	0	1,272	2,578	3,850
		98o	15	0	0	0	0	0	1,274	1,274
		98n	No reports							
53404-60-7	* Dazomet, sodium salt	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	250	250
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
94-82-6	* 2,4-DB	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	750	0	0	0	750	0	750
		98o	2	7	0	0	0	7	0	7
		98n	1	10	0	0	0	10	0	10
1929-73-3	*‡ 2,4-D butoxyethyl ester	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	510	0	0	0	510	0	510
		98o	2	255	0	0	0	255	0	255
		98n	1	0	0	0	0	0	0	0
94-80-4	*‡ 2,4-D butyl ester	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	3	0	0	0	3	0	3
		98o	2	1	0	0	0	1	0	1
		98n	No reports							
1163-19-5	Decabromodiphenyl oxide	88	58	29,604	500	292	21,450	51,846	555,181	607,027
		95	138	39,283	3,846	11	204,248	247,388	715,731	963,119
		98o	136	29,464	3,168	0	191,253	223,885	701,419	925,304
		98n	1	0	0	0	310,000	310,000	0	310,000
13684-56-5	* Desmedipham	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	94	0	0	0	94	0	94
		98n	No reports							
1928-43-4	*‡ 2,4-D 2-Ethylhexyl ester	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	2,765	250	0	0	3,015	3,131	6,146
		98o	10	4,722	5	0	0	4,727	1,735	6,462
		98n	No reports							
2303-16-4	* Diallate	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
*‡ 2,4-D (acetic acid)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	29,200	0	0	0	23,780	24,490	27,595	105,065	6,192
	98o	87,757	0	0	11	111,450	59,436	9,964	268,618	1
	98n	0	0	0	0	125,425	0	30,192	155,617	0
* Dazomet	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	20,110	1,178	3,542	24,830	0
	98o	0	0	0	0	100	2,100	1,400	3,600	0
	98n	No reports								
* Dazomet, sodium salt	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	56	7,807	0	7,863	0
	98o	0	0	0	0	73	12,620	90	12,783	0
	98n	No reports								
* 2,4-DB	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	217	290	507	0
	98o	0	0	0	0	0	14	7	21	0
	98n	0	0	0	21,140	0	0	10	21,150	1
*‡ 2,4-D butoxyethyl ester	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,600	318	1,918	0
	98o	0	0	0	0	0	0	76	76	0
	98n	0	0	0	0	0	0	0	0	0
*‡ 2,4-D butyl ester	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	600	0	3	603	0
	98o	0	0	0	0	9,400	0	1	9,401	0
	98n	No reports								
Decabromodiphenyl oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	992,673	144,205	0	18,686	32,138	322,935	946,822	2,457,459	3,804
	98o	265,331	86,343	385	3,214	43,588	257,123	895,739	1,551,723	4
	98n	0	0	0	0	0	0	310,000	310,000	0
* Desmedipham	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	1,150	94	1,244	0
	98n	No reports								
*‡ 2,4-D 2-Ethylhexyl ester	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	36,531	0	0	0	0	10,318	5,468	52,317	0
	98o	7,870	0	0	0	0	14,179	6,334	28,383	0
	98n	No reports								
* Diallate	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
615-05-4	‡ 2,4-Diaminoanisole	88	1	0	0	0	0	0	0	0
		95	No reports							
		98o	No reports							
		98n	No reports							
39156-41-7	‡ 2,4-Diaminoanisole sulfate	88	1	0	0	0	0	0	0	0
		95	No reports							
		98o	No reports							
		98n	No reports							
101-80-4	‡ 4,4'-Diaminodiphenyl ether	88	5	216	585	0	0	801	142	943
		95	3	23	359	0	0	382	120	502
		98o	3	22	340	0	0	362	55	417
		98n	No reports							
95-80-7	‡ 2,4-Diaminotoluene	88	2	2,988	250	0	0	3,238	0	3,238
		95	5	500	0	0	0	500	0	500
		98o	2	1,573	0	0	0	1,573	0	1,573
		98n	2	5	0	0	0	5	84,276	84,281
25376-45-8	‡ Diaminotoluene (mixed isomers)	88	13	21,097	3,288	174,000	295	198,680	289,591	488,271
		95	11	9,594	5,522	7,050	55	22,221	28,625	50,846
		98o	13	13,523	5,785	13,000	205	32,513	12,531	45,044
		98n	2	10	0	0	0	10	1,014	1,024
333-41-5	* Diazinon	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	31	3,245	8	0	0	3,253	1,560	4,813
		98o	29	13,564	11	0	0	13,575	1,955	15,530
		98n	5	15	0	0	0	15	157	172
132-64-9	Dibenzofuran	88	110	71,093	1,510	0	9,929	82,532	181,799	264,331
		95	37	18,704	2,843	0	220	21,767	19,824	41,591
		98o	39	93,615	29	0	56,670	150,314	13,304	163,618
		98n	3	615	0	0	0	615	0	615
96-12-8	*‡ 1,2-Dibromo-3-chloro-propane	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
106-93-4	*‡ 1,2-Dibromoethane	88	34	63,342	1,011	6,882	259	71,494	27,924	99,418
		95	19	12,372	306	0	256	12,934	3	12,937
		98o	11	10,045	6	0	1	10,052	0	10,052
		98n	1	0	0	0	0	0	0	0
124-73-2	Dibromotetrafluoro-ethane (Halon 2402)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	10	0	0	0	10	0	10
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ 2,4-Diaminoanisole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	No reports								
‡ 2,4-Diaminoanisole sulfate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	No reports								
‡ 4,4'-Diaminodiphenyl ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	4,929	380,289	377	385,595	0
	98o	0	0	0	0	140	4,483	357	4,980	0
	98n	No reports								
‡ 2,4-Diaminotoluene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	7,192	29,774	655	37,621	0
	98o	0	0	0	0	67,000	360	1,573	68,933	0
	98n	0	0	0	0	40,920	216,249	3	257,172	0
‡ Diaminotoluen (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	755,917	386,996	362,357	1,923,183	48,109	3,476,562	3,550
	98o	0	0	2,714,193	4,287,968	669,862	1,072,322	44,224	8,788,569	255
	98n	0	0	0	10,092	961,202	0	13	971,307	0
* Diazinon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	21,330	0	0	1	66,150	7,596	4,355	99,432	5
	98o	53,095	0	0	0	37,803	33,649	15,018	139,565	3
	98n	0	0	0	0	180,882	4	162	181,048	0
Dibenzofuran	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	70,546	25,036	113	176	405,125	1,471	37,508	539,975	13,220
	98o	131,734	4,920	230,475	92,830	26,678	5,981	119,032	611,650	1,302
	98n	0	0	0	1,352,711	32,439	0	615	1,385,765	1
* ‡ 1,2-Dibromo-3-chloro-propane	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
* ‡ 1,2-Dibromoethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	60	17	34,174	72,467	11,740	118,458	0
	98o	0	0	0	1	17,054	863	9,897	27,815	0
	98n	0	0	0	0	0	0	0	0	0
Dibromotetrafluoro-ethane (Halon 2402)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	127,308	0	0	0	0	0	10	127,318	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
84-74-2	* Dibutyl phthalate	88	126	204,058	14,339	350,000	6,395	574,792	113,068	687,860
		95	125	104,501	3,981	390,000	1,402	499,884	25,920	525,804
		98o	108	33,434	206	210,000	5,480	249,120	25,602	274,722
		98n	64	834	5	0	0	839	1,410	2,249
1918-00-9	* Dicamba	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	6	12,580	250	113,600	0	126,430	0	126,430
		98o	9	1,207	59	32,000	0	33,266	2,100	35,366
		98n	2	10	0	0	0	10	77	87
99-30-9	* Dichloran	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	10	0	0	0	10	0	10
		98o	3	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	0	0
95-50-1	* 1,2-Dichlorobenzene	88	45	530,535	11,624	20,000	13,354	575,513	38,266	613,779
		95	28	271,539	3,789	26,000	11,521	312,849	28,228	341,077
		98o	36	208,463	2,352	3,800	1,245	215,860	6,076	221,936
		98n	10	1,036	5	5	0	1,046	610	1,656
541-73-1	1,3-Dichlorobenzene	88	6	15,282	1,281	0	0	16,563	290	16,853
		95	6	7,528	526	0	0	8,054	0	8,054
		98o	6	4,018	203	0	0	4,221	0	4,221
		98n	2	5	0	0	0	5	0	5
106-46-7	*‡ 1,4-Dichlorobenzene	88	24	1,891,419	6,153	4,000	1,300	1,902,872	750	1,903,622
		95	24	242,372	1,287	0	3,100	246,759	3,328	250,087
		98o	19	181,899	1,706	3,100	460	187,165	0	187,165
		98n	12	417	0	0	0	417	81	498
25321-22-6	‡ Dichlorobenzene (mixed isomers)	88	15	163,684	40	0	0	163,724	19,672	183,396
		95	9	5,443	0	0	0	5,443	9	5,452
		98o	6	14,236	0	0	0	14,236	8	14,244
		98n	8	319	250	0	0	569	11,691	12,260
91-94-1	‡ 3,3'-Dichlorobenzidine	88	14	255	752	0	0	1,007	209,785	210,792
		95	3	11	0	0	0	11	2,400	2,411
		98o	1	255	0	0	0	255	41,600	41,855
		98n	3	6	0	0	0	6	0	6
612-83-9	‡ 3,3'-Dichlorobenzidine dihydrochloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	13	0	0	0	0	0	0	0
		98o	16	250	5	0	0	255	6,790	7,045
		98n	No reports							
64969-34-2	‡ 3,3'-Dichlorobenzidine sulfate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	260	260
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries; 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Dibutyl phthalate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	51,458	26,123	1,086,538	172,397	314,761	115,184	385,724	2,152,185	173,706
	98o	30,100	12,207	1,028,453	215,856	173,861	89,617	279,673	1,829,767	3
	98n	0	0	0	288,896	92,847	52,697	3,668	438,108	5
* Dicamba	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	510	0	0	0	0	29	126,662	127,201	0
	98o	0	0	0	0	37,557	65,900	35,366	138,823	0
	98n	0	0	0	0	22,223	0	87	22,310	0
* Dichloran	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	50	25	10	85	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	39,948	0	0	39,948	0
* 1,2-Dichlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,527,161	3,626,496	354,610	763,438	172,717	1,999,033	340,963	12,784,418	153
	98o	11,995,819	2,222,086	1,395,535	513,369	374,719	973,511	224,789	17,699,828	62
	98n	2,230,878	0	159	42,595	653,679	4,239,558	1,443	7,168,312	3
1,3-Dichlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,068	1,291	0	0	10	3,989	8,079	18,437	36
	98o	1,988	950	0	0	10	2,555	4,260	9,763	1
	98n	0	0	0	0	20,077	202	1	20,280	1
* ‡ 1,4-Dichlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	705,345	34,882	42,157	11,053	73,030	621,194	248,721	1,736,382	1,609
	98o	2,602,061	0	134,272	6,691	1,766	299,525	185,980	3,230,295	109
	98n	36,560	0	1	149,250	376,335	1,715	256	564,117	2
‡ Dichlorobenzene (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	266,997	5,165	79,032	3,684	5,452	360,330	0
	98o	0	0	191,010	611	246,100	6,720	14,244	458,685	0
	98n	0	4,724	2,147	712,291	321,134	328	1,849	1,042,473	1
‡ 3,3'-Dichlorobenzidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	22,000	14,000	1,600	2,701	40,301	1
	98o	0	0	0	0	10,000	45,000	42,000	97,000	0
	98n	0	0	0	0	65,021	63	2	65,086	1
‡ 3,3'-Dichlorobenzidine dihydrochloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	12,797	22,000	0	34,797	0
	98o	0	0	0	0	6,712	48,000	6,801	61,513	0
	98n	No reports								
‡ 3,3'-Dichlorobenzidine sulfate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,300	2,400	0	3,700	0
	98o	0	0	0	0	0	6,000	260	6,260	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
75-27-4	Dichlorobromomethane	88	1	13,440	0	0	0	13,440	0	13,440
		95	1	2,300	0	0	50	2,350	0	2,350
		98o	1	2,370	0	0	90	2,460	0	2,460
		98n	No reports							
764-41-0	1,4-Dichloro-2-butene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	3,950	0	4,500	0	8,450	0	8,450
		98o	3	1,713	0	5,700	0	7,413	0	7,413
		98n	1	0	0	0	0	0	0	0
110-57-6	trans-1,4-Dichloro-2-butene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	137	0	0	0	137	0	137
		98o	1	1	0	0	0	1	0	1
		98n	No reports							
1649-08-7	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	890	20	0	0	910	89	999
		98o	2	837	48	0	0	885	0	885
		98n	1	5	0	0	0	5	24,214	24,219
75-71-8	* Dichlorodifluoromethane (CFC-12)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	137	3,249,946	17,172	89	0	3,267,207	320	3,267,527
		98o	54	676,105	13,005	0	0	689,110	0	689,110
		98n	6	24,612	0	250	0	24,862	107	24,969
107-06-2	*‡ 1,2-Dichloroethane	88	110	4,615,179	40,527	1,452,084	2,166	6,109,956	166,131	6,276,087
		95	83	1,292,842	5,194	24,339	256	1,322,631	23,671	1,346,302
		98o	71	732,773	2,337	2,178	886	738,174	105,862	844,036
		98n	19	284	271	56,816	0	57,371	39,486	96,857
540-59-0	1,2-Dichloroethylene	88	10	126,478	95	0	1	126,574	87,614	214,188
		95	10	8,527	270	0	0	8,797	0	8,797
		98o	11	6,063	44	0	0	6,107	0	6,107
		98n	7	533	0	0	0	533	387	920
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	295	11,663,354	580	26	35,767	11,699,727	165,777	11,865,504
		98o	229	8,799,904	54	0	30,936	8,830,894	230,925	9,061,819
		98n	11	31,419	0	0	0	31,419	14,554	45,973
75-43-4	Dichlorofluoromethane (HCFC-21)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	173,117	2	0	0	173,119	31,000	204,119
		98o	3	129,467	0	0	0	129,467	8,975	138,442
		98n	4	4	0	0	0	4	9	13
75-09-2	*‡ Dichloromethane	88	1,675	129,124,529	349,960	1,478,833	157,156	131,110,478	7,806,328	138,916,806
		95	1,007	58,207,428	28,620	1,140,335	2,064	59,378,447	176,467	59,554,914
		98o	633	39,928,870	15,489	456,962	173,768	40,575,089	253,059	40,828,148
		98n	197	458,432	267	33,702	10,582	502,983	103,120	606,103

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Dichlorobromomethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	2,300	2,300	0
	98o	0	0	0	0	0	0	2,400	2,400	0
	98n	No reports								
1,4-Dichloro-2-butene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	13,000	3,300,000	312,500	8,450	3,633,950	0
	98o	1,800,000	0	0	0	3,753,000	124,000	7,413	5,684,413	0
	98n	0	0	0	0	0	0	0	0	0
trans-1,4-Dichloro-2-butene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	137	137	0
	98o	0	0	0	0	12,000	0	1	12,001	0
	98n	No reports								
1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	98,000	22,000	1,000	121,000	0
	98o	0	0	0	0	320,000	61,573	880	382,453	0
	98n	0	0	0	0	39,584	0	3	39,587	0
* Dichlorodifluoromethane (CFC-12)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	552,377	466,714	408,747	225	126,167	114,628	3,241,865	4,910,723	18,435
	98o	80,253	252,664	0	461	38,976	66,575	691,728	1,130,657	4
	98n	0	0	0	0	199,704	8	24,723	224,435	1
*‡ 1,2-Dichloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	59,314,824	16,921,135	32,535,232	787,622	74,650,467	1,630,158	1,325,188	187,164,626	23,301
	98o	435,903,074	11,215,900	49,197,699	194,842	59,612,529	1,892,410	857,746	558,874,200	69,870
	98n	0	0	2,617	338	1,389,729	53	63,443	1,456,180	7
1,2-Dichloroethylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	310,000	6,100	2,871,400	0	4,680,089	1,984	8,761	7,878,334	122
	98o	1,560,000	1,617,199	621,000	0	3,946,600	2,803	5,984	7,753,586	143
	98n	0	0	0	0	1,163,150	0	631	1,163,781	0
1,1-Dichloro-1-fluoroethane (HCFC-141b)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,429,772	381,393	0	99,548	2,018,829	846,290	11,804,532	20,580,364	38,962
	98o	155,007	147,221	0	647,826	801,429	416,274	8,851,678	11,019,435	75,874
	98n	357,028	3,660	0	148	271,622	4,671	32,162	669,291	0
Dichlorofluoromethane (HCFC-21)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	7,200	1,586	23,800	204,492	237,078	0
	98o	0	0	0	0	0	5,487	138,067	143,554	0
	98n	0	0	0	0	288,607	183	13	288,803	1
*‡ Dichloromethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	84,802,552	14,092,786	5,240,223	3,382,204	25,614,607	11,833,725	59,453,552	204,419,649	72,750
	98o	136,282,089	15,126,910	12,050,392	3,047,691	23,620,654	14,234,077	40,715,516	245,077,329	102,527
	98n	17,461,054	2,100,136	728	5,160,175	2,624,744	7,312,409	605,269	35,264,515	271

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
127564-92-5	Dichloropentafluoropropane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	6,520	0	0	0	6,520	8,900	15,420
		98n	No reports							
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	255	0	0	0	255	0	255
		98o	3	69,043	0	0	0	69,043	0	69,043
		98n	1	1,000	0	0	0	1,000	0	1,000
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	255	0	0	0	255	0	255
		98o	3	56,258	0	0	0	56,258	0	56,258
		98n	1	1,000	0	0	0	1,000	0	1,000
120-83-2	2,4-Dichlorophenol	88	8	1,403	107	17,700	2	19,212	350	19,562
		95	3	3,580	245	15,900	0	19,725	0	19,725
		98o	5	490	0	9,000	0	9,490	0	9,490
		98n	3	108	0	0	0	108	0	108
78-87-5	* 1,2-Dichloropropane	88	12	1,395,304	23,785	0	3,400	1,422,489	1,131	1,423,620
		95	11	616,470	4,344	0	20	620,834	1,364	622,198
		98o	11	298,150	1,122	0	32	299,304	260	299,564
		98n	4	8	0	0	0	8	0	8
10061-02-6	‡ trans-1,3-Dichloropropene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	256	0	0	0	256	0	256
		98o	3	1,670	0	0	1	1,671	0	1,671
		98n	1	70	0	0	0	70	0	70
78-88-6	* 2,3-Dichloropropene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	4,253	0	0	0	4,253	0	4,253
		98o	5	612	490	0	0	1,102	1,200	2,302
		98n	1	32	0	0	0	32	0	32
542-75-6	*,‡ 1,3-Dichloropropylene	88	8	54,590	250	0	0	54,840	0	54,840
		95	11	31,267	193	0	0	31,460	0	31,460
		98o	12	9,566	61	0	1	9,628	0	9,628
		98n	6	427	0	0	0	427	0	427
76-14-2	* Dichlorotetrafluoroethane (CFC-114)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	20	1,017,652	4,936	0	0	1,022,588	136	1,022,724
		98o	14	827,438	5	0	0	827,443	1	827,444
		98n	No reports							
34077-87-7	Dichlorotrifluoroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1,000	0	0	0	1,000	0	1,000
		98o	1	1,699	0	0	0	1,699	0	1,699
		98n	1	5	0	0	0	5	2	7

