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EPA

NATIONAL ANALYSIS

THE NATIONAL BIENNIAL RCRA HAZARDOUS WASTE REPORT (BASED ON 1999 DATA)

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EXECUTIVE SUMMARY

THE NATIONAL BIENNIAL RCRA HAZARDOUS WASTE REPORT (BASED ON 1999 DATA)

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EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA), in partnership with the States[1], biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of *The National Biennial RCRA Hazardous Waste Report (Based on 1999 Data)* is to communicate the findings of EPA's 1999 Biennial Report (BR) data collection efforts to the public, government agencies, and the regulated community.[2] The Report consists of six volumes:

- The ***Executive Summary*** provides an overview of national hazardous waste generation and management practices;

- The ***National Analysis*** presents a detailed look at waste-handling practices in the EPA Regions, States, and largest facilities nationally, including (1) the quantity of waste generated, managed, shipped and received, and imported and exported between States and (2) the number of generators and managing facilities;

- The ***State Summary Analysis*** provides a two-page overview of the generation and management practices of individual States;

- The ***State Detail Analysis*** is a detailed look at each State's waste handling practices, including overall totals for generation, management, and shipments and receipts, as well as totals for the largest fifty facilities;

- The ***List of Large Quantity Generators*** identifies every hazardous waste generator in the United States that reported itself to be a large quantity generator in 1999; and

- The ***List of Treatment, Storage, and Disposal Facilities*** identifies every hazardous waste manager in the United States that reported itself to be a treatment, storage, or disposal facility in 1999.

[1] The term "State" includes the District of Columbia, Puerto Rico, Guam, the Navajo Nation, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

[2] Some respondents from the States of Georgia and Connecticut submitted Confidential Business Information (CBI) pursuant to §40 CFR 260.2(b). While not included in any public database, CBI has been incorporated into the *Executive Summary* and *National Analysis* volumes of this Report wherever possible. Where CBI has been omitted from these volumes, a footnote has been provided.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

RCRA HAZARDOUS WASTE

Throughout this Report, the term RCRA hazardous waste refers to solid waste assigned a Federal Hazardous Waste Code and regulated by RCRA. Some States elect to regulate wastes not regulated by EPA; these wastes are assigned State Hazardous Waste Codes and are not included in this Report. The reader can find more detailed explanations in the *RCRA Orientation Manual* (http://www.epa.gov/epaoswer/general/orientat/) and in the Code of Federal Regulations in 40 CFR Parts 260 and 261 (http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-I.htm). Please refer to Appendix D of the *National Analysis* volume for a complete list of EPA Hazardous Waste Codes used by the regulated community for their 1999 Biennial Report submissions. Details about the information submitted by the regulated community can be found in the *1999 Hazardous Waste Report Instructions and Forms* (http://www.epa.gov/epaoswer/hazwaste/data/brs99/forms.htm).

WASTEWATER EXCLUSION LOGIC USED FOR NATIONAL REPORTING

Wastewaters are defined for biennial reporting as wastes that have a particular form and/or are managed on-site or off-site in treatment systems typically used to manage wastewater. All wastes bearing one of the following wastewater Form Codes (B101-102; B105, B110-116) and/or System Type Codes (M071-079; M081-085, 089; M091-094, 099; M121-125, 129; M134-136) are excluded from the National Report data and the 1999 National Biennial Report, **with one exception: wastewaters managed by System Type Code M134 (Deepwell/Underground Injection) are included in the 1999 National Biennial Report.** Refer to Appendix B and C of the *National Analysis* volume for complete descriptions of the System Type Codes and Form Codes referenced above.

