Petroleum Refining

1995 TRI Releases for Petroleum Refining Facilities (SIC 2911) by Number of Facilities Reporting (pounds/year)*

Chemical Name	# Reporting Chemical	Fugitive Air	Point Air	Water Discharges	Underground Injection	Land Disposal	Total Releases	Avg. Releases Per Facility
Benzene[C]	168	2,377,768	1,283,986	13,332	172,244	11,626	3,858,956	22,970
Toluene	165	6,662,301	2,722,039	17,441	162,200	29,226	9,593,207	58,141
Ethylbenzene	157	998,716	308,074	5,189	1,938	7,037	1,320,954	8,414
Xylene (Mixed Isomers)	156	3,763,426	1,316,901	15,568	130	39,109	5,135,134	32,918
Cyclohexane	146	1,331,517	769,508	4,956	57	6,930	2,112,968	14,472
1,2,4-trimethylbenzene	135	695,602	207,857	3,702	863	9,196	917,220	6,794
N-hexane	132	3,597,851	2,951,792	1,919	0	8,929	6,560,491	49,701
Propylene	123	5,234,486	2,801,285	3,925	0	42	8,039,738	65,364
Ammonia	116	1,685,970	6,273,572	648,618	1,361,275	33,437	10,002,872	86,232
Ethylene	113	2,301,716	844,858	4,551	0	0	3,151,125	27,886
Naphthalene	102	260,098	52,322	6,883	569	5,599	325,471	3,191
Methyl Tert-butyl Ether	87	896,363	2,056,208	69,461	594	3,319	3,025,945	34,781
1,3-butadiene[C]	75	129,590	55,748	3,663	0	0	189,001	2,520
Methanol	74	733,938	152,256	60,274	236,238	2,907	1,185,613	16,022
Chlorine	72	125,415	152,315	24,910	0	106	302,746	4,205
Cumene	59	278,122	291,651	837	0	198	570,808	9,675
Phenol	57	155,881	381,223	17,451	1,940,000	147	2,494,702	43,767
Hydrogen Fluoride	55	180,997	279,565	0	0	250	460,812	8,378
Diethanolamine	54	187,112	2,371	279,738	14,902	166	484,289	8,968
Molybdenum Trioxide	52	658	352	1,058	0	36,000	38,068	732
Phosphoric Acid	50	1,157	5	0	0	260	1,422	28
Nickel Compounds[C, M]	49	3,605	41,441	7,595	0	59,220	111,861	2,283
Sulfuric Acid	49	9,183	404,134	365	0	2,530	416,212	8,494
Polycyclic Aromatic Compounds[C]	40	19,549	10,307	2,095	0	3,312	35,263	882
Zinc Compounds[M]	40	13,166	30,175	41,862	0	14,500	99,703	2,493
Tetrachloroethylene[C]	38	42,370	4,204	115	0	1	46,690	1,229
Nitrate Compounds	34	0	0	3,720,099	0	14	3,720,113	109,415
Lead Compounds[C, M]	27	2,048	1,089	5,917	0	2,351	11,405	422
1,1,1-Trichloroethane[O]	27	96,630	11,194	188	0	0	108,012	4,000