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Dichloropentafluoropropane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	8,900	6,500	15,400	0
	98n	No reports								
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	100	0	0	0	0	0	400	500	0
	98o	4,747	0	0	0	0	0	69,043	73,790	7,000
	98n	0	500	0	0	0	0	1,275	1,775	0
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	60	0	0	0	0	0	300	360	0
	98o	3,851	0	0	0	0	0	56,558	60,409	5,700
	98n	0	410	0	0	0	0	1,040	1,450	0
2,4-Dichlorophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,460	0	3	0	336,936	0	19,720	358,119	0
	98o	1,400	0	3	0	190,400	600	9,435	201,838	0
	98n	0	0	0	48,026	25,817	0	108	73,951	0
* 1,2-Dichloropropane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	56,000,000	0	28,380,000	0	11,573,182	7,768	620,353	96,581,303	1,200
	98o	26,800,000	0	10,700,000	0	15,610,350	1,161,416	300,901	54,572,667	10
	98n	0	0	0	0	689,377	22	4	689,403	1
‡ trans-1,3-Dichloropropene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	11,000,000	0	0	0	250	11,000,250	1
	98o	7,900	0	5,210,238	9	20,505	430	1,640	5,240,722	0
	98n	0	0	0	0	0	0	70	70	0
* 2,3-Dichloropropene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	6,100,000	1	4,200,000	0	1,960,000	510,000	4,253	12,774,254	0
	98o	960,000	0	1,100,000	0	639,000	1,086,000	1,102	3,786,102	0
	98n	0	0	0	0	73,306	0	32	73,338	0
*‡ 1,3-Dichloropropylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,892,986	470	11,930,000	123	969,916	2,481	31,694	17,827,670	241
	98o	1,932,000	0	6,000,000	16,645	1,084,262	42,734	9,227	9,084,868	1
	98n	0	0	0	14,109	89,306	80	427	103,922	0
* Dichlorotetrafluoroethane (CFC-114)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	19,819	14,634	0	0	1,608,479	38,271	1,018,687	2,699,890	1
	98o	231,484	34,598	0	0	1,022,895	34,717	827,445	2,151,139	0
	98n	No reports								
Dichlorotrifluoroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	716,409	0	968	717,377	0
	98o	0	0	0	0	35,000	0	1,699	36,699	0
	98n	0	0	0	0	29,974	0	7	29,981	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	101,118	5	0	0	101,123	0	101,123
		98n	No reports							
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	12	155,006	251	0	0	155,257	0	155,257
		98o	13	206,073	10	0	0	206,083	0	206,083
		98n	3	457	0	0	0	457	226	683
62-73-7	*,‡ Dichlorvos	88	7	1,050	0	0	0	1,050	505	1,555
		95	4	255	5	0	0	260	250	510
		98o	4	255	5	0	0	260	0	260
		98n	1	0	0	0	0	0	9	9
115-32-2	* Dicofol	88	8	1,343	0	0	0	1,343	15,786	17,129
		95	4	750	0	0	0	750	250	1,000
		98o	4	1,000	0	0	0	1,000	0	1,000
		98n	No reports							
77-73-6	Dicyclopentadiene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	70	340,455	5,464	0	475	346,394	6,888	353,282
		98o	83	350,061	14,943	0	597	365,601	6,162	371,763
		98n	3	15	0	1,081,201	0	1,081,216	250	1,081,466
1464-53-5	‡ Diepoxybutane	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	70	0	0	0	70	0	70
111-42-2	Diethanolamine	88	333	642,418	438,213	238,317	133,456	1,452,404	376,037	1,828,441
		95	349	360,255	287,582	18,502	40,399	706,738	456,391	1,163,129
		98o	326	432,327	63,117	24,000	113,340	632,784	208,528	841,312
		98n	98	970	0	316,517	169,345	486,832	3,653	490,485
117-81-7	*,‡ Di(2-ethylhexyl) phthalate	88	304	1,217,329	2,781	3,091	20,748	1,243,949	3,630,612	4,874,561
		95	316	504,167	921	0	19,705	524,793	3,041,389	3,566,182
		98o	299	209,533	669	0	24,184	234,386	953,306	1,187,692
		98n	58	1,986	0	0	0	1,986	1,798	3,784
64-67-5	‡ Diethyl sulfate	88	24	10,627	0	0	250	10,877	0	10,877
		95	31	6,978	0	0	0	6,978	250	7,228
		98o	33	6,188	0	0	0	6,188	177	6,365
		98n	2	0	0	0	0	0	0	0
35367-38-5	* Diflubenuron	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
1,2-Dichloro-1,1,2-tri-fluoroethane (HCFC-123a)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	101,123	101,123	0
	98n	No reports								
2,2-Dichloro-1,1,1-tri-fluoroethane (HCFC-123)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	253,000	1,304	0	0	18,400	24,465	155,218	452,387	0
	98o	0	0	0	0	38,337	4,901	204,475	247,713	955
	98n	0	0	0	0	32,848	0	683	33,531	0
*‡ Dichlorvos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	33	0	0	297	10	536	550	1,426	24
	98o	0	0	0	0	11	1,130	508	1,649	0
	98n	0	0	0	0	14,957	0	9	14,966	0
* Dicofol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	150	0	0	0	0	95	282	527	0
	98o	0	0	0	0	0	895	229	1,124	0
	98n	No reports								
Dicyclopentadiene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	514,277	128,273	1,782,272	635,023	471,016	201,368	348,235	4,080,464	309
	98o	457,481	43,182	1,055,862	790,262	541,870	226,565	401,576	3,516,798	7,572
	98n	0	0	0	0	22,604	0	1,081,217	1,103,821	0
‡ Diepoxybutane	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	148,733	0	0	70	148,803	1
Diethanolamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	27,718	160,987	102,766	732,863	2,828,593	1,628,096	1,126,236	6,607,259	25,356
	98o	3	289,382	280,874	119,918	2,935,175	2,551,162	2,584,851	8,761,365	83
	98n	0	0	0	623,412	21,411	4,019	476,716	1,125,558	4
*‡ Di(2-ethylhexyl) phthalate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,644,796	4,019,467	116,013	258,725	557,557	357,115	3,676,763	11,630,436	365
	98o	4,854,032	1,847,674	464,843	222,093	403,536	254,475	1,067,955	9,114,608	572
	98n	0	0	0	1,452,492	0	2,318	1,614	1,456,424	1
‡ Diethyl sulfate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	6,400,000	0	415	3,370	4,702	7,131	6,415,618	2
	98o	0	0	0	6,887,586	4,488	2,460	6,508	6,901,042	5
	98n	0	0	0	50	1	50	1	102	0
* Diflubenzuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
101-90-6	‡ Diglycidyl resorcinol ether	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	2	20	0	0	0	20	0	20
		98n	1	0	0	0	0	0	0	0
94-58-6	‡ Dihydrosafrole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	255	0	0	0	255	0	255
		98o	4	12,018	0	0	0	12,018	0	12,018
		98n	1	0	0	0	0	0	0	0
—	Diisocyanates	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1,080	516,168	1,370	0	31,933	549,471	597,745	1,147,216
		98o	1,314	735,348	23	0	149,397	884,768	1,221,241	2,106,009
		98n	18	600	5	0	900,000	900,605	7,810	908,415
55290-64-7	* Dimethipin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
60-51-5	* Dimethoate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	270	5	0	250	525	1,500	2,025
		98o	6	42	5	0	19,975	20,022	0	20,022
		98n	2	15	0	0	0	15	69	84
119-90-4	‡ 3,3'-Dimethoxy benzidine	88	No reports							
		95	3	0	0	0	0	0	0	0
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
20325-40-0	‡ 3,3'-Dimethoxy benzidine dihydrochloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	10	0	0	0	10	0	10
		98o	6	0	0	0	0	0	0	0
		98n	No reports							
124-40-3	Dimethylamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	71	453,915	26,490	45,250	3,140	528,795	38,137	566,932
		98o	74	443,982	35,629	11,250	3,788	494,649	100	494,749
		98n	6	892	0	0	0	892	8	900
2300-66-5	* Dimethylamine dicamba	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	505	0	0	0	505	154	659
		98o	3	250	0	0	0	250	0	250
		98n	No reports							
121-69-7	N,N-Dimethylaniline	88	20	98,905	19,967	0	250	119,122	772	119,894
		95	21	36,932	388	0	0	37,320	435	37,755
		98o	21	32,383	850	0	0	33,233	7,501	40,734
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Diglycidyl resorcinol ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	300	0	0	6	306	0
	98n	0	0	0	0	0	0	0	0	0
‡ Dihydrosafrole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	10	999	0	1,009	0
	98o	0	0	0	0	0	10	12,028	12,038	0
	98n	0	0	0	0	0	0	0	0	0
Diisocyanates	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	816,798	343,867	143,840	339,058	710,457	1,180,316	1,101,682	4,636,018	4,203
	98o	1,352,830	448,865	573,125	574,455	1,919,545	1,549,719	1,695,292	8,113,831	9,942
	98n	0	0	0	1,353,136	1,250,748	5,782	905,678	3,515,344	1
* Dimethipin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Dimethoate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	200	0	0	0	0	242	1,900	2,342	0
	98o	433	0	0	0	0	4,105	27,957	32,495	0
	98n	0	0	0	0	63,138	0	84	63,222	0
‡ 3,3'-Dimethoxybenzidine	88	No reports								
	95	0	0	0	0	0	0	0	0	0
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
‡ 3,3'-Dimethoxybenzidine dihydrochloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	50	1	10	61	0
	98o	0	0	0	0	15	0	0	15	0
	98n	No reports								
Dimethylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,095,202	0	21,170	1,800	2,112,575	224,513	564,655	4,019,915	4
	98o	574,603	0	28,500	1,600	3,699,186	450,423	493,548	5,247,860	66
	98n	0	0	0	149,823	231,726	50	1,199	382,798	1
* Dimethylamine dicamba	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	7,981	0	0	0	0	0	803	8,784	0
	98o	0	0	0	0	0	0	88	88	0
	98n	No reports								
N,N-Dimethylaniline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	50,535	0	0	745,242	2,768	201,372	107,702	1,107,619	2
	98o	46,000	21,000	0	807,093	19,620	166,340	31,119	1,091,172	2
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
119-93-7	‡ 3,3'-Dimethylbenzidine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	2	10	0	0	0	10	250	260
79-44-7	‡ Dimethylcarbamyl chloride	88	No reports							
		95	No reports							
		98o	1	98	0	0	0	98	0	98
		98n	1	0	0	0	0	0	0	0
2524-03-0	Dimethyl chlorothio-phosphate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	10	0	51,677	20	51,707	0	51,707
		98o	3	77	0	4,300	0	4,377	0	4,377
		98n	No reports							
68-12-2	*‡ N,N-Dimethyl-formamide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	143	2,352,993	73,106	1,099,000	1,710	3,526,809	286,316	3,813,125
		98o	169	999,781	43,057	272,325	31,907	1,347,070	693,400	2,040,470
		98n	45	2,267	5	11,857	0	14,129	1,470	15,599
57-14-7	*‡ 1,1-Dimethyl hydrazine	88	4	4,323	10	0	0	4,333	8,855	13,188
		95	4	299	0	0	0	299	5	304
		98o	4	496	0	0	0	496	0	496
		98n	1	0	0	0	0	0	0	0
105-67-9	* 2,4-Dimethylphenol	88	13	11,588	484	24,703	399	37,174	1,500	38,674
		95	19	52,797	33	79,000	5	131,835	17	131,852
		98o	25	36,023	56	187,076	0	223,155	1,177	224,332
		98n	3	2	0	0	0	2	0	2
131-11-3	* Dimethyl phthalate	88	57	535,056	4,335	390	504	540,285	93,358	633,643
		95	86	361,287	275	1,000	5	362,567	2,524	365,091
		98o	96	250,701	627	2,950	825	255,103	34,961	290,064
		98n	25	259	0	0	670	929	1,827	2,756
77-78-1	‡ Dimethyl sulfate	88	33	10,806	610	0	50	11,466	0	11,466
		95	40	6,712	1	0	0	6,713	0	6,713
		98o	35	10,831	46	0	0	10,877	1,010	11,887
		98n	1	0	0	0	0	0	0	0
99-65-0	m-Dinitrobenzene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	547	849	0	1,066	2,462	0	2,462
		98o	1	383	517	0	516	1,416	0	1,416
		98n	No reports							
528-29-0	o-Dinitrobenzene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	65	109	0	136	310	0	310
		98o	2	49	66	0	66	181	0	181
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ 3,3'-Dimethylbenzidine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	505	48,005	0	5	48,515	0
‡ Dimethylcarbamyl chloride	88	No reports								
	95	No reports								
	98o	0	0	0	0	27,113	0	98	27,211	0
	98n	0	0	0	0	0	0	0	0	0
Dimethyl chlorothio-phosphate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	51,727	51,727	0
	98o	0	0	0	0	1,960	0	4,331	6,291	0
	98n	No reports								
*‡ N,N-Dimethyl-formamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,738,418	389,337	8,565,430	3,642,854	14,698,078	3,084,481	3,689,071	38,807,669	246
	98o	9,700,653	183,669	9,778,803	7,651,442	13,673,406	5,223,010	2,192,997	48,403,980	1,454
	98n	78,590	91	0	577,285	345,236	32,918	19,179	1,053,299	2
*‡ 1,1-Dimethyl hydrazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	57	0	0	3,639	10	302	4,008	0
	98o	0	0	0	300	1,218	3,913	493	5,924	0
	98n	0	0	0	0	0	0	0	0	0
* 2,4-Dimethylphenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	37,140	30,368	1,573,273	50,362	397,965	75,967	131,351	2,296,426	24
	98o	6,240	93,314	1,491,389	42,851	530,961	29,711	224,073	2,418,539	193
	98n	0	0	0	0	18,158	0	2	18,160	0
* Dimethyl phthalate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,288	800	253,605	69,549	356,058	221,729	364,780	1,270,809	3
	98o	1,300	11	401,458	83,861	976,252	23,677	307,454	1,794,013	264
	98n	0	0	0	152,247	104,268	1,810	267	258,592	1
‡ Dimethyl sulfate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	171,230	1	0	352,841	3	5,815	529,890	0
	98o	0	260,865	32,693	0	171,289	861	10,613	476,321	0
	98n	0	0	0	0	0	0	0	0	0
m-Dinitrobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	848,213	0	2,462	850,675	0
	98o	0	0	0	0	516,692	0	1,416	518,108	0
	98n	No reports								
o-Dinitrobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	445,133	0	310	445,443	0
	98o	0	0	0	0	66,089	0	181	66,270	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
100-25-4	p-Dinitrobenzene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	16	30	0	37	83	0	83
		98o	1	13	18	0	18	49	0	49
		98n	No reports							
88-85-7	* Dinitrobutyl phenol	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	879	2	0	0	881	0	881
		98o	5	1,051	0	0	0	1,051	6,843	7,894
		98n	2	6	0	0	0	6	45	51
534-52-1	* 4,6-Dinitro-o-cresol	88	10	274	266	0	2	542	46,648	47,190
		95	5	130	0	4,649	0	4,779	7,220	11,999
		98o	7	104	0	0	1,101	1,205	123,944	125,149
		98n	1	130	0	0	9,700	9,830	1,388	11,218
51-28-5	* 2,4-Dinitrophenol	88	11	20,825	98,692	86,200	257	205,974	110,285	316,259
		95	4	112	2,000	0	0	2,112	0	2,112
		98o	6	183	23,617	0	0	23,800	0	23,800
		98n	2	341	0	0	11,000	11,341	1,632	12,973
121-14-2	‡ 2,4-Dinitrotoluene	88	13	93,257	12,055	106,400	14,961	226,673	124,281	350,954
		95	4	1,874	231	0	0	2,105	94	2,199
		98o	5	1,829	187	0	0	2,016	0	2,016
		98n	8	166	0	0	10,000	10,166	8,741	18,907
606-20-2	‡ 2,6-Dinitrotoluene	88	7	87,597	957	27,000	0	115,554	30,882	146,436
		95	1	469	126	0	0	595	0	595
		98o	1	467	62	0	0	529	0	529
		98n	2	5	0	0	0	5	0	5
25321-14-6	Dinitrotoluene (mixed isomers)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	6	14,811	284	17,000	0	32,095	6	32,101
		98o	8	26,639	1	36,000	0	62,640	1,402	64,042
		98n	4	0	0	5	0	5	1	6
39300-45-3	* Dinocap	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	255	0	0	0	255	0	255
		98n	No reports							
123-91-1	‡ 1,4-Dioxane	88	73	612,633	203,320	0	11,702	827,655	10,954	838,609
		95	54	223,144	160,666	0	5,736	389,546	352,996	742,542
		98o	47	121,316	144,534	0	22,121	287,971	476,531	764,502
		98n	8	836	0	250	10,000	11,086	1,608	12,694
122-39-4	* Diphenylamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	23	50,706	200	9,060	65	60,031	34,727	94,758
		98o	26	61,012	25	9,665	250	70,952	43,509	114,461
		98n	4	20	0	0	0	20	46,693	46,713

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
p-Dinitrobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	29,589	0	83	29,672	0
	98o	0	0	0	0	18,024	0	49	18,073	0
	98n	No reports								
* Dinitrobutyl phenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	263,629	0	34,226	110	881	298,846	0
	98o	0	0	310,000	0	12,003	0	7,891	329,894	0
	98n	0	0	0	0	47,850	0	51	47,901	0
* 4,6-Dinitro-o-cresol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	844,907	410	18,000	13,950	7,365	884,632	0
	98o	0	0	1,466,262	10,696	31,000	6,029	123,791	1,637,778	0
	98n	0	0	0	0	360	46	11,000	11,406	0
* 2,4-Dinitrophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	556,712	9	1,160,000	220	2,103	1,719,044	0
	98o	0	0	562,709	29,118	1,770,236	0	23,800	2,385,863	1
	98n	0	0	0	0	246,877	53	13,191	260,121	0
‡ 2,4-Dinitrotoluene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	42,345	9	27,115	1,381	2,200	73,050	0
	98o	0	0	41,135	9,706	53,539	1,100	2,059	107,539	0
	98n	0	0	0	0	107,067	685	12,031	119,783	1
‡ 2,6-Dinitrotoluene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	6,160	1	9,180	118	595	16,054	0
	98o	0	0	0	0	44,509	118	529	45,156	0
	98n	0	0	0	0	3,755	37	1	3,793	1
Dinitrotoluene (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	9,100	181,321	882,089	32,321	1,104,831	2,500
	98o	0	202,569	0	6	114,686	587,330	63,375	967,966	8,700
	98n	0	0	0	6	86,495	0	4	86,505	0
* Dinocap	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	109	8	117	0
	98n	No reports								
‡ 1,4-Dioxane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	74,293	11,324	1,975,960	1,196,352	1,019,104	305,315	790,118	5,372,466	232
	98o	1,120,000	4,101	595,806	680,377	1,800,876	415,211	832,719	5,449,090	20
	98n	0	0	0	454,236	26,614	3,549	12,814	497,213	1
* Diphenylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	976,755	11,600	1,100,115	264,471	46,428	722,296	95,833	3,217,498	0
	98o	199,400	35,131	4,769,102	823,607	21,971	77,905	85,306	6,012,422	5,700
	98n	0	0	0	0	224,324	0	104	224,428	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
122-66-7 ‡	1,2-Diphenylhydrazine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	2	5	0	0	0	5	0	5
2164-07-0 *	Dipotassium endothall	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	20	0	0	0	20	0	20
		98n	No reports							
136-45-8 *	Dipropyl isocinchomeronate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
138-93-2 *	Disodium cyanodithioimidocarbonate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	0	0	0	0	0	0	0
		98o	5	0	0	0	0	0	0	0
		98n	No reports							
330-54-1 *	Diuron	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	8	2,765	10	0	5	2,780	1,950	4,730
		98o	11	3,323	260	0	0	3,583	14,100	17,683
		98n	2	0	5	0	35,756	35,761	0	35,761
2439-10-3 *	Dodine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	10	0	0	0	10	0	10
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
120-36-5 * ‡	2,4-DP	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	260	0	0	0	260	17	277
		98o	3	0	0	0	0	0	0	0
		98n	No reports							
2702-72-9 * ‡	2,4-D sodium salt	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
106-89-8 * ‡	Epichlorohydrin	88	78	707,107	4,917	68,750	2,524	783,298	307	783,605
		95	69	321,450	26,937	0	18,874	367,261	893	368,154
		98o	73	198,144	434	0	2,063	200,641	7,751	208,392
		98n	8	45	0	12,162	0	12,207	8,852	21,059
13194-48-4 *	Ethoprop	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	6	506	0	0	174,290	174,796	0	174,796
		98o	6	34	0	0	116,444	116,478	0	116,478
		98n	1	0	0	0	0	0	6	6