In biennial report cycles prior to 1997, the PS Form was used to separate and exclude from the National Report data all wastes going to on-site treatment systems **exempt** from RCRA permitting requirements. **For the 1999 National Biennial Report, EPA included all non-wastewater data and excluded all wastewater data. The wastewater data was excluded regardless of whether the wastes were managed in RCRA permitted systems prior to management in on-site or off-site treatment systems exempt from RCRA permitting requirements.** This is significant, because historically EPA has included only those wastes managed in units subject to RCRA permitting requirements in the National Biennial Reports. EPA does not believe the inclusion of all non-wastewaters will distort the RCRA hazardous waste management picture presented in this Report, because only a small volume of non-wastewaters are managed in treatment systems exempt from RCRA permitting requirements.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

RCRA HAZARDOUS WASTE GENERATION

RCRA hazardous waste generation information is obtained from data reported by RCRA large quantity generators (LQGs). A generator is defined as a Federal large quantity generator if:

- the generator generated in any single month 1,000 kg (2,200 pounds or 1.1 tons) or more of RCRA hazardous waste; or

- the generator generated in any single month, or accumulated at any time, 1 kg (2.2 pounds) of RCRA acute hazardous waste; or

- the generator generated, or accumulated at any time, more than 100 kg (220 pounds) of spill cleanup material contaminated with RCRA acute hazardous waste.

All generators that reported LQG status in 1999 are required to provide EPA with 1999 waste generation and management information. It is important to note that the LQGs identified in this Report have been included based on the most current information made available to EPA by the States. Both EPA and the States have made a significant effort to ensure the accuracy of this data. However, the LQG counts may include generators that, when determining whether they were LQGs, used a lower State-defined threshold for LQGs, counted wastes regulated only by their States, or counted wastes exempt from Federal regulation.

To help provide a more accurate picture of hazardous waste generation in the United States, EPA requests specific waste generation information from LQGs. For each RCRA hazardous waste generated, LQGs are required to provide a waste description, the applicable Federal Hazardous Waste Codes that most accurately represent the waste generated, and the quantity of waste generated.

In 1999, 20,083 LQGs reported they generated 40 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of LQGs decreased by 233, and the quantity of hazardous waste generated decreased by 650 thousand tons or 1.5%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the generation of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled “Wastewater Exclusion Logic Used for National Reporting.” The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

As identified in Exhibit 1, the five (5) States which contributed most to the national hazardous waste generation total in 1999 were Texas (14.9 million tons), Louisiana (4.4 million tons), Illinois (2.9 million tons), Tennessee (2.2 million tons), and Ohio (1.6 million tons). Together, the LQGs in these States accounted for 65% of the national total quantity generated.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1 Quantity of RCRA Hazardous Waste Generated and Number of Hazardous Waste Generators, by State, 1999