Hydrochloric Acid (1995 and after "Acid	27	8,236	287,216	0	0	4,506	299,958	11,110
Cresol (Mixed Isomers)	25	55,078	1,168	3,819	103,736	39	163,840	6,554
Ethylene Glycol	24	64,022	21,716	15,047	0	250	101,035	4,210
Methyl Ethyl Ketone	23	4,285,050	291,337	8,193	19,000	4,705	4,608,285	200,360
Chromium Compounds[C, M]	22	16,940	12,000	9,469	0	6,348	44,757	2,034
Cobalt Compounds[C, M]	21	8	92	224	0	1,478	1,802	86
Copper Compounds[M]	17	250	820	2,708	0	2,600	6,378	375
Styrene[C]	15	6,353	67,544	204	0	25	74,126	4,942
O-xylene	14	245,825	87,343	490	569	234	334,461	23,890
P-xylene	14	813,065	190,570	486	569	249	1,004,939	71,781
1,2-Dichloroethane[C]	13	10,085	16,135	0	0	0	26,220	2,017
M-xylene	13	271,802	108,446	637	569	428	381,882	29,376
Antimony Compounds[M]	12	500	6,319	9,719	0	11,490	28,028	2,336
Tert-butyl Alcohol	12	37,577	12,166	12,027	0	1	61,771	5,148
Certain Glycol Ethers	10	5,676	46	4,320	0	135	10,177	1,018
Carbon Tetrachloride[C, O]	10	36,573	957	92	0	0	37,622	3,762
Anthracene	10	4,466	1,008	13	0	1	5,488	549
Nickel[C, M]	10	0	3,102	724	0	18	3,844	384
Biphenyl	9	7,676	2,989	174	0	0	10,839	1,204
N-methyl-2-pyrrolidone	9	253,184	51,586	190,000	0	120,458	615,228	68,359
Lead[C, M]	9	0	254	191	0	327	772	86
Manganese Compounds[M]	8	0	1,019	3,368	0	11,597	15,984	1,998
Dichlorodifluoromethane[O]	8	87,550	280	0	0	0	87,830	10,979
Phenanthrene	8	1,570	406	3	0	5	1,984	248
Asbestos (Friable)[C]	7	0	0	0	0	0	0	0
N-butyl Alcohol	6	21,505	28,375	0	0	0	49,880	8,313
1,2-Dibromoethane[C]	6	4,164	36	47	0	6	4,253	709
Methyl Isobutyl Ketone	6	212,740	21,615	15	0	466	234,836	39,139
Carbonyl Sulfide	6	493	146,000	0	0	0	146,493	24,416
Copper[M]	6	0	1,643	258	0	190	2,091	349
Barium Compounds[M]	5	0	240	4,579	0	7,015	11,834	2,367
Formaldehyde[C]	5	104	34,244	108	0	0	34,456	6,891
Carbon Disulfide	5	66	1,600	0	0	0	1,666	333
Chlorodifluoromethane[O]	5	381,678	0	0	0	0	381,678	76,336
Dicyclopentadiene	5	4,005	1,306	310	0	0	5,621	1,124
Barium[M]	5	0	50	1,992	0	1,552	3,594	719
Chromium[M]	5	0	1,515	375	0	692	2,582	516
Cobalt[C, M]	5	5	0	465	0	2	472	94
Hydrogen Cyanide	4	0	61,562	620	0	0	62,182	15,546
Cyanide Compounds	3	0	75,821	190	0	0	76,011	25,337