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ 1,2-Diphenylhydrazine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	5,485	55	1	5,541	1
* Dipotassium endosulf	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	1,900	5,400	201	7,501	0
	98n	No reports								
* Dipropyl isocinchomeronate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Disodium cyadithioimidocarbonate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Diuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	300	0	0	2	0	5,711	6,568	12,581	0
	98o	250	0	0	0	0	20,767	7,292	28,309	126
	98n	0	0	0	0	0	0	35,761	35,761	5
* Dodine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	270	5	275	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
*‡ 2,4-DP	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,633	0	0	0	0	11	536	6,180	1
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
*‡ 2,4-D sodium salt	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	5,139	0	0	5,139	0
	98o	0	0	0	0	4,600	0	0	4,600	0
	98n	No reports								
*‡ Epichlorohydrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	13,263,282	0	4,331,319	171,461	4,191,554	952,542	343,603	23,253,761	20,516
	98o	10,499,178	17,715	4,809,942	77,141	24,705,838	953,525	200,226	41,263,565	2
	98n	0	0	49,900	8,069	546,631	0	23,091	627,691	0
* Ethoprop	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	9	0	0	0	0	9,404	174,442	183,855	2
	98o	95	0	0	0	0	4,943	116,478	121,516	2
	98n	0	0	0	0	12,176	0	6	12,182	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
110-80-5	2-Ethoxyethanol	88	110	2,431,310	120,164	0	52	2,551,526	71,142	2,622,668
		95	40	222,940	891	0	0	223,831	12,595	236,426
		98o	26	88,215	1	0	0	88,216	2,013	90,229
		98n	14	550	0	0	0	550	976	1,526
140-88-5	‡ Ethyl acrylate	88	105	245,982	1,211	0	265	247,458	7,110	254,568
		95	106	207,444	542	0	523	208,509	10,182	218,691
		98o	100	122,775	110	0	524	123,409	12,016	135,425
		98n	10	3,372	0	0	0	3,372	22,464	25,836
100-41-4	Ethylbenzene	88	564	7,718,781	15,970	72,914	175,180	7,982,845	421,334	8,404,179
		95	1,028	10,236,713	9,343	475,234	19,174	10,740,464	164,501	10,904,965
		98o	1,016	8,370,121	7,657	763,279	18,637	9,159,694	146,456	9,306,150
		98n	612	129,026	2,751	913	14,226	146,916	89,156	236,072
541-41-3	Ethyl chloroformate	88	5	13,903	0	0	0	13,903	0	13,903
		95	3	2,020	5	0	5	2,030	0	2,030
		98o	5	3,599	5	0	5	3,609	0	3,609
		98n	No reports							
759-94-4	* Ethyl dipropylthio-carbamate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	2,363	291	373	0	3,027	9,366	12,393
		98o	5	2,008	115	2,088	0	4,211	4,565	8,776
		98n	1	0	0	0	0	0	0	0
74-85-1	* Ethylene	88	274	50,503,039	15,214	17,203	13,250	50,548,706	11,432	50,560,138
		95	289	35,261,213	27,574	0	16	35,288,803	1,771	35,290,574
		98o	312	30,716,905	3,059	4,217	83	30,724,264	1,815	30,726,079
		98n	9	46,345	0	0	0	46,345	0	46,345
—	Ethylenebisdithio-carbamic acid, salts and esters	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	1,630	0	0	0	1,630	0	1,630
		98o	4	164	0	0	0	164	513	677
		98n	1	0	0	0	0	0	0	0
107-21-1	* Ethylene glycol	88	1,455	13,218,339	3,747,561	7,927,570	736,344	25,629,814	2,595,276	28,225,090
		95	1,308	7,233,091	843,748	12,554,675	853,545	21,485,059	1,469,704	22,954,763
		98o	1,258	5,997,735	818,962	327,030	460,017	7,603,744	1,182,583	8,786,327
		98n	389	26,050	112,980	215,158	443,268	797,456	9,274,038	10,071,494
151-56-4	‡ Ethyleneimine	88	1	500	0	0	0	500	0	500
		95	1	3	0	0	0	3	0	3
		98o	1	21	0	0	0	21	0	21
		98n	1	13	0	0	0	13	0	13
75-21-8	*‡ Ethylene oxide	88	203	4,640,310	44,851	11,125	54,700	4,750,986	20,663	4,771,649
		95	168	868,631	5,230	130,000	2,208	1,006,069	8,663	1,014,732
		98o	135	519,818	372	22,561	1,751	544,502	1,860	546,362
		98n	20	105,764	0	0	0	105,764	0	105,764

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
2-Ethoxyethanol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,300	1,720	434,164	142,160	1,332,131	438,878	222,188	2,573,541	36,529
	98o	1,400	0	584,971	93,670	507,214	847,586	112,491	2,147,332	10,517
	98n	0	26,052	0	2,939,348	77,858	15,458	1,509	3,060,225	0
‡ Ethyl acrylate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	79	32,449	8,159,780	1,356,212	487,840	96,769	217,434	10,350,563	24,065
	98o	381,888	191	8,430,355	1,517,504	1,178,663	353,939	137,213	11,999,753	4,154
	98n	0	9,269	0	887,313	252,221	45	3,633	1,152,481	1
Ethylbenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	24,893,644	6,757,634	40,925,948	11,300,047	19,263,964	1,785,143	10,807,395	115,733,775	13,361
	98o	28,506,895	6,050,715	36,727,663	9,898,383	15,620,261	2,283,188	9,300,657	108,387,762	53,196
	98n	2,438,424	382,491	42,357	18,853,610	2,412,294	1,404,905	581,622	26,115,703	101,977
Ethyl chloroformate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,300	0	1,980	5,280	10
	98o	0	0	0	0	53,660	0	3,375	57,035	0
	98n	No reports								
* Ethyl dipropylthio-carbamate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	6,500	33,010	12,476	51,986	0
	98o	0	0	0	0	70,619	33,089	8,528	112,236	524
	98n	0	0	0	0	11,716	0	0	11,716	0
* Ethylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	196,803,539	3	403,745,755	10,615,177	495,602,266	2,116,568	34,809,790	1,143,693,098	765,804
	98o	123,871,793	0	631,048,101	12,978,078	509,119,560	3,013,379	29,003,012	1,309,033,923	1,428,760
	98n	0	0	0	0	540	0	46,087	46,627	0
Ethylenebisdithio-carbamic acid, salts and esters	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	7,250	1,500	8,750	1
	98o	0	0	0	0	0	3,329	672	4,001	0
	98n	0	0	0	0	0	0	0	0	0
* Ethylene glycol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	366,424,640	101,754,650	5,926,147	13,162,886	65,627,898	34,340,979	22,570,467	609,807,667	305,207
	98o	461,196,215	49,551,219	6,683,532	18,791,819	64,458,609	28,712,462	9,701,069	639,094,925	809,151
	98n	3,014,678	10,218,622	12,386	3,496,861	1,922,467	541,185	9,317,035	28,523,234	124,390
‡ Ethyleneimine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	34,000	0	3	34,003	0
	98o	0	0	0	0	24,000	0	21	24,021	0
	98n	0	0	0	31,069	0	0	13	31,082	1
*‡ Ethylene oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	127,110	307	16,940	0	9,974,486	70,255	1,002,603	11,191,701	15,974
	98o	20,146	1,140	13,121	10	7,992,815	179,219	493,897	8,700,348	54,313
	98n	0	0	0	1,043,180	2,998,788	10,810	105,044	4,157,822	108

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
96-45-7	* ‡ Ethylene thiourea	88	6	500	0	0	0	500	2,250	2,750
		95	11	775	0	0	0	775	19,665	20,440
		98o	14	299	5	0	0	304	6,387	6,691
		98n	2	0	0	0	0	0	0	0
75-34-3	Ethylidene dichloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	40,471	16	0	0	40,487	0	40,487
		98o	7	22,388	0	0	0	22,388	0	22,388
		98n	6	393	0	0	0	393	8	401
52-85-7	* Famphur	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	9,200	9,200
		98n	1	5	0	0	0	5	0	5
60168-88-9	* Fenarimol	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	1,000	0	0	0	1,000	0	1,000
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
13356-08-6	* Fenbutatin oxide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	664	0	660	0	1,324	0	1,324
		98n	No reports							
72490-01-8	* Fenoxycarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	1	1
		98n	No reports							
39515-41-8	* Fenpropathrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
55-38-9	* Fenthion	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	1	0	0	0	1	0	1
		98n	No reports							
51630-58-1	* Fenvalerate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	No reports							
		98n	No reports							
69806-50-4	* Fluzafop butyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	0	0	0	0
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
*‡ Ethylene thiourea	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1	840	0	0	1	6,282	19,877	27,001	1
	98o	430	565	0	0	0	8,632	6,635	16,262	1
	98n	0	0	0	0	0	0	0	0	0
Ethylidene dichloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,300,000	0	92,000	0	1,532,000	19,149	40,156	2,983,305	15,005
	98o	1,600,000	0	1,431,278	0	2,332,070	23,768	22,248	5,409,364	89
	98n	0	0	0	10,275	35,933	4,528,132	395	4,574,735	1
* Famphur	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	3,758	0	3,758	0
	98o	0	0	0	0	0	46,000	0	46,000	9
	98n	0	0	0	0	25,761	0	7	25,768	0
* Fenarimol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	310	650	960	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Fenbutatin oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	1,324	1,324	0
	98n	No reports								
* Fenoxycarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	40,000	0	1	40,001	0
	98n	No reports								
* Fenpropathrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Fenthion	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	960	1	961	0
	98n	No reports								
* Fenvalerate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	No reports								
	98n	No reports								
* Fluazifop butyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
2164-17-2 *	Fluometuron	88	2	500	0	0	0	500	3,700	4,200
		95	6	796	0	0	0	796	2,355	3,151
		98o	5	782	0	0	0	782	745	1,527
		98n	No reports							
7782-41-4	Fluorine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	18,319	15,000	0	0	33,319	0	33,319
		98o	10	81,938	49,857	0	0	131,795	0	131,795
		98n	2	39,082	0	0	90,778	129,860	0	129,860
51-21-8	Fluorouracil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	250	250	250	500
		98n	No reports							
69409-94-5 *	Fluvalinate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
133-07-3 *	Folpet	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	16	5	0	0	21	1,941	1,962
		98o	8	56	10	0	0	66	4,103	4,169
		98n	No reports							
72178-02-0	Fomesafen	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	10	0	0	0	10	750	760
		98o	2	884	1,532	0	0	2,416	9,191	11,607
		98n	1	0	0	0	0	0	0	0
50-00-0 *‡	Formaldehyde	88	823	12,459,138	904,547	9,608,524	494,111	23,466,320	1,409,999	24,876,319
		95	796	11,711,482	274,717	7,313,034	132,453	19,431,686	211,126	19,642,812
		98o	818	11,648,245	296,570	9,648,556	203,948	21,797,319	358,660	22,155,979
		98n	41	1,791,552	250	76,238	83,859	1,951,899	8,909	1,960,808
64-18-6 *	Formic acid	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	261	592,387	15,759	11,492,418	3,205	12,103,769	26,357	12,130,126
		98o	267	955,557	95,918	10,842,580	3,294	11,897,349	47,909	11,945,258
		98n	50	3,053	19	326,344	66,252	395,668	3,175	398,843
76-13-1	Freon 113	88	1,438	70,382,591	32,894	5,965	27,799	70,449,249	1,924,043	72,373,292
		95	137	2,594,436	3,829	6	0	2,598,271	2,560	2,600,831
		98o	31	921,571	1,627	0	0	923,198	4,287	927,485
		98n	18	1,007	0	0	0	1,007	746	1,753
—	Glycol ethers	88	1,628	48,881,581	285,937	362,198	105,185	49,634,901	1,547,840	51,182,741
		95	2,166	45,051,120	183,996	132,064	24,895	45,392,075	771,952	46,164,027
		98o	1,998	37,257,860	192,191	1,370	45,071	37,496,492	834,835	38,331,327
		98n	255	30,539	5	0	28,925	59,469	26,542	86,011

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries; 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Fluometuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	2	0	16,900	5,646	22,548	13,000
	98o	0	0	0	0	25,000	8,541	1,385	34,926	0
	98n	No reports								
Fluorine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	15,000	0	33,300	48,300	0
	98o	0	0	0	0	17,450	36,510	131,795	185,755	3
	98n	0	0	0	0	0	0	129,859	129,859	0
Fluorouracil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	964	0	0	0	0	0	0	964	0
	98n	No reports								
* Fluvalinate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Folpet	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	80	0	0	801	290	1,962	3,133	0
	98o	2	0	0	0	2,100	0	4,121	6,223	0
	98n	No reports								
Fomesafen	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	200	200	0
	98o	0	0	0	0	56,080	8,845	12,776	77,701	0
	98n	0	0	0	0	12,741	0	0	12,741	0
*‡ Formaldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	76,061,072	56,999	6,758,262	423,718	68,648,246	2,907,320	19,502,149	174,357,766	268,363
	98o	101,303,291	591,297	14,704,847	369,863	92,388,474	3,661,485	21,617,549	234,636,806	16,037
	98n	189	0	5,866	1,605,980	531,568	15,276	1,954,562	4,113,441	2
* Formic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	95,200	28	7,215,445	236,018	104,948,398	3,705,608	12,253,610	128,454,307	15
	98o	808,843	14	5,818,086	1,774,563	180,458,105	6,145,205	12,185,949	207,190,765	6
	98n	0	0	0	1,973,764	242,561	10,654	395,995	2,622,974	4
Freon 113	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,355,210	913,898	0	103,937	260,926	582,454	2,599,238	6,815,663	30,141
	98o	407,512	73,959	39,916	12,608	3,372	139,670	917,464	1,594,501	6,307
	98n	38,879	67	0	106,221	1,167,895	5,160,551	1,769	6,475,382	3
Glycol ethers	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	197,122,089	3,674,881	42,690,470	13,397,657	30,673,841	10,274,521	47,132,123	344,965,582	35,387
	98o	141,400,516	3,886,489	32,790,636	13,048,502	32,407,307	10,640,412	39,505,070	273,678,932	377,224
	98n	533,705	164,569	135,664	1,801,564	842,302	207,384	79,064	3,764,252	5,273

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
76-44-8	*‡ Heptachlor	88	2	54,295	2	0	0	54,297	0	54,297
		95	1	203	6	0	0	209	0	209
		98o	No reports							
		98n	6	137	0	5	0	142	12	154
118-74-1	*‡ Hexachlorobenzene	88	9	4,045	4	410	0	4,459	443,541	448,000
		95	9	566	6,458	480	0	7,504	6,975	14,479
		98o	12	375	4	0	96	475	13,251	13,726
		98n	5	15	0	0	0	15	77	92
87-68-3	Hexachloro-1,3-butadiene	88	9	2,508	153	220	0	2,881	19,640	22,521
		95	7	3,310	661	434	0	4,405	252	4,657
		98o	7	2,421	5	0	0	2,426	510	2,936
		98n	7	280	250	5	0	535	480	1,015
77-47-4	* Hexachlorocyclopentadiene	88	5	78,317	6	2,131	0	80,454	28,470	108,924
		95	4	8,311	6	250	0	8,567	2,600	11,167
		98o	4	5,791	0	250	5,520	11,561	200	11,761
		98n	4	10	0	0	0	10	500	510
67-72-1	* Hexachloroethane	88	22	19,077	11	520	1	19,609	128,504	148,113
		95	21	14,551	3,330	1,378	0	19,259	1,208	20,467
		98o	14	2,240	0	295	0	2,535	696	3,231
		98n	7	862	0	0	0	862	628	1,490
70-30-4	* Hexachlorophene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
110-54-3	n-Hexane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	722	81,904,154	46,402	5,380	11,559	81,967,495	120,069	82,087,564
		98o	802	66,865,261	13,904	26,506	19,837	66,925,508	88,903	67,014,411
		98n	648	955,042	1,667	0	3,328	960,037	44,759	1,004,796
51235-04-2	* Hexazinone	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	760	6,322	0	0	7,082	2,973	10,055
		98o	5	266	2,215	0	0	2,481	750	3,231
		98n	No reports							
67485-29-4	* Hydramethylnon	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	20	0	0	0	20	0	20
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
302-01-2	‡ Hydrazine	88	55	35,199	2,149	0	29	37,377	24,522	61,899
		95	47	13,945	3	0	5	13,953	23,504	37,457
		98o	45	10,908	188	695	251	12,042	336	12,378
		98n	19	290	0	26,116	120	26,526	824	27,350

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
*‡ Heptachlor	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,850	851	209	4,910	0
	98o	No reports								
	98n	0	0	0	0	443,474	35	153	443,662	0
*‡ Hexachlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	6,200	1	0	0	2,865,008	428,747	18,549	3,318,505	19
	98o	8,100	1	114,000	3,769	1,577,157	18,214	13,640	1,734,881	0
	98n	0	0	0	0	86,605	38	88	86,731	1
Hexachloro-1,3-butadiene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	13	133,000	0	6,778,662	164,970	4,444	7,081,089	660,211
	98o	0	0	15,200	0	4,289,000	162,314	2,691	4,469,205	410
	98n	0	0	0	0	283,141	40	363	283,544	1
* Hexachlorocyclopentadiene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	272,865	24,908	11,083	308,856	76
	98o	0	0	0	552	882,835	100,678	6,244	990,309	4,800
	98n	0	0	0	0	21,880	2,695,206	151	2,717,237	1
* Hexachloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,800	0	1,232,400	75,132	4,875,108	109,188	30,153	6,326,781	129,205
	98o	1,100,000	0	1,134,700	85,401	3,887,000	52,877	2,496	6,262,474	36
	98n	0	0	0	2,214	543,137	2	1,138	546,491	0
* Hexachlorophene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
n-Hexane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,125,732,524	7,007,918	25,411,631	14,617,991	50,038,583	8,044,247	81,960,875	4,312,813,769	80,384
	98o	985,816,389	13,489,065	42,791,587	19,200,647	65,074,198	5,166,441	66,058,668	1,197,596,995	71,056
	98n	4,628,004	392,647	79,618	11,017,946	5,885,735	1,126,869	1,331,954	24,462,773	28,170
* Hexazinone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	50	0	0	0	6,954	216,172	9,410	232,586	0
	98o	0	0	0	0	110,000	201,891	8,580	320,471	0
	98n	No reports								
* Hydramethylnon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	3	17	20	0
	98o	0	0	0	0	0	0	24	24	0
	98n	No reports								
‡ Hydrazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	300	452	0	0	42,705	8,747	37,231	89,435	1
	98o	25	0	0	297	99,831	302,455	37,526	440,134	1
	98n	0	0	0	1,762	179,583	0	27,126	208,471	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
10034-93-2 ‡	Hydrazine sulfate	88	4	1,172	0	355,000	0	356,172	0	356,172
		95	3	0	0	260,000	0	260,000	0	260,000
		98o	1	0	0	200,000	0	200,000	0	200,000
		98n	No reports							
7647-01-0 *	Hydrochloric acid	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1,951	70,035,129	6,871	788,214	394,091	71,224,305	2,369,337	73,593,642
		98o	956	53,980,140	2,575	100,099	21,860	54,104,674	1,313,970	55,418,644
		98n	528	535,682,717	11	0	364,418	536,047,146	510	536,047,656
74-90-8 *	Hydrogen cyanide	88	35	1,109,277	2,300	1,737,850	1,761	2,851,188	1,001	2,852,189
		95	51	2,481,956	763	683,154	3	3,165,876	326	3,166,202
		98o	49	1,455,153	308	590,597	13	2,046,071	2,729	2,048,800
		98n	27	612,155	0	0	112,505	724,660	0	724,660
7664-39-3 *	Hydrogen fluoride	88	536	14,732,294	189,928	250	13,002	14,935,474	3,467,471	18,402,945
		95	570	11,924,646	8,702	3,845	24,078	11,961,271	1,019,993	12,981,264
		98o	618	15,507,558	23,194	0	12,740	15,543,492	55,434	15,598,926
		98n	403	64,851,687	636	2,900,000	589,242	68,341,565	55,247	68,396,812
123-31-9	Hydroquinone	88	61	10,334	7,211	375,400	530	393,475	6,835	400,310
		95	64	17,450	5,093	340,005	43	362,591	4,406	366,997
		98o	58	13,867	1,558	332,000	0	347,425	27,893	375,318
		98n	5	2	0	15,309	0	15,311	178	15,489
35554-44-0 *	Imazalil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	0	0	10	10
		98n	No reports							
55406-53-6 *	3-Iodo-2-propynyl butyl-carbamate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	3,959	10	0	265	4,234	12,763	16,997
		98o	21	3,393	10	0	291	3,694	7,352	11,046
		98n	No reports							
13463-40-6	Iron pentacarbonyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1,530	0	0	0	1,530	0	1,530
		98o	1	1,475	0	0	0	1,475	0	1,475
		98n	No reports							
78-84-2	Isobutyraldehyde	88	15	685,918	773	60	1	686,752	0	686,752
		95	24	256,279	752	44,075	47	301,153	0	301,153
		98o	20	254,460	1,182	0	0	255,642	172,233	427,875
		98n	2	165	0	0	0	165	5	170
25311-71-1 *	Isophenphos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	2,907	0	0	9,000	11,907	11,300	23,207
		98o	2	10	0	0	0	10	0	10
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Hydrazine sulfate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,900	1,900	260,000	263,800	0
	98o	0	0	0	0	0	0	200,000	200,000	0
	98n	No reports								
* Hydrochloric acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	195,177,825	15,863,343	100,650	1,510	1,039,336,992	26,017,023	71,537,844	1,348,035,187	89,902
	98o	85,368,494	2,738,128	190,000	12,782	720,545,660	6,621,713	54,377,284	869,854,061	53,085
	98n	0	0	0	231,145	194,330,284	1,567	536,103,880	730,666,876	120,519
* Hydrogen cyanide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	72,134	0	33,141,239	70	25,143,135	10,443	3,141,004	61,508,025	27,155
	98o	57,228	0	24,442,117	0	21,192,963	465	2,042,973	47,735,746	288
	98n	53,473	0	0	0	42,101	0	728,335	823,909	6
* Hydrogen fluoride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	92,471,855	223,187	0	9,201	103,247,769	2,551,491	12,739,021	211,242,524	11,497
	98o	134,349,442	147,393	0	4,910	112,787,654	2,357,993	15,412,306	265,059,698	11,213
	98n	0	8,858	0	0	32,514,601	28,456	68,475,133	101,027,048	53
Hydroquinone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	960	0	986,933	37,786	412,185	86,342	363,320	1,887,526	45
	98o	3,200	0	848,845	10,066	400,144	126,922	359,750	1,748,927	1
	98n	0	0	0	11,765	85,610	231	15,311	112,917	0
* Imazalil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	15	0	15	15
	98n	No reports								
* 3-Iodo-2-propynyl butyl-carbamate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,755	2	0	1	300	62,552	5,151	69,761	2
	98o	30,906	0	400	5,561	334	123,399	6,271	166,871	1
	98n	No reports								
Iron pentacarbonyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	1,379	1,379	0
	98o	0	0	0	0	0	0	1,475	1,475	0
	98n	No reports								
Isobutyraldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	9,647	1,193,119	567,515	609,409	76,894	300,129	2,756,713	4
	98o	0	48,000	1,509,037	550,059	1,118,885	118,174	429,051	3,773,206	221
	98n	0	0	0	32,119	15,206	659	165	48,149	0
* Isofenphos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	690	0	0	0	0	20,300	11,612	32,602	1
	98o	2,000	0	0	0	0	114	10	2,124	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
67-63-0	* Isopropyl alcohol (manufacturing)	88	91	2,001,397	1,900	0	14	2,003,311	247,039	2,250,350
		95	72	937,246	0	0	0	937,246	2,577	939,823
		98o	68	586,639	250	0	10	586,899	16,101	603,000
		98n	12	1,952	750	198,023	0	200,725	43,548	244,273
80-05-7	4,4'-Isopropylidene-diphenol	88	79	226,926	126,385	0	424,117	777,428	444,560	1,221,988
		95	113	155,599	5,809	82,000	86,697	330,105	425,671	755,776
		98o	121	187,470	7,658	0	66,737	261,865	581,324	843,189
		98n	6	262	0	0	56,423	56,685	1,559	58,244
120-58-1	Isosafrole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
77501-63-4	* Lactofen	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	787	0	0	0	787	250	1,037
		98o	1	3	0	0	0	3	0	3
		98n	No reports							
7439-92-1	‡ Lead	88	865	1,128,042	61,776	0	6,648,926	7,838,744	12,274,686	20,113,430
		95	852	850,408	11,403	0	2,361,320	3,223,131	2,568,634	5,791,765
		98o	796	330,447	13,128	0	3,294,660	3,638,235	5,695,962	9,334,197
		98n	55	4,837	139	23,068	12,705,039	12,733,083	1,158,533	13,891,616
—	Lead compounds	88	736	1,555,082	180,368	2,755	20,035,359	21,773,564	15,929,201	37,702,765
		95	848	1,227,418	53,617	912	13,486,182	14,768,129	19,131,070	33,899,199
		98o	833	848,992	37,272	171,660	16,243,785	17,301,709	16,910,175	34,211,884
		98n	253	348,276	77,079	7,280,139	224,273,047	231,978,541	5,242,672	237,221,213
58-89-9	*‡ Lindane	88	3	258	0	0	0	258	56	314
		95	10	510	0	0	0	510	20	530
		98o	10	26	5	0	0	31	3	34
		98n	6	53	0	0	25,654	25,707	126	25,833
330-55-2	* Linuron	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	270	5	0	5	280	1,250	1,530
		98o	2	1,010	5	0	0	1,015	750	1,765
		98n	1	5	0	0	0	5	0	5
554-13-2	Lithium carbonate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	27	14,977	0	0	0	14,977	601,200	616,177
		98o	40	7,297	255	114	32,284	39,950	292,657	332,607
		98n	No reports							
121-75-5	* Malathion	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	21	2,512	0	0	0	2,512	31	2,543
		98o	17	2,017	255	0	0	2,272	1,004	3,276
		98n	6	10	0	0	20,222	20,232	159	20,391