State	Hazardous Waste Quantity			Large Quantity Generators		
	Rank	Tons Generated	Percentage	Rank	Number	Percentage
ALABAMA	15	491,178	1.2	24	274	1.4
ALASKA	51	1,335	0.0	44	42	0.2
ARIZONA	38	39,016	0.1	29	193	1.0
ARKANSAS	11	970,995	2.4	26	241	1.2
CALIFORNIA	16	427,302	1.1	2	1,850	9.2
COLORADO	35	49,190	0.1	32	163	0.8
CONNECTICUT	27	92,201	0.2	16	391	1.9
DELAWARE	40	26,071	0.1	42	76	0.4
DISTRICT OF COLUMBIA	52	1,167	0.0	48	30	0.1
FLORIDA	19	272,387	0.7	18	366	1.8
GEORGIA	22	209,206	0.5	17	384	1.9
GUAM	55	696	0.0	55	3	0.0
HAWAII	50	1,456	0.0	47	37	0.2
IDAHO	12	851,764	2.1	46	38	0.2
ILLINOIS	3	2,907,327	7.3	5	1,006	5.0
INDIANA	10	984,895	2.5	9	586	2.9
IOWA	36	46,828	0.1	30	188	0.9
KANSAS	7	1,594,119	4.0	27	224	1.1
KENTUCKY	21	214,842	0.5	20	340	1.7
LOUISIANA	2	4,351,245	10.9	14	440	2.2
MAINE	48	4,374	0.0	38	102	0.5
MARYLAND	32	80,256	0.2	23	289	1.4
MASSACHUSETTS	9	1,191,465	3.0	13	448	2.2
MICHIGAN	8	1,385,375	3.5	8	823	4.1
MINNESOTA	34	56,573	0.1	25	262	1.3
MISSISSIPPI	6	1,598,642	4.0	36	136	0.7
MISSOURI	24	158,682	0.4	22	312	1.6
MONTANA	41	23,986	0.1	48	30	0.1
NAVAJO NATION	56	89	0.0	53	6	0.0
NEBRASKA	37	43,224	0.1	41	85	0.4
NEVADA	44	11,473	0.0	38	102	0.5
NEW HAMPSHIRE	45	11,082	0.0	31	168	0.8
NEW JERSEY	13	650,534	1.6	4	1,071	5.3
NEW MEXICO	20	238,558	0.6	45	41	0.2
NEW YORK	14	548,928	1.4	1	2,647	13.2
NORTH CAROLINA	33	74,757	0.2	12	508	2.5
NORTH DAKOTA	49	2,675	0.0	52	16	0.1
OHIO	5	1,644,029	4.1	3	1,181	5.9
OKLAHOMA	18	417,460	1.0	33	147	0.7
OREGON	30	81,270	0.2	28	208	1.0
PENNSYLVANIA	17	417,477	1.0	6	965	4.8
PUERTO RICO	29	86,630	0.2	37	105	0.5
RHODE ISLAND	39	37,622	0.1	34	145	0.7
SOUTH CAROLINA	42	14,761	0.0	19	347	1.7
SOUTH DAKOTA	53	1,074	0.0	51	21	0.1
TENNESSEE	4	2,218,753	5.5	15	396	2.0
TEXAS	1	14,923,520	37.3	7	907	4.5
TRUST TERRITORIES	54	827	0.0	54	4	0.0
UTAH	31	80,427	0.2	40	91	0.5
VERMONT	46	5,275	0.0	43	65	0.3
VIRGIN ISLANDS	43	12,511	0.0	56	1	0.0
VIRGINIA	25	121,787	0.3	21	332	1.7
WASHINGTON	28	91,245	0.2	10	545	2.7
WEST VIRGINIA	26	92,503	0.2	35	139	0.7
WISCONSIN	23	159,174	0.4	11	540	2.7
WYOMING	47	4,746	0.0	50	22	0.1
CBI DATA	N/A	1,066	N/A	N/A	4	N/A
Total		**40,026,050**	**100.0**		**20,083**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

RCRA HAZARDOUS WASTE MANAGEMENT

RCRA hazardous waste management information is obtained from data reported by active, permitted RCRA treatment, storage, or disposal facilities (TSDs). A TSD is defined as any facility which treats, stores, or disposes of RCRA hazardous waste, regardless of the quantity managed. Only wastes that were treated or disposed of in 1999 are included in the management quantities in this Report. Wastes generated and subsequently stored in 1999 are *not* included in the management quantities in this Report. In addition, the management quantities in this Report do *not* include waste from transfer facilities (System Code M141).

To help provide a more accurate picture of hazardous waste management practices in the United States, EPA requests specific waste management information from TSDs. For each RCRA hazardous waste managed, TSDs are required to provide the quantity of waste managed and the System Type Code which represents the management method used to manage the waste.

It is important to note that the total quantity of RCRA hazardous waste generated is less than the total quantity managed. Some of the reasons for this variance include: wastes generated during non-reporting years but shipped and treated or disposed during a reporting year and wastes received for management from generators in foreign countries.

In 1999, 1,575 TSDs reported they managed 26.3 million tons of RCRA hazardous waste. Of the 1,575 facilities, 1,049 were storage-only facilities. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs decreased by 450, and the total quantity of hazardous waste managed decreased by 11.4 million tons or 30%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the management of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled “Wastewater Exclusion Logic Used for National Reporting.” The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

As identified in Exhibit 2, the five (5) States whose TSDs managed the largest quantities of hazardous wastes were Texas (5.8 million tons), Louisiana (4.2 million tons), Florida (2.8 million tons), Kansas (2.3 million tons), and Ohio (1.7 million tons). The TSDs in these five (5) States account for 64% of the national management total.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2 Quantity of RCRA Hazardous Waste Managed and Number of RCRA TSD Facilities, by State, 1999