1995 TRI Releases for Petroleum Refining Facilities (SIC 2911) by Number of Facilities Reporting (pounds/year)*

Chemical Name	# Reporting Chemical	Fugitive Air	Point Air	Water Discharges	Underground Injection	Land Disposal	Total Releases	Avg. Releases Per Facility
2-methoxyethanol	3	3,011	193	0	0	0	3,204	1,068
Arsenic Compounds[C, M]	2	0	1	160	0	0	161	81
Cadmium Compounds[C, M]	2	0	0	16	0	0	16	8
Acetonitrile	2	14,830	2,300	0	0	0	17,130	8,565
Dichloromethane[C]	2	10,945	6,500	71	0	0	17,516	8,758
Sec-butyl Alcohol	2	3,400	390	0	0	0	3,790	1,895
Cumene Hydroperoxide	2	8,660	4,000	0	0	0	12,660	6,330
O-cresol	2	0	1	0	0	0	1	1
Vinyl Acetate[C]	2	3,306	289	0	0	0	3,595	1,798
Manganese[M]	2	0	2,000	15,000	0	0	17,000	8,500
Mercury[M]	2	0	0	2	0	1	3	2
Silver[M]	2	3,800	49	8	0	0	3,857	1,929
Antimony[M]	2	0	0	13	0	2	15	8
Arsenic[C, M]	2	0	0	101	0	244	345	173
Vanadium (Fume or Dust)[M]	2	0	393	0	0	0	393	197
Zinc (Fume or Dust)[M]	2	19	2,605	1,200	0	0	3,824	1,912
Nitric Acid	2	250	250	0	0	0	500	250
Selenium[M]	2	0	0	87	0	23	110	55
Beryllium Compounds[C, M]	1	0	0	0	0	0	0	0
Diisocyanates	1	0	0	0	0	0	0	0
Mercury Compounds[M]	1	4	32	0	0	0	36	36
Selenium Compounds[M]	1	0	6	1,900	0	0	1,906	1,906
Silver Compounds[M]	1	0	0	0	0	0	0	0
Chloroform[C]	1	0	0	0	0	0	0	0
Acetaldehyde[C]	1	0	0	115	0	0	115	115
Ethylene Oxide[C]	1	6,500	2,700	0	0	0	9,200	9,200
Ethylidene Dichloride	1	0	0	0	0	0	0	0
Propylene Oxide[C]	1	72	0	0	0	0	72	72
Trichlorofluoromethane[O]	1	750	0	0	0	0	750	750
Chlorotrifluoromethane	1	250	0	.	0	0	250	250
Isobutyraldehyde	1	40	160	0	0	0	200	200
1,2-dichloropropane	1	800	0	0	0	0	800	800
2,3-dichloropropene	1	0	0	0	0	0	0	0
Trichloroethylene[C]	1	1,600	0	0	0	0	1,600	1,600
Peracetic Acid	1	12	0	0	0	0	12	12
4,4'-isopropylidenediphenol	1	5,000	0	0	0	330,000	335,000	335,000
Quinoline	1	4,200	250	0	0	250	4,700	4,700
1,2,3-trichloropropane[C]	1	6,300	320	0	0	0	6,620	6,620
Acetophenone	1	700	10	2	0	0	712	712
2,4-Dimethylphenol	1	47	0	2	0	0	49	49
P-cresol	1	0	1	0	0	0	1	1
Epichlorohydrin[C]	1	12,000	24,000	0	0	1	36,001	36,001
Allyl Chloride	1	440	0	0	0	0	440	440
Allyl Alcohol	1	3,500	5	0	0	0	3,505	3,505
M-cresol	1	0	1	0	0	0	1	1
1,3-phenylenediamine	1	750	300	0	0	0	1,050	1,050
Chlorobenzene	1	0	8	0	0	0	8	8
2-ethoxyethanol	1	0	0	0	0	0	0	0
Pyridine	1	11,000	0	9	0	0	11,009	11,009
Butyraldehyde	1	6,800	3,600	0	0	0	10,400	10,400
Ethyl Acrylate[C]	1	0	0	0	0	0	0	0
Hydrazine[C]	1	130	1	0	0	0	131	131
Polychlorinated Biphenyls[C]	1	0	0	0	0	0	0	0
Beryllium[C, M]	1	0	0	2	0	0	2	2
Cadmium[C, M]	1	0	0	3	0	1	4	4
Sodium Nitrite	1	0	0	21,652	0	0	21,652	21,652
Fluorine	1	0	0	15,000	0	0	15,000	15,000
	180**	38,741,597	24,995,323	5,287,922	4,015,453	781,751	73,822,046	410,122

[C] Known or suspect carcinogens [M] Metals and metal compounds [O] Ozone depleters

* Refer to Section III for a discussion of the TRI data and its limitations, methodology used to obtain this data, definitions of the column headings, and the definitions of carcinogens, metals, and ozone depleters.