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Isopropyl alcohol (manufacturing)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	62,894	48,179	2,684,671	93,871	178,156	232,658	743,206	4,043,635	9
	98o	11,355	146,022	3,683,269	123,138	148,574	63,213	627,993	4,803,564	8
	98n	67,931	0	0	829,567	3,408	0	199,048	1,099,954	1
4,4'-Isopropylidene-diphenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	56,348	2,377	5,024,865	28,758	824,095	127,796	646,822	6,711,061	121,312
	98o	104,158	71,832	9,043,549	87,999	1,636,775	175,248	842,492	11,962,053	3,477
	98n	0	0	0	0	137,341	2,035	56,554	195,930	0
Isosafrole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
* Lactofen	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	100	0	0	0	0	1	520	621	1,044
	98o	0	0	0	0	0	89	3	92	0
	98n	No reports								
‡ Lead	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	211,549,623	60,181,154	49,836	5,677	1,631,276	1,927,983	4,417,252	279,762,801	36,143
	98o	243,747,586	37,411,722	242,740	6,659	1,666,184	762,363	8,151,248	291,988,502	424,978
	98n	414	32,644	0	12,582	1,293,653	136,143	12,687,327	14,162,763	2,669
Lead compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	501,667,398	297,134,586	0	64,595	28,891,307	7,389,216	26,859,464	862,006,566	3,696,932
	98o	419,782,695	288,540,293	33,631	25,013	92,646	3,107,015	42,282,215	753,863,508	1,499,013
	98n	8,436,286	1,140,645	0	25	149,746	37,291	251,863,784	261,627,777	62,558
*‡ Lindane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	326	0	0	0	0	3,206	272	3,804	0
	98o	168	0	0	0	0	8,164	126	8,458	1
	98n	0	0	0	100,903	118,134	222	25,833	245,092	1
* Linuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	1	0	734	797	1,532	0
	98o	25	0	0	0	0	500	550	1,075	0
	98n	0	0	0	2,214	14,516	0	4	16,734	0
Lithium carbonate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	18,000	0	0	0	2,200	690	168,400	189,290	446,000
	98o	50,759	0	0	0	1,400	3,080	300,884	356,123	0
	98n	No reports								
* Malathion	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	197	0	0	0	0	819	1,073	2,089	1
	98o	1,187	0	0	0	0	1,841	1,649	4,677	1
	98n	0	0	0	0	180,176	0	20,390	200,566	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
108-31-6	Maleic anhydride	88	199	676,778	12,580	240,000	250	929,608	132,148	1,061,756
		95	209	347,391	18	5	1,406	348,820	14,429	363,249
		98o	208	356,998	11	0	4,430	361,439	35,131	396,570
		98n	8	35	0	0	150,000	150,035	28,609	178,644
109-77-3	Malononitrile	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	432,956	0	432,956	0	432,956
		98o	4	510	0	111,100	0	111,610	0	111,610
		98n	1	0	0	0	0	0	0	0
12427-38-2	* Maneb	88	6	2,265	250	0	0	2,515	5,285	7,800
		95	6	273	0	0	0	273	2,461	2,734
		98o	7	5	0	0	0	5	2,288	2,293
		98n	No reports							
7439-96-5	Manganese	88	950	1,586,675	321,993	255	20,229,826	22,138,749	20,087,660	42,226,409
		95	1,574	699,897	117,277	17	8,279,054	9,096,245	12,753,204	21,849,449
		98o	1,751	970,658	260,403	3	9,995,895	11,226,959	15,033,357	26,260,316
		98n	70	31,064	147,437	0	10,898,943	11,077,444	1,354,432	12,431,876
—	Manganese compounds	88	545	1,801,463	681,469	6,816,070	84,227,842	93,526,844	20,670,921	114,197,765
		95	1,033	2,928,644	1,627,184	3,590	41,832,058	46,391,476	25,994,951	72,386,427
		98o	1,207	1,566,352	4,471,582	7,755,610	52,820,578	66,614,122	39,350,264	105,964,386
		98n	362	529,560	1,008,009	867,400	447,927,752	450,332,721	7,411,062	457,743,783
93-65-2	‡ Mecoprop	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	9	1,816	0	0	0	1,816	2,304	4,120
		98o	10	1,150	0	0	250	1,400	3,968	5,368
		98n	No reports							
149-30-4	* 2-Mercaptobenzo-thiazole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	28	34,857	5	97,000	260	132,122	376,420	508,542
		98o	36	5,404	6,692	45,000	250	57,346	131,778	189,124
		98n	1	0	0	0	250,000	250,000	0	250,000
7439-97-6	* Mercury	88	37	22,905	1,397	0	13,279	37,581	258,718	296,299
		95	24	13,262	192	0	1,016	14,470	14,228	28,698
		98o	24	12,591	134	0	3,069	15,794	14,827	30,621
		98n	11	9,416	0	0	236,003	245,419	14,418	259,837
—	Mercury compounds	88	15	2,376	9	27	0	2,412	17,916	20,328
		95	10	3,156	136	6	0	3,298	207,097	210,395
		98o	11	2,372	34	0	2,550	4,956	19,848	24,804
		98n	12	5,277	22	0	8,969,201	8,974,500	72,913	9,047,413
150-50-5	* Merphos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	186	0	0	0	186	0	186
		98o	1	0	0	0	0	0	0	0
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Maleic anhydride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,940	0	3,222,121	102,238	38,356,328	1,154,816	355,070	43,195,513	22,344
	98o	7,607	0	3,494,300	163,967	51,608,701	1,404,534	387,604	57,066,713	12,601
	98n	0	0	0	55,466	79,450	0	150,041	284,957	0
Malononitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	432,956	432,956	0
	98o	0	0	0	0	336,000	0	111,214	447,214	0
	98n	0	0	0	0	0	0	0	0	0
* Maneb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	525	0	0	3	0	8,800	7,861	17,189	0
	98o	35	0	0	0	0	8,521	2,058	10,614	0
	98n	No reports								
Manganese	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	40,683,309	73,869,285	0	141	173,632	1,781,616	20,973,185	137,481,168	709
	98o	39,088,597	49,254,611	0	543	540,544	660,084	23,889,936	113,434,315	623,860
	98n	1,150	125,963	0	0	113,857	0	12,406,958	12,647,928	7
Manganese compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	145,348,527	87,413,189	0	199,783	1,023,502	5,906,367	66,220,898	306,112,266	1,350,557
	98o	22,641,871	47,254,605	22,153	35,980	1,884,784	5,375,594	110,516,713	187,731,700	332,373
	98n	85,140	153,515	0	0	3,909	73,171	457,683,762	457,999,497	70,959
‡ Mecoprop	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	15,614	0	0	0	940	1,037	3,659	21,250	1
	98o	872	0	0	1,000	500	451	4,887	7,710	0
	98n	No reports								
* 2-Mercaptobenzo-thiazole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	5,405	104,645	0	931,100	128,323	136,948	516,905	1,823,326	632
	98o	1,780	8,475	0	800,961	232,770	76,774	188,830	1,309,590	0
	98n	0	0	0	0	0	0	250,000	250,000	0
* Mercury	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	413,832	58,151	0	0	6,307	11,009	17,996	507,295	2
	98o	455,629	34,068	0	0	4,315	1,165	20,609	515,786	1
	98n	0	0	0	0	0	0	260,436	260,436	0
Mercury compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	125,287	0	0	61	0	4,597	25,638	155,583	179,000
	98o	573,026	5	0	0	0	5,411	18,413	596,855	860
	98n	65,400	114,138	0	0	0	236	9,054,650	9,234,424	2
* Merphos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	186	186	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
126-98-7	Methacrylonitrile	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	945	0	555,265	0	556,210	0	556,210
		98o	5	900	0	54,730	0	55,630	0	55,630
		98n	2	800	0	0	0	800	0	800
137-42-8	* Metham sodium	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	4,387	1	0	252	4,640	13,050	17,690
		98o	9	5,714	40	0	110	5,864	800	6,664
		98n	2	824	0	0	22,248	23,072	0	23,072
67-56-1	* Methanol	88	2,507	259,691,589	17,139,114	26,587,686	11,911,136	315,329,525	15,290,643	330,620,168
		95	2,473	216,401,485	9,189,485	27,692,653	1,784,656	255,068,279	1,952,085	257,020,364
		98o	2,221	189,081,882	5,891,181	16,604,795	1,798,675	213,376,533	1,408,331	214,784,864
		98n	365	915,673	5,149	60,943	615,697	1,597,462	187,858	1,785,320
2032-65-7	* Methiocarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
94-74-6	* ‡ Methoxone	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	1,261	0	0	0	1,261	1,810	3,071
		98o	6	1,255	0	0	250	1,505	3,749	5,254
		98n	No reports							
72-43-5	* Methoxychlor	88	12	131,031	252	0	258	131,541	8	131,549
		95	2	0	0	0	0	0	0	0
		98o	4	0	0	0	0	0	0	0
		98n	4	12	0	0	25,474	25,486	0	25,486
109-86-4	* 2-Methoxyethanol	88	95	5,899,669	40,520	750	7	5,940,946	57,362	5,998,308
		95	47	897,628	12,407	0	5	910,040	535	910,575
		98o	51	1,011,484	16,882	0	23,500	1,051,866	83	1,051,949
		98n	14	329	0	51,963	0	52,292	884	53,176
96-33-3	Methyl acrylate	88	61	443,496	1,687	200	30,260	475,643	4,765	480,408
		95	71	325,454	5,962	159	0	331,575	865	332,440
		98o	64	245,029	761	53,244	0	299,034	50,575	349,609
		98n	8	24,273	0	0	14,000	38,273	3,680	41,953
1634-04-4	Methyl tert-butyl ether	88	90	2,588,247	21,499	14,400	370	2,624,516	4,602	2,629,118
		95	184	3,295,852	78,555	15,238	3,800	3,393,445	47,841	3,441,286
		98o	207	2,623,301	60,650	47,357	325	2,731,633	216,966	2,948,599
		98n	326	1,556,535	7,161	250	3,123	1,567,069	46,503	1,613,572
79-22-1	Methyl chlorocarbonate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	2,595	5	0	5	2,605	0	2,605
		98o	4	2,052	5	0	5	2,062	0	2,062
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

* Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡ Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Methacrylonitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,189	0	556,210	559,399	0
	98o	0	0	0	0	500	0	55,630	56,130	0
	98n	0	0	0	1,891,340	0	0	800	1,892,140	1
* Metham sodium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	33,520	0	0	0	102	362	15,378	49,362	0
	98o	100	0	0	0	355	3,324	6,354	10,133	1,000
	98n	0	0	0	0	0	0	24,392	24,392	0
* Methanol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	484,783,260	28,204,451	375,962,417	94,128,236	955,340,231	119,784,443	261,341,052	2,319,544,090	295,169
	98o	660,031,001	11,983,910	297,334,992	92,993,730	1,064,169,398	124,791,598	224,372,227	2,475,676,856	91,180
	98n	3,151,305	71,890	8,256,769	34,612,792	15,713,032	2,748,283	1,861,565	66,415,636	1,953
* Methiocarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
*‡ Methoxone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	19,510	0	0	0	58	27	3,144	22,739	0
	98o	6,670	0	0	0	0	1,301	5,417	13,388	0
	98n	No reports								
* Methoxychlor	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	30,194	0	25,486	55,680	0
* 2-Methoxyethanol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,925,200	74,000	240,658	1,885,948	3,357,857	1,228,013	904,103	11,615,779	2
	98o	279,700	151,007	742,247	1,678,839	2,867,676	470,587	1,085,153	7,275,209	403
	98n	137	0	0	1,275,726	150,702	0	53,249	1,479,814	1
Methyl acrylate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	910,001	40,769	736,924	249,260	2,132,688	51,535	336,269	4,457,446	249
	98o	1,067,301	0	702,681	458,653	3,323,941	75,466	420,496	6,048,538	3
	98n	0	0	0	291,314	88,974	163	18,343	398,794	25,189
Methyl tert-butyl ether	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	847,069	32,815	228,033	1,360,276	3,020,518	522,838	3,425,508	9,437,057	117,497
	98o	2,207,480	170,245	1,798,359	3,330,091	6,337,391	1,233,832	2,983,272	18,060,670	1,770
	98n	2,041,528	1,800,430	0	188,042	2,623,052	193,178	3,455,494	10,301,724	32,737
Methyl chlorocarbonate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,610	0	2,597	6,207	0
	98o	0	0	0	0	51,910	0	2,730	54,640	0
	98n	0	0	0	0	0	0	0	0	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries; 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
101-14-4 ‡	4,4'-Methylenebis (2-chloroaniline)	88	8	250	0	0	0	250	0	250
		95	23	260	0	0	0	260	5	265
		98o	22	15	0	0	0	15	0	15
		98n	1	0	0	0	0	0	0	0
101-61-1 ‡	4,4'-Methylenebis (N,N-dimethyl) benzeneamine	88	1	250	0	0	7,000	7,250	1,150	8,400
		95	2	10	0	0	0	10	0	10
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
74-95-3	Methylene bromide	88	9	57,723	0	0	0	57,723	0	57,723
		95	5	63,091	0	0	0	63,091	0	63,091
		98o	5	46,153	0	0	0	46,153	0	46,153
		98n	3	160	0	0	0	160	0	160
101-77-9 ‡	4,4'-Methylenedianiline	88	31	130,265	2,599	460,250	1,140	594,254	141,538	735,792
		95	25	10,337	63	23,110	0	33,510	9,423	42,933
		98o	25	9,073	5,041	51,200	0	65,314	6,867	72,181
		98n	1	0	0	0	0	0	0	0
78-93-3 *	Methyl ethyl ketone	88	2,534	141,566,241	92,216	255,955	166,688	142,081,100	5,014,726	147,095,826
		95	2,313	70,230,822	67,320	581,632	177,059	71,056,833	258,523	71,315,356
		98o	1,885	46,364,260	54,800	343,418	80,681	46,843,159	899,080	47,742,239
		98n	285	213,433	12	52,251	12,460	278,156	251,842	529,998
60-34-4	Methyl hydrazine	88	3	2,927	1	0	0	2,928	1,450	4,378
		95	3	500	0	0	0	500	0	500
		98o	3	265	0	0	0	265	0	265
		98n	No reports							
74-88-4	Methyl iodide	88	3	8,944	5	250	0	9,199	250	9,449
		95	6	21,618	0	10,000	0	31,618	8,600	40,218
		98o	10	65,167	45	131	1,357	66,700	329	67,029
		98n	2	0	0	0	0	0	0	0
108-10-1 *	Methyl isobutyl ketone	88	1,011	32,035,833	762,108	116,650	31,770	32,946,361	1,966,488	34,912,849
		95	1,021	21,929,203	51,292	158,600	7,041	22,146,136	86,316	22,232,452
		98o	824	14,845,145	17,655	75,950	13,846	14,952,596	171,700	15,124,296
		98n	205	33,594	5	250	45	33,894	68,578	102,472
624-83-9	Methyl isocyanate	88	12	10,235	0	0	64	10,299	8,400	18,699
		95	5	1,658	0	0	0	1,658	0	1,658
		98o	5	507	0	0	5	512	0	512
		98n	No reports							
556-61-6 *	Methyl isothiocyanate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	72	0	0	0	72	0	72
		98o	3	66	0	0	0	66	0	66
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ 4,4'-Methylenebis (2-chloro-aniline)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	720	0	0	1,872	36	10,345	37	13,010	0
	98o	0	0	0	2,925	0	9,787	3	12,715	1
	98n	0	0	0	0	0	0	0	0	0
‡ 4,4'-Methylenebis (N,N-dimethyl) benzeneamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	10	10	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
Methylene bromide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	677,059	0	0	0	51,903	979	62,284	792,225	0
	98o	1,500,000	0	0	0	0	0	46,135	1,546,135	0
	98n	0	0	0	64,300	354,774	0	160	419,234	1
‡ 4,4'-Methylenedianiline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,300	0	17,801	17,405	87,919	94,872	35,337	255,634	10
	98o	2,830	0	311,271	11,793	407,691	56,581	66,591	856,757	1
	98n	0	0	0	0	11,263	0	0	11,263	0
* Methyl ethyl ketone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	66,104,904	21,169,467	112,532,715	43,628,942	69,392,991	6,369,850	70,261,131	389,460,000	229,658
	98o	55,742,721	19,108,392	79,875,297	33,715,218	78,423,932	7,464,933	48,298,544	322,629,037	174,243
	98n	14,984,601	1,888,930	119,057	41,008,510	4,959,691	5,029,537	444,296	68,434,622	12,264
Methyl hydrazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	20	5	400	425	0
	98o	0	0	0	0	6,508	192	370	7,070	0
	98n	No reports								
Methyl iodide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	140	0	19,376	760	40,187	60,463	59
	98o	0	0	0	24	188,142	31,143	66,328	285,637	421
	98n	0	0	0	0	0	0	0	0	0
* Methyl isobutyl ketone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	52,705,598	16,392,205	27,176,664	18,128,793	17,796,398	1,902,661	22,186,837	156,289,156	50,004
	98o	59,106,704	10,535,323	28,648,094	10,683,877	14,213,362	2,703,067	14,889,564	140,779,991	166,713
	98n	4,764,550	110,732	21,764	16,262,086	1,875,403	1,678,672	50,958	24,764,165	1,753
Methyl isocyanate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	66,939	0	1,658	68,597	0
	98o	0	0	0	3,450	90,771	0	497	94,718	5
	98n	No reports								
* Methyl isothiocyanate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	62	0	82	72	216	0
	98o	0	0	0	0	0	120	66	186	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
75-86-5	2-Methylacetonitrile	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	3,854	0	0	0	3,854	0	3,854
		98o	7	3,973	0	56,698	0	60,671	0	60,671
		98n	2	10	0	24,000	0	24,010	147	24,157
80-62-6	Methyl methacrylate	88	218	3,630,569	28,437	327,220	8,119	3,994,345	276,567	4,270,912
		95	267	2,012,874	1,672	120,000	1,056	2,135,602	124,867	2,260,469
		98o	281	2,189,356	437,470	150,000	1,872	2,778,698	177,549	2,956,247
		98n	16	7,407	5	17,206	9,700	34,318	2,168	36,486
924-42-5	N-Methylolacrylamide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	29	2,835	1,166	0	34	4,035	13	4,048
		98o	35	5,416	1,245	0	45	6,706	24,987	31,693
		98n	No reports							
298-00-0	* Methyl parathion	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	1,442	0	0	0	1,442	2,684	4,126
		98o	5	189	0	0	0	189	0	189
		98n	No reports							
109-06-8	2-Methylpyridine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	8	89,938	0	61,720	0	151,658	40	151,698
		98o	7	2,934	0	38,900	0	41,834	813	42,647
		98n	1	0	0	0	0	0	0	0
872-50-4	N-Methyl-2-pyrrolidone	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	272	2,693,692	201,221	779,477	135,050	3,809,440	367,099	4,176,539
		98o	390	2,997,001	42,711	2,865,692	103,901	6,009,305	493,993	6,503,298
		98n	77	17,687	0	0	0	17,687	10,946	28,633
21087-64-9	* Metribuzin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	1,936	9	0	0	1,945	0	1,945
		98o	8	339	26	0	0	365	255	620
		98n	No reports							
7786-34-7	* Mevinphos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
90-94-8	‡ Michler's ketone	88	4	1,100	0	0	0	1,100	0	1,100
		95	1	1,577	0	0	0	1,577	0	1,577
		98o	1	511	0	0	0	511	0	511
		98n	No reports							
2212-67-1	* Molinate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	695	502	0	0	1,197	6,363	7,560
		98o	3	1,063	113	0	0	1,176	8,305	9,481
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
2-Methylacetonitrile	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	19,317	0	3,855	23,172	0
	98o	0	0	0	0	4,268	0	61,231	65,499	1
	98n	0	0	0	0	0	6	24,010	24,016	1
Methyl methacrylate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,665,497	20,746	2,050,094	1,396,720	5,131,171	696,546	2,162,227	16,123,001	3,255
	98o	1,483,426	58,753	2,254,625	1,873,042	3,999,779	570,720	2,543,376	12,783,721	8,254
	98n	63,000	0	0	948,771	962,474	25,412	35,153	2,034,810	1
N-Methylolacrylamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	360	0	0	294	14,240	4,373	3,087	22,354	4
	98o	0	0	0	0	12,400	7,401	31,702	51,503	99
	98n	No reports								
* Methyl parathion	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	29	0	0	0	0	0	3,664	3,693	1
	98o	0	0	0	0	0	47,000	8,531	55,531	0
	98n	No reports								
2-Methylpyridine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	57,000	19,000	470	37,000	98,212	150,962	362,644	930
	98o	0	140,000	42,139	12	3	330	42,674	225,158	0
	98n	0	0	0	0	0	0	0	0	0
N-Methyl-2-pyrrolidone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,477,378	6,538,234	182,638	2,441,136	5,112,812	3,412,702	4,427,626	23,592,526	994
	98o	404,233	7,393,897	2,802,735	3,525,069	5,241,223	3,763,836	6,616,287	29,747,280	4,496
	98n	6,425,191	6	391	2,117,231	874,778	122,256	20,610	9,560,463	3
* Metribuzin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,502	5,423	3,519	12,444	0
	98o	0	0	0	0	4,596	48,209	140	52,945	0
	98n	No reports								
* Mevinphos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
‡ Michler's ketone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	436	0	0	1,577	2,013	0
	98o	0	0	0	305	14,098	0	511	14,914	0
	98n	No reports								
* Molinate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	3,312	128,004	6,450	137,766	0
	98o	0	0	0	0	9,646	67,166	10,483	87,295	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
1313-27-5	Molybdenum trioxide	88	102	111,195	139,021	197,115	97,238	544,569	573,624	1,118,193
		95	160	178,292	27,305	333,730	77,594	616,921	1,013,388	1,630,309
		98o	168	198,164	36,018	302,000	48,878	585,060	579,617	1,164,677
		98n	21	22,317	312	5	960,506	983,140	148,188	1,131,328
76-15-3	Monochloropentafluoroethane (CFC-115)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	14	275,259	2,854	3	0	278,116	7	278,123
		98o	7	76,256	5	0	0	76,261	0	76,261
		98n	1	6,852	0	0	0	6,852	0	6,852
88671-89-0	* Myclobutanil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	3	1,000	0	0	0	1,000	0	1,000
		98n	No reports							
142-59-6	* Nabam	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	0	0	0	0	0	0	0
		98o	5	0	4,864	0	0	4,864	0	4,864
		98n	1	0	0	0	0	0	0	0
300-76-5	* Naled	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	50	0	0	0	50	2,200	2,250
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
91-20-3	* Naphthalene	88	420	5,165,426	22,518	50,946	123,697	5,362,587	1,359,184	6,721,771
		95	533	2,690,669	43,311	44,318	32,085	2,810,383	474,106	3,284,489
		98o	530	3,374,439	34,148	191,677	1,251,040	4,851,304	827,657	5,678,961
		98n	223	95,243	17,296	5	11,031	123,575	126,485	250,060
134-32-7	‡ alpha-Naphthylamine	88	3	590	101	0	0	691	0	691
		95	1	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	0	0
91-59-8	‡ beta-Naphthylamine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
7440-02-0	‡ Nickel	88	1,180	452,626	90,636	14,295	1,225,251	1,782,808	7,661,144	9,443,952
		95	1,961	322,454	26,352	6,370	371,016	726,192	3,954,139	4,680,331
		98o	2,120	418,546	27,217	19,654	262,244	727,661	3,223,866	3,951,527
		98n	69	107,420	3,982	110,158	4,802,201	5,023,761	4,708,777	9,732,538
—	‡ Nickel compounds	88	580	274,176	132,233	224,968	2,384,594	3,015,971	6,210,073	9,226,044
		95	903	266,282	58,948	107,886	2,482,245	2,915,361	5,868,811	8,784,172
		98o	1,025	388,847	121,537	146,481	5,704,584	6,361,449	4,627,489	10,988,938
		98n	308	661,549	291,208	342,413	50,413,105	51,708,275	5,808,154	57,516,429