State	Hazardous Waste Quantity [1]			TSD Facilities		
	Rank	Tons Managed	Percentage	Rank	Number	Percentage
ALABAMA	18	211,762	0.8	11	47	3.0
ALASKA	47	4	0.0	40	6	0.4
ARIZONA	38	6,193	0.0	35	16	1.0
ARKANSAS	9	977,784	3.7	18	35	2.2
CALIFORNIA	13	400,559	1.5	1	144	9.1
COLORADO	39	5,282	0.0	33	18	1.1
CONNECTICUT	35	8,627	0.0	31	20	1.3
DELAWARE	41	2,064	0.0	45	5	0.3
DISTRICT OF COLUMBIA	50	0	0.0	51	1	0.1
FLORIDA	3	2,822,198	10.7	12	46	2.9
GEORGIA	23	82,693	0.3	17	37	2.4
GUAM	50	0	0.0	49	2	0.1
HAWAII	46	156	0.0	46	3	0.2
IDAHO	10	860,261	3.3	40	6	0.4
ILLINOIS	12	428,280	1.6	3	86	5.5
INDIANA	7	1,187,981	4.5	20	30	1.9
IOWA	42	1,389	0.0	25	26	1.7
KANSAS	4	2,278,712	8.7	27	24	1.5
KENTUCKY	22	92,897	0.4	23	27	1.7
LOUISIANA	2	4,232,705	16.1	5	68	4.3
MAINE	43	571	0.0	36	10	0.6
MARYLAND	33	12,306	0.0	29	22	1.4
MASSACHUSETTS	36	7,092	0.0	14	43	2.7
MICHIGAN	8	1,132,279	4.3	6	61	3.9
MINNESOTA	29	29,958	0.1	16	40	2.5
MISSISSIPPI	27	45,763	0.2	32	19	1.2
MISSOURI	17	270,066	1.0	8	51	3.2
MONTANA	50	0	0.0	55	0	0.0
NAVAJO NATION	50	0	0.0	55	0	0.0
NEBRASKA	30	27,991	0.1	40	6	0.4
NEVADA	26	48,283	0.2	40	6	0.4
NEW HAMPSHIRE	50	0	0.0	46	3	0.2
NEW JERSEY	19	192,698	0.7	13	44	2.8
NEW MEXICO	49	2	0.0	37	7	0.4
NEW YORK	15	316,470	1.2	7	59	3.7
NORTH CAROLINA	32	20,405	0.1	4	75	4.8
NORTH DAKOTA	44	504	0.0	37	7	0.4
OHIO	5	1,652,870	6.3	10	49	3.1
OKLAHOMA	11	485,193	1.8	20	30	1.9
OREGON	28	38,874	0.1	40	6	0.4
PENNSYLVANIA	16	293,078	1.1	8	51	3.2
PUERTO RICO	21	116,796	0.4	19	31	2.0
RHODE ISLAND	40	2,220	0.0	46	3	0.2
SOUTH CAROLINA	14	329,906	1.3	25	26	1.7
SOUTH DAKOTA	50	0	0.0	51	1	0.1
TENNESSEE	6	1,551,844	5.9	22	28	1.8
TEXAS	1	5,806,458	22.1	2	105	6.7
TRUST TERRITORIES	45	185	0.0	51	1	0.1
UTAH	20	156,799	0.6	23	27	1.7
VERMONT	48	4	0.0	37	7	0.4
VIRGIN ISLANDS	34	11,400	0.0	51	1	0.1
VIRGINIA	24	70,587	0.3	14	43	2.7
WASHINGTON	31	27,371	0.1	28	23	1.5
WEST VIRGINIA	25	55,017	0.2	29	22	1.4
WISCONSIN	37	6,671	0.0	33	18	1.1
WYOMING	50	0	0.0	49	2	0.1
CBI DATA	N/A	88	N/A	N/A	1	N/A
Total		**26,309,296**	**100.0**		**1,575**	**100.0**

[1] Quantity managed by storage only is excluded.