**Total number of facilities (not chemical reports) reporting to TRI in this industry sector.

1995 TRI Transfers for Petroleum Refining Facilities (SIC 2911) by Number and Facilities Reporting (pounds/year)*

Chemical Name	# Reporting Chemical	Potw Transfers	Disposal Transfers	Recycling Transfers	Treatment Transfers	Energy Recovery	Total Transfers	Avg Transfer Per Facility
Benzene[C]	168	211,008	14,130	56,197	48,579	16,902	346,816	2,064
Toluene	165	300,865	41,261	41,068	74,334	139,942	597,470	3,621
Ethylbenzene	157	38,203	9,664	16,148	17,768	52,082	133,866	853
Xylene (Mixed Isomers)	156	322,154	41,030	39,540	66,939	272,700	742,363	4,759
Cyclohexane	146	2,141	9,011	4,929	3,558	3,349	22,988	157
1,2,4-trimethylbenzene	135	13,084	5,327	2,204	5,135	42,643	68,393	507
N-hexane	132	2,362	10,701	3,865	8,800	2,015	27,743	210
Propylene	123	0	79	.	18	64	161	1
Ammonia	116	937,695	4,598	261	298,741	773	1,242,068	10,707
Ethylene	113	0	11	3	93	7	114	1
Naphthalene	102	3,089	11,892	622	6,300	13,550	35,453	348
Methyl Tert-butyl Ether	87	73,644	471	.	617	196	74,928	861
1,3-butadiene[C]	75	0	.	2	544	121	667	9
Methanol	74	384,200	2,440	.	906	6,076	393,622	5,319
Chlorine	72	5,748	3	.	18	258	6,027	84
Cumene	59	622	740	118	1,445	176	3,101	53
Phenol	57	968,049	30,276	20,576	420,847	668,477	2,108,225	36,986
Hydrogen Fluoride	55	0	14	.	167	.	181	3
Diethanolamine	54	1,348,360	363,856	390	8,235	.	1,720,841	31,867
Molybdenum Trioxide	52	0	624,988	1,812,236	162,803	2	2,600,029	50,001
Phosphoric Acid	50	0	451,169	1,209,400	78,458	.	1,739,027	34,781
Nickel Compounds[C, M]	49	3,266	453,321	1,278,771	17,824	116	1,753,298	35,782
Sulfuric Acid	49	0	.	.	0	.	0	0
Polycyclic Aromatic Compounds[C]	40	0	40,841	.	1,664	4,639	47,144	1,179
Zinc Compounds[M]	40	21,484	138,351	222,051	36,572	3,332	421,790	10,545
Tetrachloroethylene[C]	38	0	4	1,966	7	12	1,989	52
Nitrate Compounds	34	1,400	.	.	.	.	1,400	41
Lead Compounds[C, M]	27	0	47,350	7,696	10,476	700	66,222	2,453
1,1,1-Trichloroethane[O]	27	0	494	12,295	1,540	.	14,329	531