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Molybdenum trioxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	6,210,774	2,453,023	0	3,530	19,964	346,571	1,598,949	10,632,811	21,640
	98o	3,589,437	2,951,024	0	0	70,746	465,518	1,724,990	8,801,715	110
	98n	0	0	0	0	42,786	0	1,618,562	1,661,348	5
Monochloropentafluoroethane (CFC-115)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	8,600	2,200	0	0	257,501	24,651	278,151	571,103	2
	98o	2,000	36,230	0	0	3,137	258	76,257	117,882	1
	98n	0	0	0	0	0	0	5,340	5,340	1,512
* Myclobutanil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	794	243	1,037	0
	98n	No reports								
* Nabam	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	14,218	253	0	14,471	1
	98o	0	0	192	0	7,352	0	4,864	12,408	1
	98n	0	0	0	0	0	0	0	0	0
* Naled	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,000	2,600	0	3,600	9
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Naphthalene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	10,707,785	290,167	5,301,914	1,882,043	8,469,326	1,219,590	3,047,384	30,918,209	351,893
	98o	5,092,370	474,482	6,773,098	1,678,031	4,635,656	1,009,963	4,778,618	24,442,218	81,867
	98n	1,175,362	33,496	5,104	22,730,399	846,977	94,154	113,477	24,998,969	57,943
‡ alpha-Naphthylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	0	0	0	0	0
‡ beta-Naphthylamine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
‡ Nickel	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	38,181,558	80,727,355	127	768	1,554,902	1,059,498	3,380,578	124,904,786	19,224
	98o	36,392,102	77,344,692	38,720	1,259	341,481	469,290	4,079,558	118,667,102	7,364
	98n	18,430	402,923	0	0	580,877	36,129	9,794,969	10,833,328	4
‡ Nickel compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	14,059,031	34,198,682	0	2,808	5,627,356	1,310,285	7,223,058	62,421,220	332,618
	98o	7,676,918	28,927,555	28,119	417	549,189	723,917	11,453,589	49,359,704	710,336
	98n	238,047	732,625	0	0	207,697	77,924	57,630,076	58,886,369	4,750

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
—	Nicotine and salts	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	22	365,639	755	0	135	366,529	288,712	655,241
		98o	31	325,882	706	0	0	326,588	287,471	614,059
		98n	2	3	0	0	0	3	250	253
1929-82-4	* Nitrapyrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	7	119,451	0	0	119,458	0	119,458
		98o	3	1	0	0	0	1	0	1
		98n	No reports							
—	Nitrate compounds	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	862	417,052	132,835,151	47,589,521	4,696,275	185,537,999	5,622,041	191,160,040
		98o	1,079	638,444	170,668,882	48,677,569	3,271,176	223,256,071	3,353,061	226,609,132
		98n	96	5,995	907,006	5,936,287	6,130,953	12,980,241	732,694	13,712,935
7697-37-2	* Nitric acid	88	1,920	8,277,993	1,380,565	25,485,680	1,330,695	36,474,933	7,929,318	44,404,251
		95	1,832	2,361,092	46,596	18,755,717	291,656	21,455,061	4,818,756	26,273,817
		98o	1,795	2,185,697	88,862	18,869,510	179,047	21,323,116	911,998	22,235,114
		98n	149	370,527	13,006	5,300,750	66,566	5,750,849	194,284	5,945,133
139-13-9	‡ Nitrilotriacetic acid	88	14	2,500	5,100	0	5,100	12,700	250	12,950
		95	7	1	34	2,900	0	2,935	0	2,935
		98o	14	1,407	10,202	2,400	0	14,009	0	14,009
		98n	1	0	0	0	11,617	11,617	0	11,617
100-01-6	p-Nitroaniline	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	11,205	2	0	0	11,207	0	11,207
		98o	4	12,053	0	0	0	12,053	0	12,053
		98n	1	5	0	0	0	5	500	505
99-59-2	5-Nitro-o-anisidine	88	No reports							
		95	1	10	0	0	0	10	0	10
		98o	1	10	5	0	0	15	0	15
		98n	No reports							
98-95-3	*,‡ Nitrobenzene	88	19	41,279	7,283	819,000	3,538	871,100	69,570	940,670
		95	17	25,529	874	330,344	43	356,790	961	357,751
		98o	17	79,943	902	407,090	62	487,997	11,324	499,321
		98n	10	504	250	15,529	0	16,283	1,059	17,342
55-63-0	Nitroglycerin	88	22	52,383	2,746	0	11,640	66,769	2	66,771
		95	20	26,077	13,300	0	0	39,377	0	39,377
		98o	24	52,478	4,713	0	0	57,191	266	57,457
		98n	1	0	0	0	0	0	0	0
88-75-5	2-Nitrophenol	88	4	33,689	1	0	2	33,692	13,100	46,792
		95	4	38	50	0	0	88	0	88
		98o	4	45	35	0	0	80	0	80
		98n	1	129	0	0	0	129	0	129

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Nicotine and salts	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	34,602	0	0	275,790	297,376	652,796	1,260,564	0
	98o	0	7,611	0	0	827,884	645,409	621,865	2,102,769	8,449
	98n	0	0	0	0	148,971	0	54	149,025	0
* Nitrapyrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	7,100	0	380	128,628	136,108	0
	98o	0	0	0	0	0	140	1	141	0
	98n	No reports								
Nitrate compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	95,661,989	2,427,371	0	0	27,432,147	63,985,239	195,954,753	385,461,499	110,041
	98o	113,971,212	1,853,401	0	59,241	54,200,091	85,444,237	230,820,696	486,348,878	124,346
	98n	4,003,825	8,473	0	0	628,676	850,288	15,018,890	20,510,152	876
* Nitric acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	28,230,334	3,666,454	250,245	255	240,917,797	15,928,402	27,302,289	316,295,776	119,047
	98o	40,685,750	4,445,797	0	9,671	294,687,638	15,657,147	22,138,254	377,624,257	27,585
	98n	0	370	0	13,530	9,456,090	412,727	6,282,206	16,164,923	10
‡ Nitritotriacetic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,500	0	0	0	969,141	1,872	2,935	976,448	0
	98o	0	0	0	0	1,070,287	27,440	14,009	1,111,736	0
	98n	0	0	0	0	0	0	11,617	11,617	0
p-Nitroaniline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	7	0	266	93,016	12,007	105,296	0
	98o	0	0	0	0	0	169,426	12,253	181,679	0
	98n	0	0	0	0	28,500	1	150	28,651	0
5-Nitro-o-anisidine	88	No reports								
	95	0	0	0	0	0	0	5	5	0
	98o	0	0	0	0	0	0	1	1	0
	98n	No reports								
*‡ Nitrobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,277,200	0	1,554,583	79,781	1,297,305	639,061	354,552	5,202,482	649
	98o	419,863	0	1,847,505	590,234	1,743,632	1,056,242	497,174	6,154,650	7,024
	98n	0	0	0	663,888	778,054	0	16,670	1,458,612	1
Nitroglycerin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	24,151	0	0	0	428,538	59,598	39,387	551,674	6
	98o	18,000	16,269	0	22,328	270,856	135,468	60,289	523,210	0
	98n	0	0	0	0	0	0	0	0	0
2-Nitrophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	28,000	6	120,000	23,311	83	171,400	0
	98o	0	0	82,000	0	61,000	24,000	85	167,085	0
	98n	0	0	0	0	352,946	0	129	353,075	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
100-02-7	*‡ 4-Nitrophenol	88	7	7,855	0	6,300	7	14,162	70	14,232
		95	6	945	0	0	0	945	0	945
		98o	5	855	0	0	0	855	0	855
		98n	3	35	0	0	0	35	500	535
79-46-9	*‡ 2-Nitropropane	88	15	389,385	4,300	257,000	0	650,685	4,785	655,470
		95	5	31,265	3,000	0	0	34,265	0	34,265
		98o	3	23,479	558	0	0	24,037	0	24,037
		98n	6	359	0	0	0	359	192	551
924-16-3	‡ N-Nitrosodi-n-butyl-amine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
55-18-5	‡ N-Nitrosodiethylamine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	2	2	0	0	0	2	0	2
62-75-9	‡ N-Nitrosodimethyl-amine	88	1	0	0	0	0	0	0	0
		95	No reports							
		98o	No reports							
		98n	1	129	0	0	0	129	0	129
86-30-6	N-Nitrosodiphenyl-amine	88	2	0	27	34,000	0	34,027	0	34,027
		95	2	10	0	0	0	10	0	10
		98o	3	10	0	0	0	10	0	10
		98n	1	63	0	0	0	63	0	63
156-10-5	p-Nitrosodiphenylamine	88	2	15	0	2,000	0	2,015	180	2,195
		95	2	24	0	0	0	24	520	544
		98o	2	24	0	0	0	24	0	24
		98n	No reports							
621-64-7	‡ N-Nitrosodi-n-propyl-amine	88	No reports							
		95	No reports							
		98o	1	750	0	0	0	750	1,500	2,250
		98n	1	129	0	0	0	129	0	129
759-73-9	‡ N-Nitroso-N-ethylurea	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
684-93-5	*‡ N-Nitroso-N-methyl-urea	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
*‡ 4-Nitrophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	10,469	3	65,000	574,800	950	651,222	0
	98o	0	0	0	0	139,944	633,083	860	773,887	0
	98n	0	0	0	591,228	31,000	1	180	622,409	1
*‡ 2-Nitropropane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	520	140,000	81	63,028	0	34,023	237,652	0
	98o	0	0	9,835	23	10,598	31,114	24,037	75,607	0
	98n	0	0	0	519,228	203,826	11,854	551	735,459	1
‡ N-Nitrosodi-n-butyl-amine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
‡ N-Nitrosodiethylamine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	23,708	0	2	23,710	0
‡ N-Nitrosodimethyl-amine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	352,946	0	129	353,075	0
N-Nitrosodiphenyl-amine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	340,000	10	340,010	0
	98o	0	0	0	340,000	43,702	34,298	10	418,010	0
	98n	0	0	0	0	80,769	0	63	80,832	0
p-Nitrosodiphenylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	8,600	15,000	0	65	544	24,209	0
	98o	0	0	9,300	16,500	0	0	24	25,824	0
	98n	No reports								
‡ N-Nitrosodi-n-propyl-amine	88	No reports								
	95	No reports								
	98o	0	0	25,000	1,500	25,000	0	600	52,100	0
	98n	0	0	0	0	352,946	0	129	353,075	0
‡ N-Nitroso-N-ethylurea	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
*‡ N-Nitroso-N-methyl-urea	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
59-89-2	‡ N-Nitrosomorpholine	88	No reports							
		95	1	0	0	0	0	0	0	0
		98o	No reports							
		98n	No reports							
100-75-4	‡ N-Nitrosopiperidine	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
99-55-8	5-Nitro-o-toluidine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	5	0	0	0	5	30	35
		98o	2	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	0	0
27314-13-2	* Norflurazon	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	5	0	0	0	5	54,000	54,005
		98o	4	15	76	0	229	320	14,850	15,170
		98n	No reports							
19044-88-3	* Oryzalin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	5	0	0	0	5	0	5
		98o	3	98	0	0	0	98	0	98
		98n	1	5	0	0	0	5	0	5
301-12-2	* Oxydemeton methyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
19666-30-9	* Oxydiazon	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	665	0	0	0	665	0	665
		98o	5	1,160	0	0	0	1,160	750	1,910
		98n	No reports							
42874-03-3	* Oxyfluorfen	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	87	3	0	0	90	0	90
		98o	2	10	0	0	0	10	0	10
		98n	No reports							
10028-15-6	Ozone	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	29	571,182	0	0	0	571,182	0	571,182
		98o	35	563,184	0	0	0	563,184	0	563,184
		98n	2	3	0	0	0	3	0	3
123-63-7	Paraldehyde	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	33	0	0	0	33	0	33
		98o	3	26	0	0	0	26	0	26
		98n	1	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ N-Nitrosomorpholine	88	No reports								
	95	0	0	0	0	0	0	0	0	0
	98o	No reports								
	98n	No reports								
‡ N-Nitrosopiperidine	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
5-Nitro-o-toluidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	35	35	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	0	0	0	0	0
* Norflurazon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,000	54,010	55,010	0
	98o	0	0	0	0	12,700	59,780	340	72,820	0
	98n	No reports								
* Oryzalin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	40,000	2	40,002	0
	98o	0	0	0	0	3,500	42,000	93	45,593	0
	98n	0	0	0	0	19,472	0	5	19,477	0
* Oxydemeton methyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Oxydiazon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,012	0	0	0	2,400	100	611	6,123	0
	98o	28,500	0	0	0	960	287	900	30,647	0
	98n	No reports								
* Oxyfluorfen	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	130	15,093	90	15,313	0
	98o	0	0	0	0	2,800	33,865	1	36,666	0
	98n	No reports								
Ozone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	2,402,564	0	569,989	2,972,553	2
	98o	0	0	0	0	2,940,204	0	562,837	3,503,041	0
	98n	0	0	0	0	0	0	3	3	0
Paraldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	47,460	11	250,000	0	33	297,504	1
	98o	0	0	18,414	7	140,002	0	26	158,449	0
	98n	0	0	0	0	0	0	0	0	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
1910-42-5	* Paraquat dichloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	1,000	0	0	0	1,000	0	1,000
		98o	3	500	0	0	0	500	0	500
		98n	No reports							
56-38-2	* Parathion	88	13	3,265	750	0	250	4,265	3,959	8,224
		95	2	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	85	85
1114-71-2	* Pebulate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	507	122	0	0	629	811	1,440
		98o	2	520	98	0	0	618	1,501	2,119
		98n	No reports							
40487-42-1	* Pendimethalin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	1,250	250	0	500	2,000	0	2,000
		98o	6	3,000	15	0	5	3,020	560	3,580
		98n	3	3	0	0	0	3	123	126
76-01-7	* Pentachloroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	1,534	22	0	0	1,556	0	1,556
		98o	7	1,558	0	0	0	1,558	0	1,558
		98n	3	60	0	0	0	60	0	60
87-86-5	*‡ Pentachlorophenol	88	55	14,029	2,465	20,000	3,717	40,211	518,105	558,316
		95	37	6,266	3,146	0	250	9,662	23,942	33,604
		98o	35	5,108	1,067	0	250	6,425	23,128	29,553
		98n	9	283	250	250	240,000	240,783	11,879	252,662
57-33-0	Pentobarbital sodium	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
79-21-0	* Peracetic acid	88	8	5,453	55	0	0	5,508	0	5,508
		95	24	7,847	15	0	1,144	9,006	0	9,006
		98o	28	8,330	5	0	1,150	9,485	0	9,485
		98n	No reports							
594-42-3	* Perchloromethyl mercaptan	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	541	0	0	0	541	0	541
		98o	3	894	0	0	0	894	0	894
		98n	No reports							
52645-53-1	* Permethrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	13	1,299	37	0	250	1,586	751	2,337
		98o	18	4,435	7	0	0	4,442	17,549	21,991
		98n	2	0	0	0	0	0	0	0