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

In 1999, *land disposal* accounted for 69% of the national non-wastewater management total. Land disposal methods include:

Deepwell/Underground Injection	16.0 million tons
Landfill	1.4 million tons
Surface Impoundment	705 thousand tons
Land Treatment/Application/Farming	30 thousand tons

Thermal treatment accounted for 11% of the national non-wastewater management total. Thermal treatment units include:

Energy Recovery (for Reuse as Fuel)	1.5 million tons
Incineration	1.5 million tons

Recovery operations accounted for 8% of the national non-wastewater management total. Recovery operations include:

Fuel Blending	1.1 million tons
Metals Recovery (for Reuse)	720 thousand tons
Solvents Recovery	368 thousand tons
Other Recovery	152 thousand tons

The remaining non-wastewater management quantities (11%) were managed in *other treatment and disposal units*, including:

Other Disposal (Specified in Comments)	1.4 million tons
Stabilization	1.3 million tons
Sludge Treatment	48 thousand tons

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

RCRA HAZARDOUS WASTE SHIPMENTS AND RECEIPTS

RCRA hazardous waste shipment information is obtained from data reported by both RCRA LQGs and RCRA TSDs. To help provide a more accurate picture of hazardous waste shipments in the United States, EPA requests specific shipment information. For each waste shipped, LQGs and TSDs are required to provide a waste description, the applicable Federal Hazardous Waste Codes, the quantity of waste shipped, and the EPA Identification Number of the receiving facility. All RCRA non-wastewater shipments reported by RCRA LQGs and TSDs are included in the waste shipment quantities in this Report, even if the waste was shipped to a transfer facility. In some instances, waste is transferred within a physical location that has more than one EPA Identification Number. These waste transfers are treated as shipments.

RCRA hazardous waste receipt information is obtained from data reported by RCRA TSDs. To help provide a more accurate picture of hazardous waste receipts in the United States, EPA requests certain receipt information from TSDs. For each waste received, TSDs are required to provide a waste description, the applicable Federal Hazardous Waste Codes, the quantity of waste received, and the EPA Identification Number of the facility from which the waste was received. For each received waste which is subsequently managed, TSDs are required to provide the System Type Code which represents the management method used to manage the waste. All RCRA non-wastewater receipts reported by RCRA TSDs are included in the waste receipt quantities in this Report, even if the waste was received from a transfer facilitiy.

RCRA hazardous waste export quantities include wastes generated in one State and shipped to a receiver in a different State. Exports are calculated from information provided by waste shippers. RCRA hazardous waste imports include all wastes received by a State which differs from the State of origin. RCRA hazardous waste imports are calculated from information provided by RCRA TSDs.

In 1999, 17,914 shippers reported shipping 8.1 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of shippers decreased by 115, and the quantity of waste shipped increased by 817 thousand tons or 11%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the shipment of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled “Wastewater Exclusion Logic Used for National Reporting.” The wastewater exclusion will make cursory comparisons between the 1999 National Reports and National Reports prior to 1997 misleading.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Of the 8.1 million tons of RCRA hazardous waste shipped in 1999, 5.7 million tons of waste were **exported** from the State in which they were generated to other States. When comparing the 1997 National Biennial Report with the 1999 Report, the quantity of waste exported increased by 1.3 million tons or 30%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the export of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

In 1999, 499 TSDs reported receiving 6.6 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs receiving waste decreased by 44, and the quantity of waste received decreased by 1.4 million tons or 18%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the receipt of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Of the 6.6 million tons of RCRA hazardous waste received in 1999, 3.7 million tons of waste were **imported** from other States. When comparing the 1997 National Biennial Report with the 1999 Report, the quantity of waste imported decreased by 242 thousand tons or 6%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the import of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Report and National Reports prior to 1997 misleading.

WHERE TO OBTAIN ADDITIONAL INFORMATION

All volumes of *The National Biennial RCRA Hazardous Waste Report (Based on 1999 Data)* and the 1999 Biennial Report data files can be accessed via the Internet at http://www.epa.gov/epaoswer/hazwaste/data/#brs or purchased from the National Technical Information Service (NTIS) at (703) 487-4650.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

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NATIONAL BIENNIAL RCRA HAZARDOUS WASTE REPORT

The United States Environmental Protection Agency (EPA), in partnership with the States[1], biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of this Report is to communicate the findings of EPA's 1999 Biennial Report (BR) data collection efforts to the public, government agencies, and the regulated community.[2]

1.0 WASTE GENERATION

The following section provides an overview of the 1999 RCRA hazardous waste generation data through a series of exhibits and textual summaries. For a complete description of this section's contents, please refer to the *Executive Summary* sections entitled "RCRA Hazardous Waste" and "RCRA Hazardous Waste Generation."