Hydrochloric Acid (1995 and after "Acid	27	0	.	.	24	.	24	1
Cresol (Mixed Isomers)	25	71,806	31,540	187,142	115	107	290,710	11,628
Ethylene Glycol	24	45,843	0	.	81,671	.	127,514	5,313
Methyl Ethyl Ketone	23	35,000	10,839	1,259	10,798	7,429	65,325	2,840
Chromium Compounds[C, M]	22	3,318	38,125	62,797	5,791	2,697	112,728	5,124
Cobalt Compounds[C, M]	21	0	75,702	176,323	34,850	.	286,875	13,661
Copper Compounds[M]	17	1,000	119,280	148,442	1,540	437	270,699	15,923
Styrene[C]	15	5	1,199	1,086	522	27,577	30,389	2,026
O-xylene	14	58,137	821	5,488	1,329	788	66,563	4,755
P-xylene	14	5,106	588	8,595	1,116	554	15,959	1,140
1,2-Dichloroethane[C]	13	0	.	0	.	22	22	2
M-xylene	13	13,130	833	8,889	1,352	705	24,909	1,916
Antimony Compounds[M]	12	750	24,170	50,914	19,973	.	95,807	7,984
Tert-butyl Alcohol	12	0	774	.	988	197	1,959	163
Certain Glycol Ethers	10	0	3	1,083	18	8	1,112	111
Carbon Tetrachloride[C, O]	10	0	.	0	2,201	8	2,209	221
Anthracene	10	0	0	517	20	.	537	54
Nickel[C, M]	10	46	72,244	132,962	8,673	.	213,925	21,393
Biphenyl	9	0	30	0	3	3	36	4
N-methyl-2-pyrrolidone	9	0	7,800	.	1,700	.	9,500	1,056
Lead[C, M]	9	1,387	2,686	364	5,533	.	9,970	1,108
Manganese Compounds[M]	8	1,900	.	59,000	.	0	60,900	7,613
Dichlorodifluoromethane[O]	8	0	.	141,000	250	.	141,250	17,656
Phenanthrene	8	0	972	.	1	16	989	124
Asbestos (Friable)[C]	7	0	440,082	.	.	.	440,082	62,869
N-butyl Alcohol	6	0	.	.	.	.	0	0
1,2-Dibromoethane[C]	6	0	3	.	18	18	39	7
Methyl Isobutyl Ketone	6	0	1,079	24	20	6,500	7,623	1,271
Carbonyl Sulfide	6	0	.	.	.	.	0	0
Copper[M]	6	991	2,959	1,056	236	.	5,242	874
Barium Compounds[M]	5	0	395	85	112	1,310	1,902	380
Formaldehyde[C]	5	0	.	.	.	110	110	22
Carbon Disulfide	5	0	.	.	.	.	0	0
Chlorodifluoromethane[O]	5	0	.	60,000	.	.	60,000	12,000
Dicyclopentadiene	5	250	153	.	11	.	414	83
Barium[M]	5	2,600	9,568	192	2,882	.	15,242	3,048
Chromium[M]	5	10	13,404	15,318	4	.	28,736	5,747
Cobalt[C, M]	5	0	166	36,397	.	.	36,563	7,313
Hydrogen Cyanide	4	927	.	.	.	.	927	232
Cyanide Compounds	3	42,000	35	.	6	.	42,041	14,014