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Paraquat dichloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	68	0	0	0	0	170	206	444	0
	98o	0	0	0	0	0	6	112	118	0
	98n	No reports								
* Parathion	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	32,638	0	85	32,723	0
* Pebulate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	600	4,600	270	5,470	0
	98o	0	0	0	0	89	2,809	1,523	4,421	0
	98n	No reports								
* Pendimethalin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	300	0	0	0	190,000	6,774	1,498	198,572	56
	98o	2,000	0	0	0	160,000	104,946	2,532	269,478	0
	98n	0	0	0	0	86,483	0	126	86,609	0
* Pentachloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	220,000	0	5,972,374	75,431	1,552	6,269,357	0
	98o	620,000	0	0	0	5,007,683	107,405	1,559	5,736,647	0
	98n	0	0	0	134,821	47,064	0	60	181,945	1
*‡ Pentachlorophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,888,603	334	9,151	14,951	6,780	87,462	25,614	2,032,895	9
	98o	76,838	227,808	1,680	4,416	4,790	128,117	26,357	470,006	5,815
	98n	0	0	1,002	0	105,151	5	242,089	348,247	0
Pentobarbital sodium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Peracetic acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	13,833	0	0	0	12,884	12,396	8,889	48,002	3
	98o	0	0	0	0	47,536	17,732	9,971	75,239	1
	98n	No reports								
* Perchloromethyl mercaptan	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	540	0	541	1,081	0
	98o	0	0	0	0	28,000	92,000	891	120,891	0
	98n	No reports								
* Permethrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	5	651	665	543	1,864	0
	98o	0	0	0	0	277	22,529	5,379	28,185	0
	98n	0	0	0	0	10,538	0	0	10,538	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
85-01-8	Phenanthrene	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	34	72,383	19	0	4,008	76,410	72,491	148,901
		98o	62	238,785	214	0	77,577	316,576	76,779	393,355
		98n	10	26,008	0	0	0	26,008	606	26,614
108-95-2	* Phenol	88	635	10,712,736	259,230	4,661,319	1,882,485	17,515,770	2,536,030	20,051,800
		95	757	9,315,297	70,308	3,823,235	171,997	13,380,837	1,280,535	14,661,372
		98o	775	8,902,291	60,731	1,648,446	436,306	11,047,774	1,143,497	12,191,271
		98n	32	1,627	1,277	432,901	67,000	502,805	22,556	525,361
26002-80-2	* Phenothrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
95-54-5	1,2-Phenylenediamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	962	41,100	0	2,176	44,238	31	44,269
		98o	7	528	51	0	0	579	1,631	2,210
		98n	1	37	0	0	0	37	10	47
108-45-2	1,3-Phenylenediamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	18	6,621	43,343	0	63,153	113,117	80	113,197
		98o	20	8,932	727	0	18,668	28,327	20,559	48,886
		98n	2	37	0	0	0	37	10	47
106-50-3	p-Phenylenediamine	88	13	113,890	826	4,716	0	119,432	64,452	183,884
		95	10	4,440	856	0	653	5,949	0	5,949
		98o	11	1,516	114	0	0	1,630	1,816	3,446
		98n	No reports							
90-43-7	* 2-Phenylphenol	88	15	10,630	480	0	0	11,110	250	11,360
		95	17	27,063	10	0	5	27,078	5,656	32,734
		98o	14	23	20	0	250	293	1,363	1,656
		98n	1	0	0	0	0	0	0	0
57-41-0	‡ Phenytoin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	19,300	19,300
		98o	1	1	0	0	0	1	7,510	7,511
		98n	1	3	0	0	0	3	143	146
75-44-5	Phosgene	88	37	21,603	500	250	0	22,353	480	22,833
		95	29	15,894	0	5	0	15,899	0	15,899
		98o	33	15,247	0	0	3	15,250	0	15,250
		98n	No reports							
7803-51-2	* Phosphine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	1,491	0	0	0	1,491	0	1,491
		98o	5	38,368	0	0	0	38,368	0	38,368
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Phenanthrene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	162,334	1,190	35,001	197,312	1,107,863	2,410	151,354	1,657,464	42,529
	98o	328,384	98,267	53,336	165,155	612,747	170,536	339,661	1,768,086	7,313
	98n	0	0	0	32,000	234,397	0	27,212	293,609	1
* Phenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	41,673,425	556,968	28,791,114	3,685,797	34,793,176	6,363,143	14,468,241	130,331,864	72,200
	98o	42,468,389	133,291	30,778,066	3,923,101	25,817,756	5,208,605	11,740,573	120,069,781	32,711
	98n	0	0	0	4,914,898	4,715,702	1,557	571,501	10,203,658	9
* Phenothrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
1,2-Phenylenediamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	499,896	7,316	44,037	551,249	320
	98o	0	0	0	0	171,437	50,690	2,208	224,335	0
	98n	0	0	0	0	0	0	37	37	0
1,3-Phenylenediamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	493	617,879	134,176	112,936	865,484	1
	98o	650	114,558	20	2,300	529,484	1,667,563	46,443	2,361,018	1,520
	98n	0	0	0	0	12,604	0	37	12,641	0
p-Phenylenediamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	364,868	20,082	5,757	390,707	1
	98o	0	0	0	111	310,520	66,661	3,044	380,336	0
	98n	No reports								
* 2-Phenylphenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	530	0	1,027,544	2,065	32,590	1,062,729	1
	98o	197	0	300	0	120,000	332	456	121,285	0
	98n	0	0	0	0	0	0	0	0	0
‡ Phenytoin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	19,000	19,000	0
	98o	0	0	0	0	140	15,000	7,500	22,640	0
	98n	0	0	0	0	20,629	0	146	20,775	0
Phosgene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	430,034	0	15,138,316	2,414	15,867	15,586,631	7
	98o	3,023,304	0	0	330	7,386,424	735	15,288	10,426,081	43
	98n	No reports								
* Phosphine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	2,491	2,491	10
	98o	0	0	0	0	328,000	0	38,368	366,368	135
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
7664-38-2	* Phosphoric acid	88	2,535	1,963,090	122,647,164	53,711	52,615,971	177,279,936	5,303,543	182,583,479
		95	2,817	1,256,244	20,402,951	7,340	35,955,568	57,622,103	2,066,261	59,688,364
		98o	2,738	1,220,514	27,703,308	14,201	21,129,789	50,067,812	4,899,557	54,967,369
		98n	187	8,221	11,647	2,400,750	270,048	2,690,666	125,569	2,816,235
7723-14-0	* Phosphorus (yellow or white)	88	73	20,608	11,322	0	3,893,674	3,925,604	195,013	4,120,617
		95	53	28,621	3,661	0	1,871,801	1,904,083	23,650	1,927,733
		98o	51	23,589	3,761	0	2,273,070	2,300,420	7,637	2,308,057
		98n	3	14	0	0	0	14	568	582
85-44-9	Phthalic anhydride	88	180	549,909	1,040	0	1,265	552,214	3,976,682	4,528,896
		95	184	604,993	711	0	674	606,378	76,916	683,294
		98o	160	303,577	193	0	0	303,770	3,827,768	4,131,538
		98n	6	21	0	31,039	0	31,060	386	31,446
1918-02-1	* Picloram	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	220	1	0	0	221	0	221
		98o	2	460	6	0	0	466	0	466
		98n	No reports							
88-89-1	Picric acid	88	5	252	251	1,362,180	250	1,362,933	0	1,362,933
		95	9	221	0	49,256	0	49,477	0	49,477
		98o	8	0	1	63,950	0	63,951	0	63,951
		98n	No reports							
51-03-6	* Piperonyl butoxide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	12	775	0	0	0	775	750	1,525
		98o	12	501	0	0	0	501	0	501
		98n	No reports							
—	‡ Polybrominated biphenyls	88	1	250	0	0	0	250	0	250
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
—	Polychlorinated alkanes	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	69	20,945	6,206	0	0	27,151	197,580	224,731
		98o	66	4,075	31	0	0	4,106	109,661	113,767
		98n	2	0	0	0	0	0	0	0
1336-36-3	*‡ Polychlorinated biphenyls (PCBs)	88	120	6	10	0	752	768	410,996	411,764
		95	9	0	0	0	0	0	34,432	34,432
		98o	6	0	0	0	134,160	134,160	135	134,295
		98n	15	446	251	5	3,607,976	3,608,678	4,193	3,612,871
—	‡ Polycyclic aromatic compounds	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	146	425,730	4,995	0	32,887	463,612	1,219,471	1,683,083
		98o	175	1,475,089	1,987	0	167,260	1,644,336	1,752,734	3,397,070
		98n	76	1,368	21	0	115,530	116,919	3,206	120,125

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A–1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Phosphoric acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	216,227,959	11,790,110	14,792	56,635	348,504,971	5,409,508	55,670,985	637,674,960	3,978,845
	98o	1,126,467,141	2,889,573	5,500	66,811	168,603,390	9,130,157	52,958,665	1,360,121,237	445,302
	98n	0	63	0	13,452	2,397,494	581,401	2,817,944	5,810,354	2,854
* Phosphorus (yellow or white)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,091	26,089	0	0	5,052	147,342	1,929,173	2,108,747	1,080
	98o	1	236,289	0	0	900,878	1,235	2,306,946	3,445,349	4,401
	98n	0	0	0	0	80,274	0	576	80,850	0
Phthalic anhydride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	421,574	1,317	2,420,922	4,951,573	18,689,501	444,135	670,336	27,599,358	26,167
	98o	169,533	49,603	3,110,037	2,975,259	16,603,795	503,613	4,128,842	27,540,682	15,049
	98n	0	0	0	13,502	177,000	0	31,446	221,948	1
* Picloram	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	23,208	0	221	23,429	0
	98o	0	0	0	0	439,000	0	466	439,466	0
	98n	No reports								
Picric acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	53,393	2	1,261,618	0	49,477	1,364,490	0
	98o	0	0	129,412	12,941	1,627,444	0	63,951	1,833,748	0
	98n	No reports								
* Piperonyl butoxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	5	0	16,290	1,099	17,394	1
	98o	0	0	0	0	0	3,412	426	3,838	0
	98n	No reports								
‡ Polybrominated biphenyls	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	2,720	0	0	0	0	0	2,720	0
	98o	0	1,000	0	0	0	0	0	1,000	0
	98n	No reports								
Polychlorinated alkanes	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	79,803	175,674	0	135,332	313,520	478,797	239,681	1,422,807	6
	98o	0	444,915	32,400	77,993	201	338,168	140,983	1,034,660	631
	98n	0	0	0	0	11,325	846	0	12,171	0
* ‡ Polychlorinated biphenyls (PCBs)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	64,494	8,242	72,736	1
	98o	0	0	0	0	0	261,714	0	261,714	1
	98n	0	140,018	0	0	8,446,718	428,219	3,610,080	12,625,035	2
‡ Polycyclic aromatic compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,473,048	115,771	10,281,825	58,948	1,471,546	6,061	1,719,901	15,127,100	22,298
	98o	1,738,975	244,544	3,634,434	259,696	4,180,566	27,033	3,291,909	13,377,157	43,942
	98n	312	216	0	0	48,107,002	1,345	120,485	48,229,360	109

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
7758-01-2 ‡	Potassium bromate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	5	0	0	0	5	0	5
		98o	4	10	0	0	0	10	0	10
		98n	No reports							
128-03-0 *	Potassium dimethyl-dithiocarbamate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	10	206	5	0	0	211	0	211
		98o	19	500	24,760	0	5	25,265	5	25,270
		98n	No reports							
137-41-7 *	Potassium N-methyl-dithiocarbamate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	35	0	0	0	35	0	35
		98o	5	0	0	0	0	0	0	0
		98n	No reports							
41198-08-7 *	Profenofos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	10	0	0	0	10	0	10
		98n	No reports							
7287-19-6 *	Prometryn	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	6	1,481	159	0	0	1,640	890	2,530
		98o	5	725	8	0	0	733	1,047	1,780
		98n	No reports							
23950-58-5 *	Pronamide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	255	0	0	0	255	0	255
		98o	2	255	0	0	0	255	0	255
		98n	2	110	0	0	0	110	0	110
1918-16-7 *	Propachlor	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	331	0	0	0	331	777	1,108
		98o	4	62	0	0	0	62	600	662
		98n	No reports							
1120-71-4 ‡	Propane sultone	88	2	0	0	0	0	0	0	0
		95	1	0	0	0	0	0	0	0
		98o	No reports							
		98n	No reports							
709-98-8 *	Propanil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	4	2,357	250	0	0	2,607	3,723	6,330
		98o	5	2,505	750	0	0	3,255	11,250	14,505
		98n	1	2	0	0	0	2	270	272
2312-35-8 *	Propargite	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	426	0	0	0	426	0	426
		98o	3	525	0	0	0	525	3,546	4,071
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Potassium bromate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	51,447	1	0	0	13	51,461	0
	98n	No reports								
* Potassium dimethyl-dithiocarbamate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	11,000	161,362	211	172,573	0
	98o	0	0	0	0	8,600	120,325	36,527	165,452	1
	98n	No reports								
* Potassium N-methyl-dithiocarbamate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	35	35	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Profenofos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	109	0	0	109	0
	98o	0	0	0	0	0	0	7,270	7,270	0
	98n	No reports								
* Prometryn	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	1	1,314	7,603	4,028	12,946	0
	98o	0	0	0	0	30,035	38,455	789	69,279	0
	98n	No reports								
* Pronamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,700	0	0	0	0	1,200	260	5,160	0
	98o	5,500	0	0	0	0	2,095	290	7,885	0
	98n	0	0	0	234,265	0	0	110	234,375	1
* Propachlor	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	7,270	1,237	8,507	14,000
	98o	0	0	0	0	0	91,800	662	92,462	0
	98n	No reports								
‡ Propane sultone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	16	0	0	16	0
	98o	No reports								
	98n	No reports								
* Propanil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	402	4,468	4,870	0
	98o	200,000	0	0	0	0	86,745	12,552	299,297	50
	98n	0	0	0	0	202,192	0	272	202,464	0
* Propargite	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	544	0	4,365	426	5,335	0
	98o	0	0	0	2,216	0	76,189	3,896	82,301	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
107-19-7	* Propargyl alcohol	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	11	10,245	0	290,680	0	300,925	936	301,861
		98o	14	15,675	0	418,223	7,620	441,518	253	441,771
		98n	2	5	0	0	0	5	0	5
31218-83-4	* Propetamphos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	500	0	0	0	500	750	1,250
		98o	1	10	0	0	0	10	250	260
		98n	No reports							
60207-90-1	* Propiconazole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	0	0	0	0	0	0	0
		98o	5	10	0	0	0	10	0	10
		98n	No reports							
123-38-6	* Propionaldehyde	88	15	1,267,839	1,156	930	0	1,269,925	0	1,269,925
		95	24	263,349	27,012	101,432	0	391,793	0	391,793
		98o	26	311,153	6,017	92,183	78	409,431	14	409,445
		98n	3	192	0	0	0	192	0	192
114-26-1	* Propoxur	88	5	250	0	0	0	250	250	500
		95	5	5	0	0	0	5	0	5
		98o	2	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	10	10
115-07-1	Propylene	88	334	32,200,231	10,003	0	0	32,210,234	3,320	32,213,554
		95	351	27,575,681	4,047	0	169	27,579,897	298	27,580,195
		98o	365	16,383,072	3,104	2,870	389	16,389,435	897	16,390,332
		98n	39	79,265	0	0	0	79,265	0	79,265
75-55-8	‡ Propyleneimine	88	1	500	0	0	0	500	0	500
		95	7	600	0	0	0	600	0	600
		98o	4	385	5	0	0	390	5	395
		98n	No reports							
75-56-9	*,‡ Propylene oxide	88	128	3,680,215	112,503	1,113,780	11,630	4,918,128	16,626	4,934,754
		95	135	837,394	29,934	22,577	4,403	894,308	8,633	902,941
		98o	114	739,940	1,124	1,923	691	743,678	5,687	749,365
		98n	8	34	0	13,380	0	13,414	178	13,592
110-86-1	* Pyridine	88	31	251,799	2,158	491,775	1,125	746,857	40,699	787,556
		95	41	100,190	830	532,497	4	633,521	321	633,842
		98o	49	70,262	1,056	593,199	0	664,517	13,594	678,111
		98n	17	697	0	5	0	702	6,203	6,905
91-22-5	Quinoline	88	34	49,350	502	0	896	50,748	6,242	56,990
		95	23	11,412	20	13,000	405	24,837	3,744	28,581
		98o	21	15,415	32	29,350	265	45,062	2,553	47,615
		98n	1	1	0	0	0	1	73	74

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Propargyl alcohol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	198,867	344,704	56,027	78,003	301,422	979,023	0
	98o	0	0	60,400	520,327	109,142	41,800	444,545	1,176,214	1
	98n	0	0	0	909	13,178	1,000	2	15,089	0
* Propetamphos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	1,067	1,067	1
	98o	0	0	0	0	0	0	482	482	0
	98n	No reports								
* Propiconazole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,026	0	1,026	0
	98o	0	0	0	0	25,000	0	2,943	27,943	0
	98n	No reports								
* Propionaldehyde	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	898,697	5,565	2,348,820	79,790	387,308	3,720,180	24
	98o	0	0	2,021,614	4,648	5,082,153	46,283	411,365	7,566,063	402
	98n	0	0	0	442,609	3	15	192	442,819	1
* Propoxur	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,081	4	1,085	0
	98o	0	0	0	0	0	435	0	435	0
	98n	0	0	0	0	0	0	25	25	0
Propylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	6,713,304	0	463,253,246	3,132,285	254,254,014	80,239	26,886,366	754,319,454	1,008,723
	98o	74,791,416	23,152	457,768,564	2,218	299,247,194	2,896,808	14,982,963	849,712,315	1,239,987
	98n	0	0	0	0	440	0	79,264	79,704	12
‡ Propyleneimine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,433	0	600	2,033	3
	98o	0	0	0	0	2,788	6	680	3,474	0
	98n	No reports								
*‡ Propylene oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	3,091	0	17,981,778	281,155	14,373,959	192,373	1,135,037	33,967,393	20,210
	98o	1,081,157	0	13,924,312	79,248	14,370,438	475,463	757,381	30,687,999	1,416
	98n	0	0	0	30,399	40,509	231	13,414	84,553	0
* Pyridine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	4,074,830	14,008	1,713,719	186,855	348,378	483,295	630,885	7,451,970	1,077
	98o	616,015	0	1,756,718	470,128	765,210	719,928	689,279	5,017,278	1,111
	98n	0	0	16,073	620,143	1,333,326	30,052	2,577	2,002,171	1
Quinoline	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,750	2,243	302,003	22	222,705	16,120	27,181	572,024	253
	98o	27,147	1,713	122,038	11,582	109,680	961	47,741	320,862	300
	98n	0	0	0	0	10,461	0	74	10,535	0

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
106-51-4	* Quinone	88	5	11,300	140	0	0	11,440	0	11,440
		95	4	7,101	1,500	0	0	8,601	0	8,601
		98o	5	481	1,600	0	0	2,081	0	2,081
		98n	1	0	0	0	0	0	0	0
82-68-8	* Quintozene	88	6	1,064	0	0	0	1,064	12,625	13,689
		95	10	1,424	0	0	800	2,224	192	2,416
		98o	11	1,790	0	0	0	1,790	2	1,792
		98n	2	10	0	0	0	10	12,152	12,162
76578-14-8	* Quizalofop-ethyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	6	0	0	0	6	0	6
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
10453-86-8	* Resmethrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
81-07-2	‡ Saccharin (manufacturing)	88	4	750	0	0	0	750	750	1,500
		95	1	99	0	0	0	99	1,500	1,599
		98o	2	160	0	0	0	160	940	1,100
		98n	1	0	0	0	0	0	0	0
94-59-7	*,‡ Safrole	88	2	500	0	0	0	500	0	500
		95	1	255	0	0	0	255	0	255
		98o	2	10	0	0	0	10	0	10
		98n	1	0	0	0	0	0	0	0
7782-49-2	* Selenium	88	24	16,282	1,168	0	127,508	144,958	4,367	149,325
		95	15	1,450	92	0	23	1,565	3,501	5,066
		98o	14	791	58	0	2,010	2,859	15,798	18,657
		98n	13	814	0	17,937	254,259	273,010	208,135	481,145
—	Selenium compounds	88	18	14,506	250	3,400	45,750	63,906	63,226	127,132
		95	40	61,946	2,184	3,640	264,759	332,529	108,874	441,403
		98o	52	78,518	3,373	38,030	361,204	481,125	70,580	551,705
		98n	80	527,764	32,727	8	4,641,085	5,201,584	362,356	5,563,940
74051-80-2	* Sethoxydim	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	2	10	0	0	0	10	0	10
		98n	1	0	0	0	0	0	0	0
7440-22-4	* Silver	88	72	47,988	1,654	0	39,510	89,152	8,482	97,634
		95	74	9,297	161	0	250	9,708	14,871	24,579
		98o	82	11,418	171	2	2,026	13,617	68,790	82,407
		98n	15	60	0	15,380	400,306	415,746	111,084	526,830