In 1999, 20,083 large quantity generators (LQGs) reported they generated 40 million tons[3] of hazardous wastes regulated by RCRA. When comparing the 1997 National Biennial Report with the 1999 Report, the number of LQGs decreased by 233, and the quantity of hazardous waste generated decreased by 650 thousand tons or 1.5%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the generation of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exhibits 1.1, 1.2, and 1.3 present the number of LQGs and the quantity of RCRA hazardous waste generated by LQGs *in each EPA Region*[4]. LQGs in three (3) of the EPA Regions (Regions 6, 5, and 4) produced 83% of the 40 million tons generated nationally in 1999. LQGs in Region 6 generated 20.9 million

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[1] The term "State" includes the District of Columbia, Puerto Rico, Guam, the Navajo Nation, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

[2] Some respondents from Georgia and Connecticut have submitted Confidential Business Information (CBI) pursuant to §40 CFR 260.2(b). While not included in any public database, CBI has been incorporated into the *Executive Summary* and *National Analysis* volumes of this Report wherever possible. Where CBI has been omitted from these volumes, a footnote has been provided.

[3] 1 Ton = 2,000 pounds

[4] Appendix A includes a list of States by EPA Region.

tons (or 52% of the national total), LQGs in Region 5 generated 7.1 million tons (18%), and LQGs in Region 4 generated 5.1 million tons (13%).

As Exhibits 1.2 and 1.3 reveal, there is not necessarily a correlation between the Regions which generate the largest quantities of hazardous waste and the Regions with the greatest number of LQGs. In 1999, the Regions with the most LQGs were Region 5 (4,398 or 22% of the national total), Region 2 (3,824 or 19%), and Region 4 (2,751 or 14%). These three (3) Regions accounted for 55% of the total number of LQGs. While LQGs in Region 6 generated the largest percentage of hazardous waste (20.1 million tons), the Region ranked sixth in number of LQGs (1,776). Region 5 had the most LQGs (4,398), though the Region ranked second in hazardous waste generation (7.1 million tons). Region 8 had the fewest LQGs (343) and also generated the least amount of hazardous waste (162 thousand tons).

Exhibit 1.1 Number and Percentage of RCRA Hazardous Waste Generators and Total RCRA Hazardous Waste Quantity Generated, by EPA Region, 1999

EPA Region	Hazardous Waste Quantity		Large Quantity Generators	
	Tons Generated	Percentage	Number	Percentage
1	1,342,020	3.4	1,319	6.6
2	1,298,602	3.2	3,824	19.0
3	739,262	1.8	1,831	9.1
4	5,094,526	12.7	2,751	13.7
5	7,137,374	17.8	4,398	21.9
6	20,901,778	52.2	1,776	8.8
7	1,842,853	4.6	809	4.0
8	162,099	0.4	343	1.7
9	480,858	1.2	2,195	10.9
10	1,025,614	2.6	833	4.1
CBI DATA	1,066	N/A	4	N/A
Total	**40,026,050**	**100.0**	**20,083**	**100.0**

Exhibit 1.2 Number and Percentage of RCRA Hazardous Waste Generators and Total RCRA Hazardous Waste Quantity Generated in Each EPA Region, by Highest Quantity Generated, 1999

EPA Region	Hazardous Waste Quantity		Large Quantity Generators	
	Tons Generated	Percentage	Number	Percentage
6	20,901,778	52.2	1,776	8.8
5	7,137,374	17.8	4,398	21.9
4	5,094,526	12.7	2,751	13.7
7	1,842,853	4.6	809	4.0
1	1,342,020	3.4	1,319	6.6
2	1,298,602	3.2	3,824	19.0
10	1,025,614	2.6	833	4.1
3	739,262	1.8	1,831	9.1
9	480,858	1.2	2,195	10.9
8	162,099	0.4	343	1.7
CBI DATA	1,066	N/A	4	N/A
Total	**40,026,050**	**100.0**	**20,083**	**100.0**