1995 TRI Transfers for Petroleum Refining Facilities (SIC 2911) by Number and Facilities Reporting (pounds/year)*

Chemical Name	# Reporting Chemical	Potw Transfers	Disposal Transfers	Recycling Transfers	Treatment Transfers	Energy Recovery	Total Transfers	Avg Transfer Per Facility
2-methoxyethanol	3	0	.	.	.	.	0	0
Arsenic Compounds[C, M]	2	0	2	66	0	.	68	34
Cadmium Compounds[C, M]	2	0	0	66	51	.	117	59
Acetonitrile	2	0	.	.	.	.	0	0
Dichloromethane[C]	2	0	.	.	.	.	0	0
Sec-butyl Alcohol	2	0	.	.	.	.	0	0
Cumene Hydroperoxide	2	0	.	.	.	.	0	0
O-cresol	2	0	.	2	.	.	2	1
Vinyl Acetate[C]	2	0	.	.	294,610	917	295,527	147,764
Manganese[M]	2	1,100	.	1,900	.	.	3,000	1,500
Mercury[M]	2	9	.	.	.	.	9	5
Silver[M]	2	0	322	50,000	18	.	50,340	25,170
Antimony[M]	2	0	.	.	.	.	0	0
Arsenic[C, M]	2	0	0	.	.	.	0	0
Vanadium (Fume or Dust)[M]	2	0	3,368	1,750	.	.	5,118	2,559
Zinc (Fume or Dust)[M]	2	67	5,600	892	29	.	6,588	3,294
Nitric Acid	2	0	.	.	5	.	5	3
Selenium[M]	2	2,271	.	.	.	.	2,271	1,136
Beryllium Compounds[C, M]	1	0	.	.	.	.	0	0
Diisocyanates	1	0	.	.	.	.	0	0
Mercury Compounds[M]	1	0	1	.	.	.	1	1
Selenium Compounds[M]	1	0	.	28	2	.	30	30
Silver Compounds[M]	1	0	0	.	.	.	0	0
Chloroform[C]	1	0	.	.	1	.	1	1
Acetaldehyde[C]	1	0	.	.	.	.	0	0
Ethylene Oxide[C]	1	0	.	.	.	.	0	0
Ethylidene Dichloride	1	0	.	.	.	.	0	0
Propylene Oxide[C]	1	0	.	.	.	.	0	0
Trichlorofluoromethane[O]	1	0	.	.	.	.	0	0
Chlorotrifluoromethane	1	0	.	.	.	.	0	0
Isobutyraldehyde	1	0	.	.	.	.	0	0
1,2-dichloropropane	1	0	.	.	2	.	2	2
2,3-dichloropropene	1	0	.	.	510,840	.	510,840	510,840
Trichloroethylene[C]	1	0	.	.	.	.	0	0
Peracetic Acid	1	0	.	.	.	.	0	0
4,4'-isopropylidenediphenol	1	0	.	.	75,000	380,000	455,000	455,000
Quinoline	1	0	.	.	.	.	0	0
1,2,3-trichloropropane[C]	1	0	.	.	10,017,000	.	10,017,000	10,017,000
Acetophenone	1	0	.	.	.	.	0	0
2,4-Dimethylphenol	1	6,157	.	27,655	.	.	33,812	33,812
P-cresol	1	0	.	1	.	.	1	1
Epichlorohydrin[C]	1	0	.	.	811,315	400	811,715	811,715
Allyl Chloride	1	0	.	.	370,600	.	370,600	370,600
Allyl Alcohol	1	0	.	.	.	.	0	0
M-cresol	1	0	.	1	.	.	1	1
1,3-phenylenediamine	1	0	.	.	.	.	0	0
Chlorobenzene	1	0	.	.	.	.	0	0
2-ethoxyethanol	1	0	.	.	.	.	0	0
Pyridine	1	0	.	.	410	.	410	410
Butyraldehyde	1	0	.	.	.	.	0	0
Ethyl Acrylate[C]	1	0	.	.	.	.	0	0
Hydrazine[C]	1	0	.	.	.	.	0	0
Polychlorinated Biphenyls[C]	1	0	.	.	0	.	0	0
Beryllium[C, M]	1	0	.	.	.	.	0	0
Cadmium[C, M]	1	0	.	.	.	.	0	0
Sodium Nitrite	1	0	.	.	.	.	0	0
Fluorine	1	0	.	.	.	.	0	0
	180**	4,931,184	3,166,765	5,911,632	13,534,028	1,657,935	29,201,545	162,231

[C] Known or suspect carcinogens [M] Metals and metal compounds [O] Ozone depleters

* Refer to Section III for a discussion of the TRI data and its limitations, methodology used to obtain this data, definitions of the column headings, and the definitions of carcinogens, metals, and ozone depleters.

**Total number of facilities (not chemical reports) reporting to TRI in this industry sector.

Ten Largest Volume TRI Releasing Petroleum Refining Facilities Reporting Only SIC 2911*		
Rank	**Facility[1]**	**Total TRI Releases in Pounds**
1	Mobil Oil Beaumont Refinery, Beaumont, Texas	3,339,526
2	Amoco Petroleum Prods., Texas City, Texas	2,668,452
3	Farmland Ind. Inc., Coffeyville, Kansas	2,303,176
4	Fina Oil & Chemical, Big Spring, Texas	2,056,685
5	Lion Oil Co., El Dorado, Arkansas	1,595,262
6	Basis Petroleum Inc., Houston, Texas	886,324
7	Hess Oil Virgin Islands Corp., Kingshill, Virgin Islands	169,071
8	Lyondell-citgo Refining Co., Houston, Texas	1,394,202
9	Diamond Shamrock Inc., Sunray, Texas	1,138,037
10	Coastal Refining & Marketing, Corpus Christi, Texas	1,035,339

Source: *US EPA 1995 Toxics Release Inventory Database*.
*Refer to Section III for a general discussion of TRI data and its limitations. A discussion of the methodology used to develop this table can be found under the heading *Ten Largest Volume TRI Releasing Facilities*.