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Quinone	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	179,870	1,328	130,500	30,173	8,601	350,472	0
	98o	0	0	1,400	17,747	556,300	10,917	2,100	588,464	0
	98n	0	0	0	0	0	0	0	0	0
* Quintozene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	863	0	0	0	0	759,587	2,251	762,701	110
	98o	515	0	0	376,866	0	13,168	1,792	392,341	10
	98n	0	0	0	0	44,515	0	3	44,518	0
* Quizalofop-ethyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	5	5	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Resmethrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
‡ Saccharin (manufacturing)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	9,700	10	1,600	11,310	74
	98o	0	0	0	0	7,300	7	1,100	8,407	0
	98n	0	0	0	0	0	0	0	0	0
* ‡ Safrole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1	5	0	6	0
	98o	0	0	0	0	0	10	30	40	0
	98n	0	0	0	0	0	0	0	0	0
* Selenium	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,604	4,604	0	0	23	2,271	1,524	10,026	1
	98o	0	0	86,174	3,902	156	920	11,283	102,435	0
	98n	0	0	0	0	0	185,504	295,578	481,082	0
Selenium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	590,805	158,278	0	10	2	48,520	355,030	1,152,645	49,259
	98o	595,899	68,632	0	0	2,040	7,685	544,374	1,218,630	76,445
	98n	53,228	9	0	0	4	23	5,731,317	5,784,581	11
* Sethoxydim	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	293	20	313	0
	98n	0	0	0	0	17,391	0	0	17,391	0
* Silver	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	563,590	1,251,487	0	1	87,462	531	17,608	1,920,679	619
	98o	597,281	1,197,977	0	32	4,917	44,958	235,355	2,080,520	4
	98n	400	0	0	0	0	17	490,979	491,396	1

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
—	Silver compounds	88	46	15,406	8,684	250	11,550	35,890	15,803	51,693
		95	59	15,582	6,284	380	35,325	57,571	7,549	65,120
		98o	64	6,636	5,704	109	76,755	89,204	194,891	284,095
		98n	21	847	676	140,000	4,087,351	4,228,874	88,912	4,317,786
122-34-9	* Simazine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	7	4,990	232	0	5	5,227	26,231	31,458
		98o	7	3,321	332	0	0	3,653	4,497	8,150
		98n	1	0	0	0	0	0	0	0
26628-22-8	* Sodium azide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	14	35,575	200	0	255	36,030	133,837	169,867
		98o	11	15,408	20	0	250	15,678	10,891	26,569
		98n	3	14	0	0	190,646	190,660	180	190,840
1982-69-0	* Sodium dicamba	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	14,350	0	750	0	15,100	0	15,100
		98o	2	8,560	0	750	0	9,310	0	9,310
		98n	No reports							
128-04-1	* Sodium dimethyldithio-carbamate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	61	2,746	20	0	0	2,766	152,357	155,123
		98o	80	21,924	4,868	0	13,367	40,159	316,977	357,136
		98n	10	7	0	0	482,268	482,275	12,561	494,836
7632-00-0	* Sodium nitrite	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	322	301,410	546,938	1,004,363	81,948	1,934,659	293,970	2,228,629
		98o	379	139,416	429,631	841,400	538,533	1,948,980	465,973	2,414,953
		98n	23	766	500	27,801	14,910	43,977	78	44,055
—	Strychnine and salts	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
100-42-5	‡ Styrene	88	1,259	34,309,811	59,069	165	242,941	34,611,986	2,013,696	36,625,682
		95	1,563	41,543,298	4,570	209,945	96,078	41,853,891	2,724,361	44,578,252
		98o	1,534	53,704,396	13,437	345,945	322,736	54,386,514	1,998,942	56,385,456
		98n	107	22,189	10	161,738	14,929	198,866	30,283	229,149
96-09-3	‡ Styrene oxide	88	6	2,314	0	0	0	2,314	750	3,064
		95	5	13	0	0	0	13	0	13
		98o	2	9	0	0	0	9	0	9
		98n	No reports							
7664-93-9	* Sulfuric acid	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1,592	21,672,183	5,363	30,035	134,812	21,842,393	4,733,342	26,575,735
		98o	822	26,620,367	22,608	690,900	55,837	27,389,712	1,131,423	28,521,135
		98n	481	167,137,095	2,400,001	0	85,501	169,622,597	20,000	169,642,597

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A–1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Silver compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	327,846	1,064,906	0	0	3,966,504	23,221	56,205	5,438,682	272
	98o	236,220	1,053,421	0	0	52,854	2,251	444,514	1,789,260	5,417
	98n	2,532	251	0	0	0	2,396	4,379,284	4,384,463	5
* Simazine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	150,000	24,000	4,970	178,970	0
	98o	50	0	0	0	68,000	1,500	6,294	75,844	0
	98n	0	0	0	0	0	0	0	0	0
* Sodium azide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	190,310	556,000	0	0	93,341	3,906,934	166,060	4,912,645	112
	98o	34,600	439,942	0	0	11,732	628,125	26,202	1,140,601	6
	98n	0	0	0	0	36,074	0	191,601	227,675	1
* Sodium dicamba	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	800	15,200	16,000	0
	98o	0	0	0	0	414,800	46,680	9,546	471,026	0
	98n	No reports								
* Sodium dimethyldithiocarbamate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	250	199,200	0	0	467,228	510,003	27,474	1,204,155	5,006
	98o	250	183,221	192	0	655,471	662,384	201,467	1,702,985	1
	98n	0	1	0	3	0	430	497,268	497,702	2
* Sodium nitrite	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	374,426	4,657	0	0	7,287,854	2,774,201	2,829,724	13,270,862	278
	98o	391,745	34,041	0	1,117	15,840,859	3,180,881	2,352,246	21,800,889	8,406
	98n	0	0	0	0	664,173	173,681	44,290	882,144	2
Strychnine and salts	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	31,974	0	0	31,974	0
‡ Styrene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	9,297,615	636,377	20,677,599	9,228,145	14,069,376	4,184,773	43,776,208	101,870,093	171,054
	98o	14,406,909	1,417,181	28,288,840	8,505,880	9,253,589	4,953,314	55,304,778	122,130,491	181,604
	98n	163,600	482,410	0	2,900,712	1,307,660	163,801	676,629	5,694,812	966
‡ Styrene oxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	35,337	0	0	0	13	35,350	0
	98o	0	0	30,000	0	0	0	9	30,009	0
	98n	No reports								
* Sulfuric acid	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	686,624,536	5,892,020	66,777	24,524	655,860,878	11,581,301	23,125,457	1,383,175,493	86,021
	98o	242,521,471	1,193,466	43,000	41	163,703,014	4,533,258	27,395,926	439,390,176	42,080
	98n	1	15	0	17,184	156,274,080	327	168,632,533	324,924,140	1,886

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
2699-79-8	* Sulfuryl fluoride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	355,007	0	0	0	355,007	0	355,007
		98o	3	466,000	0	0	0	466,000	0	466,000
		98n	No reports							
35400-43-2	* Sulprofos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	247	0	0	0	247	0	247
		98o	No reports							
		98n	No reports							
34014-18-1	* Tebuthiuron	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	5	0	0	0	5	0	5
		98o	1	10	0	0	0	10	750	760
		98n	No reports							
3383-96-8	* Temephos	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	1	7	0	0	0	7	0	7
5902-51-2	* Terbacil	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	4,608	0	0	4,608	0	4,608
		98o	No reports							
		98n	No reports							
630-20-6	1,1,1,2-Tetrachloroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	8	7,011	0	0	0	7,011	2	7,013
		98o	7	8,732	5	0	0	8,737	2	8,739
		98n	5	952	0	0	0	952	67	1,019
79-34-5	* 1,1,2,2-Tetrachloroethane	88	13	43,865	1,903	0	29	45,797	128,750	174,547
		95	16	8,275	2,222	0	0	10,497	7	10,504
		98o	15	7,287	19	0	0	7,306	6,458	13,764
		98n	7	52	250	5	0	307	45	352
127-18-4	*,‡ Tetrachloroethylene	88	748	36,142,591	33,314	72,250	82,144	36,330,299	1,385,378	37,715,677
		95	442	9,646,764	2,407	20,481	6	9,669,658	78,221	9,747,879
		98o	362	5,378,267	1,490	5,916	2,992	5,388,665	127,744	5,516,409
		98n	158	203,750	250	644	18,986	223,630	46,646	270,276
354-11-0	1,1,1,2-Tetrachloro-2-fluoroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	23,275	1	0	0	23,276	0	23,276
		98n	No reports							
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	10	0	0	0	10	0	10
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A–1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Sulfuryl fluoride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	371,500	371,500	0
	98o	0	0	0	0	0	0	461,000	461,000	5,700
	98n	No reports								
* Sulprofos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,137	0	249	1,386	0
	98o	No reports								
	98n	No reports								
* Tebuthiuron	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1	0	0	0	1,000	1,100	1	2,102	0
	98o	4	0	0	0	860	870	1	1,735	0
	98n	No reports								
* Temephos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	31,269	0	7	31,276	0
* Terbacil	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	5,070	7,558	4,608	17,236	0
	98o	No reports								
	98n	No reports								
1,1,1,2-Tetrachloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,600,000	0	0	0	4,234,676	379,203	8,341	7,222,220	40
	98o	6,600,180	0	0	120,700	2,930,017	43,074	8,655	9,702,626	18
	98n	0	0	0	0	158,326	2,580,168	1,015	2,739,509	1
* 1,1,2,2-Tetrachloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	6,200,000	2,233,342	846,600	880	13,754,898	150,324	10,503	23,196,547	40
	98o	6,692,000	223,548	597,000	0	10,254,173	119,300	8,887	17,894,908	803
	98n	0	0	0	2,214	479,168	2,571,170	125	3,052,677	0
* ‡ Tetrachloroethylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	46,323,123	6,821,607	8,865,647	781,602	26,279,022	2,315,753	9,637,247	101,024,001	14,474
	98o	127,776,623	14,221,195	6,567,399	622,782	22,292,456	1,066,482	5,387,673	177,934,610	36,280
	98n	4,546,323	975,944	434	2,807,835	1,453,568	4,577,503	281,180	14,642,787	128
1,1,1,2-Tetrachloro-2-fluoroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	6,600	270	0	0	0	0	21,000	27,870	0
	98n	No reports								
1,1,2,2-Tetrachloro-1-fluoroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	0	26,387	15	26,402	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
961-11-5	* Tetrachlorvinphos	88	6	251	0	0	0	251	9,270	9,521
		95	5	626	5	0	0	631	4,200	4,831
		98o	4	360	5	0	0	365	0	365
		98n	No reports							
64-75-5	* Tetracycline hydrochloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	754	0	0	0	754	112	866
		98o	2	525	0	0	0	525	1,800	2,325
		98n	No reports							
7696-12-0	* Tetramethrin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	2	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	0	0
7440-28-0	Thallium	88	No reports							
		95	1	255	0	0	755	1,010	195	1,205
		98o	5	15	0	0	3,400	3,415	3,650	7,065
		98n	5	533	65	0	96,339	96,937	5	96,942
—	Thallium compounds	88	4	253	0	0	250	503	1,256	1,759
		95	No reports							
		98o	4	1,060	250	0	409,000	410,310	259	410,569
		98n	29	35,325	729	0	10,791,508	10,827,562	2,554	10,830,116
148-79-8	* Thiabendazole	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	3,929	0	0	0	3,929	0	3,929
		98o	3	0	0	0	0	0	0	0
		98n	No reports							
62-55-5	‡ Thioacetamide	88	1	500	0	0	0	500	0	500
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
28249-77-6	* Thiobencarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	510	0	0	0	510	3,032	3,542
		98o	2	286	0	0	0	286	760	1,046
		98n	No reports							
59669-26-0	* Thiodicarb	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	376	0	0	0	376	500	876
		98o	3	359	0	0	0	359	5,966	6,325
		98n	No reports							
23564-05-8	* Thiophanate-methyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	502	0	0	0	502	0	502
		98o	7	431	0	0	0	431	442	873
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Tetrachlorvinphos	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	330	0	17,000	47,000	1,020	4,244	4,395	73,989	0
	98o	350	0	44,000	26,700	870	11,640	211	83,771	0
	98n	No reports								
* Tetracycline hydrochloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,736	677	2,413	0
	98o	0	0	0	0	0	700	2,160	2,860	0
	98n	No reports								
* Tetramethrin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	437	0	437	0
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	0	0	0	0	0
Thallium	88	No reports								
	95	688,093	3,852	0	0	0	190	31	692,166	0
	98o	0	0	52,353	1	0	9	3,406	55,769	0
	98n	0	0	0	0	21,600	1	96,826	118,427	0
Thallium compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	250	310,000	310,250	100,000
	98n	2,133	0	0	0	0	1	10,861,194	10,863,328	653
* Thiabendazole	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1	0	0	2,160	1,200	1,931	3,740	9,032	0
	98o	0	0	0	0	0	747	0	747	0
	98n	No reports								
‡ Thioacetamide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
* Thiobencarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	620	3,162	3,782	0
	98o	747	0	0	0	0	198	1,772	2,717	1
	98n	No reports								
* Thiodicarb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,500	0	0	0	41,139	160	180	42,979	1
	98o	108,880	0	0	0	34,243	19,476	362	162,961	0
	98n	No reports								
* Thiophanate-methyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	320	0	0	0	0	2,677	507	3,504	0
	98o	10,000	0	0	0	0	3,431	436	13,867	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
79-19-6	Thiosemicarbazide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	No reports							
		98n	No reports							
62-56-6	*‡ Thiourea	88	26	2,004	16,951	5,940	750	25,645	2,303	27,948
		95	26	1,630	1,487	5,000	250	8,367	4,269	12,636
		98o	28	1,672	358	1,250	250	3,530	5,895	9,425
		98n	4	0	0	0	0	0	0	0
137-26-8	* Thiram	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	61	2,856	50	0	0	2,906	98,617	101,523
		98o	64	3,279	22	0	1,751	5,052	81,375	86,427
		98n	3	15	0	0	0	15	25	40
1314-20-1	Thorium dioxide	88	3	1,580	0	0	0	1,580	677,549	679,129
		95	1	1	0	0	0	1	0	1
		98o	2	0	0	0	0	0	0	0
		98n	No reports							
7550-45-0	Titanium tetrachloride	88	41	78,668	0	0	1,400	80,068	0	80,068
		95	33	20,299	0	0	0	20,299	32,282	52,581
		98o	34	31,991	0	0	0	31,991	380	32,371
		98n	3	0	0	0	0	0	0	0
108-88-3	* Toluene	88	4,006	299,954,882	196,957	1,473,666	644,168	302,269,673	9,615,791	311,885,464
		95	3,470	147,530,281	53,263	310,643	177,343	148,071,530	881,153	148,952,683
		98o	3,002	97,287,386	38,270	589,931	71,470	97,987,057	1,340,500	99,327,557
		98n	813	962,248	5,572	21,671	51,883	1,041,374	492,065	1,533,439
584-84-9	‡ Toluene-2,4-diisocyanate	88	257	165,062	0	0	1,040	166,102	36,178	202,280
		95	64	7,805	0	0	0	7,805	611	8,416
		98o	54	6,853	5	0	0	6,858	4,402	11,260
		98n	6	2	0	0	0	2	0	2
91-08-7	‡ Toluene-2,6-diisocyanate	88	189	492,192	0	0	510	492,702	9,444	502,146
		95	40	3,044	0	0	0	3,044	153	3,197
		98o	24	1,561	0	0	0	1,561	1,079	2,640
		98n	1	0	0	0	0	0	0	0
26471-62-5	‡ Toluenediisocyanate (mixed isomers)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	196	48,856	105	0	275	49,236	26,263	75,499
		98o	176	55,406	0	0	534	55,940	32,450	88,390
		98n	4	0	0	0	0	0	0	0
95-53-4	‡ o-Toluidine	88	18	46,922	1,902	250	5,024	54,098	670	54,768
		95	23	12,826	256	22,140	12	35,234	55	35,289
		98o	19	7,606	5	17,020	5	24,636	11	24,647
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

**Appendix A — Chemical-specific TRI Release and Waste Management Data,
1988, 1995 and 1998**



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Thiosemicarbazide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	No reports								
	98n	No reports								
*‡ Thiourea	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	7,082	0	0	0	18,535	11,867	10,652	48,136	1
	98o	0	245	0	0	55,223	16,049	8,760	80,277	1
	98n	0	0	0	0	0	0	0	0	1
* Thiram	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	18,712	31,501	0	5	407	10,622	101,354	162,601	6
	98o	25,341	31,339	0	870	0	19,988	84,505	162,043	3
	98n	0	0	0	0	42,192	0	40	42,232	0
Thorium dioxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	26,000	0	0	0	0	2,600	1	28,601	0
	98o	3,100	0	0	0	0	0	330	3,430	0
	98n	No reports								
Titanium tetrachloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	129,787	0	0	23,836,598	2,928	52,646	24,021,959	13
	98o	0	196,905	0	1	27,810,226	142,054	32,619	28,181,805	266
	98n	0	0	0	0	122,039	0	0	122,039	0
* Toluene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,003,669,151	25,263,068	214,670,916	78,591,424	192,091,541	19,520,426	144,748,460	1,678,554,986	370,435
	98o	1,062,792,815	24,149,114	237,136,803	76,695,979	244,897,497	23,568,744	99,294,597	1,768,535,549	622,564
	98n	27,683,388	3,612,535	303,316	76,552,013	19,825,779	11,390,895	5,024,861	144,392,787	350,324
‡ Toluene-2,4-diisocyanate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	427	0	37,664	16,408	3,311	20,201	6,227	84,238	13
	98o	393	0	1,410	9,546	13,193	23,162	9,402	57,106	389
	98n	0	0	0	40	8,723	0	302	9,065	300
‡ Toluene-2,6-diisocyanate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	107	0	9,416	3,705	652	1,542	7,511	22,933	7
	98o	98	0	0	1,276	501	2,613	1,547	6,035	0
	98n	0	0	0	0	0	0	0	0	0
‡ Toluenediisocyanate (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	15,224	2,784	5,800,065	60,045	2,876,258	195,978	60,100	9,010,454	11,617
	98o	7,260	1,996	7,812,428	2,054,210	1,029,937	299,050	71,319	11,276,200	17,918
	98n	0	0	0	40	188,824	0	1	188,865	0
‡ o-Toluidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	49	0	95,623	139,297	94,846	127,937	34,825	492,577	0
	98o	220	0	303,180	120,352	150,729	105,563	24,656	704,700	460
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A–1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
636-21-5	‡ o-Toluidine hydrochloride	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
8001-35-2	*,‡ Toxaphene	88	No reports							
		95	No reports							
		98o	No reports							
		98n	5	13	0	0	25,476	25,489	113	25,602
43121-43-3	* Triadimefon	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	4	3	0	0	1	4	0	4
		98n	No reports							
2303-17-5	* Triallate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	588	0	0	0	588	24,076	24,664
		98o	2	519	0	0	0	519	21,640	22,159
		98n	No reports							
101200-48-0	* Tribenuron methyl	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1	0	0	0	1	0	1
		98o	1	1	0	0	0	1	0	1
		98n	No reports							
1983-10-4	* Tributyltin fluoride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	23	0	0	23	0	23
		98o	No reports							
		98n	No reports							
2155-70-6	* Tributyltin methacrylate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	25	23	0	0	48	0	48
		98o	2	14	10	0	0	24	0	24
		98n	No reports							
78-48-8	* S,S,S-Tributyltrithio-phosphate	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	1,730	2	0	0	1,732	0	1,732
		98o	2	250	36	0	0	286	0	286
		98n	No reports							
52-68-6	* Trichlorfon	88	5	253	0	0	0	253	487	740
		95	2	0	0	0	0	0	0	0
		98o	5	2	0	0	0	2	0	2
		98n	No reports							
76-02-8	Trichloroacetyl chloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	1	0	0	0	1	0	1
		98o	1	1	0	0	0	1	0	1
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ o-Toluidine hydrochloride	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
*‡ Toxaphene	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	103,929	1	25,602	129,532	0
* Triadimefon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	280	1,984	4	2,268	0
	98n	No reports								
* Triallate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	19,838	0	0	0	93,000	52,830	24,149	189,817	0
	98o	0	0	0	0	6,480	97,751	22,410	126,641	0
	98n	No reports								
* Tribenuron methyl	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	5,144	1	5,145	0
	98o	0	0	0	0	0	13,016	1	13,017	0
	98n	No reports								
* Tributyltin fluoride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	250	0	23	273	0
	98o	No reports								
	98n	No reports								
* Tributyltin methacrylate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	25	9,096	4,320	48	13,489	0
	98o	253	0	0	419	0	0	34	706	0
	98n	No reports								
* S,S,S-Tributyltrithio-phosphate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	2,541	316	1,717	4,574	0
	98o	0	0	0	0	10,276	691	367	11,334	0
	98n	No reports								
* Trichlorfon	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	213	2,831	2	3,046	0
	98n	No reports								
Trichloroacetyl chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	1	1	0
	98o	0	0	0	0	0	0	1	1	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
120-82-1	* 1,2,4-Trichlorobenzene	88	57	1,532,913	31,628	7,408	3,073	1,575,022	164,144	1,739,166
		95	31	168,490	259	12,500	0	181,249	41,648	222,897
		98o	25	141,284	151	8,960	0	150,395	1,651	152,046
		98n	7	765	250	5	0	1,020	507	1,527
71-55-6	* 1,1,1-Trichloroethane	88	3,921	180,841,849	95,624	1,000	204,923	181,143,396	5,947,625	187,091,021
		95	809	23,558,488	1,118	126	38,690	23,598,422	124,583	23,723,005
		98o	129	837,784	417	0	5,195	843,396	11,301	854,697
		98n	38	26,362	250	0	0	26,612	63,768	90,380
79-00-5	* 1,1,2-Trichloroethane	88	29	1,741,442	5,303	0	89	1,746,834	19,810	1,766,644
		95	22	280,352	870	0	0	281,222	84	281,306
		98o	22	280,070	540	0	1	280,611	1,173	281,784
		98n	14	750	250	5	0	1,005	3,666	4,671
79-01-6	*,‡ Trichloroethylene	88	953	55,943,736	13,801	390	21,186	55,979,113	1,466,469	57,445,582
		95	744	26,182,808	1,477	550	3,577	26,188,412	74,145	26,262,557
		98o	568	13,024,108	867	588	800	13,026,363	92,774	13,119,137
		98n	149	30,688	10	5	0	30,703	40,767	71,470
75-69-4	* Trichlorofluoromethane (CFC-11)	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	54	957,461	410	22	0	957,893	4,149	962,042
		98o	29	461,502	1,484	0	0	462,986	1	462,987
		98n	16	2,292	250	250	0	2,792	108	2,900
95-95-4	* 2,4,5-Trichlorophenol	88	1	91	0	0	0	91	20	111
		95	No reports							
		98o	1	198	36	0	69	303	0	303
		98n	2	3	0	0	0	3	0	3
88-06-2	*,‡ 2,4,6-Trichlorophenol	88	3	250	50	12,000	0	12,300	10	12,310
		95	1	161	210	0	0	371	0	371
		98o	1	114	26	0	0	140	0	140
		98n	3	4	0	0	0	4	10	14
96-18-4	‡ 1,2,3-Trichloropropane	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	5	11,081	1,600	0	0	12,681	0	12,681
		98o	8	13,889	300	0	0	14,189	6,758	20,947
		98n	No reports							
57213-69-1	* Triclopyr triethyl-ammonium salt	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	3	0	0	0	3	0	3
		98o	3	6	0	0	0	6	0	6
		98n	No reports							
121-44-8	Triethylamine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	152	2,138,352	27,705	309,512	14,010	2,489,579	17,180	2,506,759
		98o	173	1,580,026	26,046	186,190	23,755	1,816,017	56,292	1,872,309
		98n	23	1,645	0	0	0	1,645	627	2,272