Note: Columns for these two exhibits may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.3 Number and Percentage of RCRA Hazardous Waste Generators and Total RCRA Hazardous Waste Quantity Generated in Each EPA Region, by Highest Number of Generators, 1999

EPA Region	Large Quantity Generators		Hazardous Waste Quantity	
	Number	Percentage	Tons Generated	Percentage
5	4,398	21.9	7,137,374	17.8
2	3,824	19.0	1,298,602	3.2
4	2,751	13.7	5,094,526	12.7
9	2,195	10.9	480,858	1.2
3	1,831	9.1	739,262	1.8
6	1,776	8.8	20,901,778	52.2
1	1,319	6.6	1,342,020	3.4
10	833	4.1	1,025,614	2.6
7	809	4.0	1,842,853	4.6
8	343	1.7	162,099	0.4
CBI DATA	4	N/A	1,066	N/A
Total	**20,083**	**100.0**	**40,026,050**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exhibits 1.4, 1.5, and 1.6 present the number of LQGs and the quantity of RCRA hazardous waste generated by LQGs *in each State*. The five (5) States whose LQGs produced the largest amount of hazardous waste were Texas (14.9 million tons), Louisiana (4.4 million tons), Illinois (2.9 million tons), Tennessee (2.2 million tons), and Ohio (1.6 million tons). Together, the LQGs in these States accounted for 65% of the national total quantity generated.

The States with the most LQGs were New York (2,647), California (1,850), Ohio (1,181), New Jersey (1,071), Illinois (1,006), Pennsylvania (965), Texas (907), and Michigan (823). The LQGs in these States accounted for 52% of the total number of LQGs.

Exhibit 1.7 provides a list of the 50 largest generators in the nation in 1999. The listed generators produced 77% (30.7 million tons) of the national total. Fourteen (14) of the top 50 generators are located in Texas, the top-ranked State in hazardous waste generation. These 14 Texas LQGs accounted for 92% of the State's generation total and 34% of the national generation total. The six (6) LQGs in Louisiana, the State ranked second in hazardous waste generation, accounted for 92% of the State's generation total and 10% of the national generation total. Ten (10) of the largest generators are located in Illinois, Tennessee, and Ohio, the States ranked third, fourth, and fifth, respectively, in hazardous waste generation. These LQGs accounted for 12% of the national total quantity generated.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.8 illustrates the relationship between various hazardous waste generation quantity ranges and the number of generators that generated within each range. Most of the LQGs (13,096 generators or 65% of the national total) generated between 1.1 and 113.2 tons in 1999. Only 50 LQGs (less than 1% of all LQGs) generated within the top tier of hazardous waste generation, over 111,113.2 tons, but these few LQGs accounted for 77% of the national total quantity generated. Ninety-five percent (95%) of all LQGs generated 1,113 tons or less in 1999.

Exhibit 1.4 Quantity of RCRA Hazardous Waste Generated and Number of Hazardous Waste Generators, by State, 1999