Ten Largest Volume TRI Releasing Facilities Reporting Only SIC 2911 or SIC 2911 and Other SIC Codes*			
Rank	**Facility[1]**	**SIC Codes Reported in TRI**	**Total TRI Releases in Pounds**
1	Shell Oil Co., Deer Park, Texas	2821, 2865, 2869, 2911, 2992	4,513,517
2	Mobil Oil Beaumont Refinery, Beaumont, Texas	2911	3,339,526
3	Exxon Co. USA, Baton Rouge, Louisiana	2911, 5171	2,995,273
4	Amoco Petroleum Prods., Texas City, Texas	2911	2,668,452
5	Citgo Petroleum Corp., Lake Charles, Louisiana	2819, 2869, 2911	2,552,445
6	Shell Norco Refining Co., Norco, Louisiana	2869, 2911	2,422,358
7	Phillips 66 Co., Borger, Texas	2819, 2911	2,405,278
8	Farmland Ind. Inc., Coffeyville, Kansas	2911	2,303,176
9	Chevron Prods. Co., Pasagoula, Mississippi	2869, 2873, 2911	2,235,259
10	Fina Oil & Chemical, Big Spring, Texas	2911	2,056,685

Source: *US EPA Toxics Release Inventory Database, 1995*.
*Refer to Section III for a general discussion of TRI data and its limitations. A discussion of the methodology used to develop this table can be found under the heading *Ten Largest Volume TRI Releasing Facilities*.

[1] Being included on this list does not mean that the release is associated with non-compliance with environmental laws.

Source Reduction and Recycling Activity for Petroleum Refining (SIC 2911) as Reported within TRI*

A	B	C	On-Site			Off-Site			J
			D	E	F	G	H	I	
Year	Quantity of Production-Related Waste (10^6 lbs.)[a]	% Released and Transferred[b]	% Recycled	% Energy Recovery	% Treated	% Recycled	% Energy Recovery	% Treated	% Released and Disposed[c] Off-site
1994	1,705	12%	16%	55%	25%	0%	0%	1%	4%
1995	1,449	7%	18%	43%	33%	0%	0%	1%	6%
1996	1,310	---	19%	38%	35%	0%	0%	1%	6%
1997	1,314	---	19%	39%	35%	0%	0%	1%	6%

Source: *1995 Toxics Release Inventory Database.*
* Refer to Section III for a general discussion of TRI data and its limitations. A discussion of the methodology used to develop this table can be found under the heading *Source Reduction and Recycling Activity*.
[a] Within this industry sector, non-production related waste < 1% of production related wastes for 1995.
[b] Total TRI transfers and releases as reported in Section 5 and 6 of Form R as a percentage of production related wastes.
[c] Percentage of production related waste released to the environment and transferred off-site for disposal.

Five-Year Enforcement and Compliance Summary for the Petroleum Refining Industry*									
A	B	C	D	E	F	G	H	I	J
Region	Facilities in Search	Facilities Inspected	Number of Inspections	Average Months Between Inspections	Facilities with 1 or More Enforcement Actions	Total Enforcement Actions	Percent State Lead Actions	Percent Federal Lead Actions	Enforcement to Inspection Rate
I	0	0	0	--	0	0	0%	0%	--
II	10	10	289	2	10	103	62%	38%	0.36
III	10	10	344	2	8	64	67%	33%	0.19
IV	13	12	181	4	7	19	42%	58%	0.10
V	16	16	402	2	13	59	56%	44%	0.15
VI	53	48	943	3	44	216	66%	34%	0.23
VII	5	5	140	2	4	19	5%	95%	0.14
VIII	15	14	371	2	12	62	76%	24%	0.17
IX	25	24	282	5	20	201	84%	16%	0.71
X	9	9	129	4	6	20	55%	45%	0.16
TOTAL	156	148	3,081	3	124	763	68%	32%	0.25

*Data obtained from EPA's Integrated Data for Enforcement Analysis (IDEA) System. For a description of IDEA and the methods used to obtain this data, refer to Section II.C. A discussion of this table can be found under the heading, *Five-Year Enforcement and Compliance Summary*, in Section III.