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* 1,2,4-Trichlorobenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	40,745	10,541	2,400	108,129	1,137,925	393,319	183,352	1,876,411	6,387
	98o	1,115,301	22,393	66,119	15,718	564,003	199,720	151,560	2,134,814	35
	98n	0	0	0	9,500	88,370	216	697	98,783	3
* 1,1,1-Trichloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	60,033,102	3,742,428	3,718,698	1,054,160	1,108,250	1,338,872	23,347,887	94,343,397	14,198
	98o	1,173,558	157,496	2,532,293	489,686	455,010	236,114	801,370	5,845,527	19,819
	98n	462,904	7,057	474,196	2,195,731	1,410,300	645,034	69,771	5,264,993	35
* 1,1,2-Trichloroethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	18,699,000	11,817,647	12,091,000	200,596	24,559,416	3,265,021	275,059	70,907,739	482
	98o	55,855,000	10,382,145	4,986,912	225	43,261,411	2,016,996	284,696	116,787,385	48
	98n	0	0	0	41,005	1,166,146	38,648	27,547	1,273,346	1
* ‡ Trichloroethylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	154,217,925	8,493,087	2,624,155	1,121,208	5,218,927	2,309,091	25,899,233	199,883,626	221,357
	98o	133,031,389	4,723,797	3,027,541	663,417	5,461,498	1,196,775	12,967,461	161,071,878	123,613
	98n	3,551,973	3,302	3,559	774,817	1,321,535	6,233,648	42,058	11,930,892	381
* Trichlorofluoromethane (CFC-11)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	138,712	227,287	618,422	170,699	4,200	291,955	961,314	2,412,589	1,038
	98o	0	200,242	210,039	10,519	63,784	280,199	462,899	1,227,682	27
	98n	0	0	0	117,603	569,323	45,338	2,169	734,433	1
* 2,4,5-Trichlorophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	23,152	5	303	23,460	0
	98n	0	0	0	0	28,000	0	3	28,003	0
* ‡ 2,4,6-Trichlorophenol	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	1,294,115	0	371	1,294,486	0
	98o	0	0	0	0	1,100,000	0	140	1,100,140	0
	98n	0	0	0	0	28,000	0	10	28,010	0
‡ 1,2,3-Trichloropropane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	88,000	9	460,000	0	1,330,000	10,000,000	12,551	11,890,560	0
	98o	7,100,000	0	870,000	0	2,553,000	5,949,995	14,239	16,487,234	0
	98n	No reports								
* Triclopyr triethyl-ammonium salt	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	4	110	3	117	0
	98o	0	0	0	0	0	70	6	76	0
	98n	No reports								
Triethylamine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	488,423	428,122	34,114	531,959	1,615,455	1,035,880	2,618,959	6,752,912	12
	98o	332,653	670,856	380,472	406,920	4,290,600	870,481	2,144,448	9,096,430	123
	98n	0	0	0	36,112	112,632	4,293	1,752	154,789	1

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
1582-09-8	* Trifluralin	88	17	3,277	601	0	0	3,878	40,557	44,435
		95	23	17,144	92	0	8,250	25,486	24,490	49,976
		98o	17	9,180	250	0	5	9,435	29,888	39,323
		98n	2	13	0	0	0	13	0	13
26644-46-2	* Triforine	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	755	0	0	0	755	0	755
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
95-63-6	1,2,4-Trimethylbenzene	88	293	4,265,650	10,088	7,964	61,583	4,345,285	200,616	4,545,901
		95	808	7,700,983	8,434	2,886	43,921	7,756,224	52,201	7,808,425
		98o	874	7,731,719	7,464	6,650	14,784	7,760,617	172,162	7,932,779
		98n	626	141,660	695	0	3,045	145,400	16,605	162,005
639-58-7	* Triphenyltin chloride	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	1	0	0	0	0	0	0	0
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
76-87-9	* Triphenyltin hydroxide	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	3	21	0	0	0	21	250	271
		98o	3	7	0	0	0	7	235	242
		98n	No reports							
126-72-7	‡ Tris(2,3-dibromopropyl) phosphate	88	No reports							
		95	No reports							
		98o	No reports							
		98n	1	0	0	0	0	0	0	0
72-57-1	‡ Trypan blue	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	No reports							
		98o	1	0	0	0	0	0	0	0
		98n	1	0	0	0	0	0	0	0
51-79-6	‡ Urethane	88	11	145,123	0	0	0	145,123	1,350	146,473
		95	4	124	0	0	0	124	3,750	3,874
		98o	2	1,413	22	0	0	1,435	0	1,435
		98n	1	4	0	0	0	4	2,224	2,228
7440-62-2	Vanadium (fume or dust)	88	33	17,178	4,704	0	87,296	109,178	93,417	202,595
		95	19	14,649	5	0	144,086	158,740	28,780	187,520
		98o	20	16,018	16	0	128,809	144,843	4,749	149,592
		98n	15	38,782	600	0	681,263	720,645	115,226	835,871
50471-44-8	* Vinclozolin	88	NR	NR	NR	NR	NR	NR	NR	NR
		95	2	0	0	0	0	0	0	0
		98o	2	10	0	0	0	10	750	760
		98n	No reports							

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
* Trifluralin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	2,107	0	0	3	99,980	76,583	54,675	233,348	9,313
	98o	80,000	0	0	0	6,880	75,025	30,415	192,320	0
	98n	0	0	0	0	29,827	0	10	29,837	0
* Triforine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	300	890	1,190	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
1,2,4-Trimethylbenzene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	13,740,574	1,473,196	5,036,750	3,031,941	9,491,985	470,849	7,924,141	41,169,436	11,099
	98o	12,771,902	1,823,286	8,111,150	3,658,955	10,349,448	668,368	7,972,229	45,355,338	3,612
	98n	1,648,852	614,294	12,446	214,721	627,785	109,757	861,473	4,089,328	149,368
* Triphenyltin chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	2,555	0	0	2,555	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
* Triphenyltin hydroxide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	1	109,816	390	401	110,608	0
	98o	0	0	0	0	16,465	1,273	237	17,975	0
	98n	No reports								
‡ Tris(2,3-dibromopropyl) phosphate	88	No reports								
	95	No reports								
	98o	No reports								
	98n	0	0	0	0	0	0	0	0	0
‡ Trypan blue	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	No reports								
	98o	0	0	0	0	0	0	0	0	0
	98n	0	0	0	0	0	0	0	0	0
‡ Urethane	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,165	4,742	5,907	2,500
	98o	0	0	0	0	26,432	0	1,435	27,867	0
	98n	0	0	0	0	142,049	0	2,228	144,277	0
Vanadium (fume or dust)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	191,454	54,731	217	0	0	820	188,573	435,795	0
	98o	29,920	44,826	0	0	0	0	146,404	221,150	0
	98n	0	0	0	0	0	0	817,787	817,787	0
* Vinclozolin	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	1,030	0	1,030	0
	98o	0	0	0	0	650	660	1	1,311	0
	98n	No reports								

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries, 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
108-05-4	‡ Vinyl acetate	88	146	6,087,497	10,021	2,109,851	18,889	8,226,258	21,811	8,248,069
		95	155	4,105,652	8,269	783,829	1,717	4,899,467	41,783	4,941,250
		98o	195	3,327,064	3,665	285,141	1,125	3,616,995	172,610	3,789,605
		98n	14	35,950	0	0	55,000	90,950	22,422	113,372
593-60-2	‡ Vinyl bromide	88	2	4,950	400	0	0	5,350	0	5,350
		95	2	54,930	0	0	0	54,930	0	54,930
		98o	1	0	0	0	0	0	0	0
		98n	No reports							
75-01-4	‡ Vinyl chloride	88	53	1,439,189	2,051	53	4,409	1,445,702	4,555	1,450,257
		95	48	1,044,665	525	33	1	1,045,224	15,645	1,060,869
		98o	46	884,724	78	149	0	884,951	68,039	952,990
		98n	9	1,473	0	5	0	1,478	1,175	2,653
75-35-4	* Vinylidene chloride	88	21	296,353	3,462	170	429	300,414	44,281	344,695
		95	24	177,557	392	0	0	177,949	260	178,209
		98o	25	166,203	61	218	0	166,482	3	166,485
		98n	8	1,903	250	45,812	82,000	129,965	19,139	149,104
108-38-3	m-Xylene	88	68	2,463,043	2,566	0	18,045	2,483,654	107,746	2,591,400
		95	61	1,151,489	892	569	13,838	1,166,788	8,650	1,175,438
		98o	75	1,231,376	1,065	4,199	860	1,237,500	29,929	1,267,429
		98n	12	4,315	5	0	0	4,320	10	4,330
95-47-6	o-Xylene	88	66	2,241,814	2,786	250	22,461	2,267,311	52,881	2,320,192
		95	67	1,384,483	869	569	485	1,386,406	1,152	1,387,558
		98o	81	1,345,001	960	3,088	41,350	1,390,399	52,330	1,442,729
		98n	22	1,885	5	0	0	1,890	779	2,669
106-42-3	p-Xylene	88	48	5,992,743	3,200	0	49,226	6,045,169	31,108	6,076,277
		95	39	2,937,312	532	569	29,401	2,967,814	1,261	2,969,075
		98o	51	1,840,514	725	3,227	55	1,844,521	18,212	1,862,733
		98n	8	13,773	5	0	0	13,778	0	13,778
1330-20-7	* Xylene (mixed isomers)	88	3,468	158,986,408	204,480	144,728	558,257	159,893,873	6,455,911	166,349,784
		95	3,309	97,407,228	33,834	123,396	99,856	97,664,314	573,672	98,237,986
		98o	2,828	67,821,611	50,450	121,085	39,879	68,033,025	874,303	68,907,328
		98n	807	583,188	5,061	2,788	70,750	661,787	886,816	1,548,603
87-62-7	*‡ 2,6-Xyldine	88	2	337	1,537	0	0	1,874	0	1,874
		95	4	275	0	0	0	275	0	275
		98o	2	453	0	0	0	453	0	453
		98n	1	0	0	0	0	0	0	0
7440-66-6	* Zinc (fume or dust)	88	644	3,455,937	849,544	140,010	25,617,365	30,062,856	31,450,587	61,513,443
		95	434	2,018,030	45,165	0	6,402,741	8,465,936	9,630,055	18,095,991
		98o	421	1,321,627	9,869	1	7,677,900	9,009,397	8,178,683	17,188,080
		98n	42	2,673,274	31,273	294,942	66,893,786	69,893,275	300,945	70,194,220

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (chemicals added to the TRI list after 1988 or whose reporting definition has changed since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
‡ Vinyl acetate	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	311,385	533,356	15,379,353	6,544,593	19,205,133	9,194,987	5,194,288	56,363,095	14,797
	98o	993,710	86,990	18,113,523	14,361,541	27,428,956	1,452,870	3,558,001	65,995,591	62,310
	98n	0	1	0	2,467,985	741,302	64,434	109,107	3,382,829	1
‡ Vinyl bromide	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	36	0	54,910	54,946	0
	98o	0	0	0	0	0	0	0	0	0
	98n	No reports								
‡ Vinyl chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	318,121,038	90,685	23,368,507	20,853	40,034,145	55,842	1,051,733	382,742,803	31,509
	98o	377,999,298	857,715	40,383,408	14,028	36,705,295	275,230	873,905	457,108,879	19,820
	98n	0	0	0	6,752	320,294	315,826	1,421	644,293	1
* Vinylidene chloride	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,438,000	55	190,253	102,442	6,754,873	85,282	161,401	8,732,306	16,577
	98o	1,830,000	8,605	125,000	82,946	3,494,987	15,029	167,190	5,723,757	82
	98n	0	1	0	8,069	799,244	2,116	142,052	951,482	1
m-Xylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	1,917,515	27,006	4,141,480	245,136	3,100,716	131,806	1,160,477	10,724,136	1,434
	98o	1,891,441	163,888	9,462,285	239,498	1,087,152	126,807	1,265,761	14,236,832	19,072
	98n	2,913	80	0	194,683	0	1,045	4,129	202,850	0
o-Xylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	317,695	59,486	15,563,897	1,859,258	2,219,346	814,980	1,448,714	22,283,376	11,493
	98o	102,107	14,743	6,965,568	1,756,281	2,049,794	815,174	1,399,902	13,103,569	14,901
	98n	1,260	475	0	192,004	49,441	552	1,999	245,731	2
p-Xylene	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	468,689	8,192	2,168,729	3,563	645,579	8,722	2,958,765	6,262,239	17,281
	98o	165,168	395	4,670,124	7,322	2,936,767	156,678	1,860,536	9,796,990	10,987
	98n	870	0	0	182,126	0	0	15,372	198,368	3,192
* Xylene (mixed isomers)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	135,128,333	41,448,000	141,797,405	70,096,844	55,510,070	9,887,922	96,742,119	550,610,693	238,872
	98o	100,170,197	34,580,802	140,741,580	58,552,768	63,117,684	13,557,039	69,968,877	480,688,947	179,195
	98n	27,282,338	3,668,826	730,790	87,511,050	10,026,587	9,219,271	3,993,137	142,431,999	75,781
*‡ 2,6-Xylidine	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	8,000	0	303	258	225	8,786	0
	98o	0	0	22,235	0	0	0	453	22,688	0
	98n	0	4	0	0	0	0	0	4	0
* Zinc (fume or dust)	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	27,847,425	78,612,040	0	53,501	3,815,022	6,476,942	10,720,889	127,525,819	35,492
	98o	28,264,015	49,724,579	0	121,438	654,672	739,677	29,388,494	108,892,875	2,282,686
	98n	393,004	69,000	0	0	0	0	70,098,287	70,560,291	3

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries; 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.



Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998

Table A-1A. TRI On-site and Off-site Releases, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

CAS Number	Chemical	Year	Total Forms Number	On-site Releases				Total On-site Releases Pounds	Off-site Releases	Total On-and Off-site Releases Pounds
				Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	Releases to Land Pounds		Transfers Off-site to Disposal Pounds	
--	Zinc compounds	88	1,665	7,265,579	1,201,109	109,555	113,361,611	121,937,854	84,387,363	206,325,217
		95	2,636	4,778,881	1,076,450	212,844	113,909,668	119,977,843	106,486,385	226,464,228
		98o	2,815	6,814,092	1,224,399	242,175	116,388,360	124,669,026	109,306,567	233,975,593
		98n	447	1,905,903	553,785	21,761,086	655,004,597	679,225,371	12,226,422	691,451,793
12122-67-7	* Zineb	88	2	1,250	0	0	0	1,250	2,600	3,850
		95	1	0	0	0	0	0	0	0
		98o	1	100	0	0	0	100	0	100
		98n	1	1	0	0	0	1	1	2
--	Mixtures and other trade name products	88	176	3,450,870	59,460	0	18,699	3,529,029	10,662,177	14,191,206
		95	30	334,194	3,171	0	0	337,365	4,400	341,765
		98o	51	215,185	0	0	250	215,435	86,089	301,524
		98n	7	7,550	0	0	0	7,550	0	7,550
--	Trade secrets	88	5	0	0	0	0	0	0	0
		95	12	0	0	0	0	0	0	0
		98o	11	30	0	0	0	30	0	30
		98n	No reports							
Total		88	NA	NA	NA	NA	NA	NA	NA	NA
		95	76,139	1,585,156,840	180,516,139	236,194,397	319,250,562	2,321,117,938	316,415,148	2,637,533,086
		98o	72,073	1,256,949,811	223,365,761	210,639,389	355,674,874	2,046,629,835	332,152,673	2,378,782,508
		98n	15,255	796,550,006	8,074,161	56,677,417	3,955,141,581	4,816,443,165	112,049,461	4,928,492,626

Note: On-site Releases from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R.

Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

Off-site Releases do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release.

Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in the 1996 reporting year.

98o is data from original industries, 98n is data from new industries.

NR: not reportable (totals for 1988 are not comparable to those for 1995 and 1998 because of the changes in the TRI list of chemicals since 1988).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

Appendix A — Chemical-specific TRI Release and Waste Management Data, 1988, 1995 and 1998



Table A-1B. Quantities of TRI Chemicals in Waste, by Chemical, 1988, 1995 and 1998 (Original and New Industries) (continued)

Chemical	Year	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
		On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
Zinc compounds	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	130,344,787	252,896,744	446,100	392,444	4,137,758	26,642,410	201,640,027	616,500,270	11,143,285
	98o	104,608,978	281,287,343	715,632	406,075	3,703,768	12,529,162	293,743,139	696,994,097	1,360,351
	98n	8,597,707	4,568,067	0	4,057	3,384,594	141,757	699,761,369	716,457,551	48,585
* Zineb	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	100	0	0	100	200	0
	98n	0	0	0	0	11,715	0	2	11,717	0
Mixtures and other trade name products	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	8,025	19,282	96,280,793	375,381	72,738,249	294,743	384,186	170,100,659	1
	98o	6,588,400	8,852	1,369,961	15,955	23,587	67,846	242,389	8,316,990	14
	98n	3,775,989	0	0	0	0	0	7,392	3,783,381	1
Trade secrets	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	0	0	0	0	0	0	0	0	0
	98o	0	0	0	0	2,700	0	30	2,730	0
	98n	No reports								
Total	88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	95	11,663,554,919		2,740,388,125	503,968,089	6,794,862,115	569,710,695	2,556,354,462	27,179,372,072	34,060,993
	98o	9,646,571,037	2,059,338,694	2,851,489,429	485,373,723	6,012,991,050	547,355,031	2,448,429,537	24,051,548,501	26,712,347
	98n	180,854,791	39,905,983	11,399,201	419,669,514	630,290,874	91,837,013	5,106,263,945	6,480,221,321	1,730,941

Note: Data from Section 8 (Current Year) of Form R.

98o is data from original industries; 98n is data from new industries

NA: not applicable (waste management data not required for 1988 reporting year).

No reports: No reports received for the chemical in that reporting year.

*Chemicals that are currently active ingredients in EPA's Pesticide Product Information System (all pesticide products imported and/or manufactured in the U.S.) and/or Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Active Ingredients, including Special Review, Canceled/Denied or Suspended, and Restricted Use Pesticides.

‡Chemicals meeting the OSHA carcinogen standard and, therefore, reported when in a mixture at a concentration level below the de minimus level of 0.1%.