State	Hazardous Waste Quantity			Large Quantity Generators		
	Rank	Tons Generated	Percentage	Rank	Number	Percentage
ALABAMA	15	491,178	1.2	24	274	1.4
ALASKA	51	1,335	0.0	44	42	0.2
ARIZONA	38	39,016	0.1	29	193	1.0
ARKANSAS	11	970,995	2.4	26	241	1.2
CALIFORNIA	16	427,302	1.1	2	1,850	9.2
COLORADO	35	49,190	0.1	32	163	0.8
CONNECTICUT	27	92,201	0.2	16	391	1.9
DELAWARE	40	26,071	0.1	42	76	0.4
DISTRICT OF COLUMBIA	52	1,167	0.0	48	30	0.1
FLORIDA	19	272,387	0.7	18	366	1.8
GEORGIA	22	209,206	0.5	17	384	1.9
GUAM	55	696	0.0	55	3	0.0
HAWAII	50	1,456	0.0	47	37	0.2
IDAHO	12	851,764	2.1	46	38	0.2
ILLINOIS	3	2,907,327	7.3	5	1,006	5.0
INDIANA	10	984,895	2.5	9	586	2.9
IOWA	36	46,828	0.1	30	188	0.9
KANSAS	7	1,594,119	4.0	27	224	1.1
KENTUCKY	21	214,842	0.5	20	340	1.7
LOUISIANA	2	4,351,245	10.9	14	440	2.2
MAINE	48	4,374	0.0	38	102	0.5
MARYLAND	32	80,256	0.2	23	289	1.4
MASSACHUSETTS	9	1,191,465	3.0	13	448	2.2
MICHIGAN	8	1,385,375	3.5	8	823	4.1
MINNESOTA	34	56,573	0.1	25	262	1.3
MISSISSIPPI	6	1,598,642	4.0	36	136	0.7
MISSOURI	24	158,682	0.4	22	312	1.6
MONTANA	41	23,986	0.1	48	30	0.1
NAVAJO NATION	56	89	0.0	53	6	0.0
NEBRASKA	37	43,224	0.1	41	85	0.4
NEVADA	44	11,473	0.0	38	102	0.5
NEW HAMPSHIRE	45	11,082	0.0	31	168	0.8
NEW JERSEY	13	650,534	1.6	4	1,071	5.3
NEW MEXICO	20	238,558	0.6	45	41	0.2
NEW YORK	14	548,928	1.4	1	2,647	13.2
NORTH CAROLINA	33	74,757	0.2	12	508	2.5
NORTH DAKOTA	49	2,675	0.0	52	16	0.1
OHIO	5	1,644,029	4.1	3	1,181	5.9
OKLAHOMA	18	417,460	1.0	33	147	0.7
OREGON	30	81,270	0.2	28	208	1.0
PENNSYLVANIA	17	417,477	1.0	6	965	4.8
PUERTO RICO	29	86,630	0.2	37	105	0.5
RHODE ISLAND	39	37,622	0.1	34	145	0.7
SOUTH CAROLINA	42	14,761	0.0	19	347	1.7
SOUTH DAKOTA	53	1,074	0.0	51	21	0.1
TENNESSEE	4	2,218,753	5.5	15	396	2.0
TEXAS	1	14,923,520	37.3	7	907	4.5
TRUST TERRITORIES	54	827	0.0	54	4	0.0
UTAH	31	80,427	0.2	40	91	0.5
VERMONT	46	5,275	0.0	43	65	0.3
VIRGIN ISLANDS	43	12,511	0.0	56	1	0.0
VIRGINIA	25	121,787	0.3	21	332	1.7
WASHINGTON	28	91,245	0.2	10	545	2.7
WEST VIRGINIA	26	92,503	0.2	35	139	0.7
WISCONSIN	23	159,174	0.4	11	540	2.7
WYOMING	47	4,746	0.0	50	22	0.1
CBI DATA	N/A	1,066	N/A	N/A	4	N/A
Total		**40,026,050**	**100.0**		**20,083**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.5 Rank Ordering of States Based on Quantity of RCRA Hazardous Waste Generated and Number of Hazardous Waste Generators, 1999

State	Hazardous Waste Quantity			Large Quantity Generators		
	Rank	Tons Generated	Percentage	Rank	Number	Percentage
TEXAS	1	14,923,520	37.3	7	907	4.5
LOUISIANA	2	4,351,245	10.9	14	440	2.2
ILLINOIS	3	2,907,327	7.3	5	1,006	5.0
TENNESSEE	4	2,218,753	5.5	15	396	2.0
OHIO	5	1,644,029	4.1	3	1,181	5.9
MISSISSIPPI	6	1,598,642	4.0	36	136	0.7
KANSAS	7	1,594,119	4.0	27	224	1.1
MICHIGAN	8	1,385,375	3.5	8	823	4.1
MASSACHUSETTS	9	1,191,465	3.0	13	448	2.2
INDIANA	10	984,895	2.5	9	586	2.9
ARKANSAS	11	970,995	2.4	26	241	1.2
IDAHO	12	851,764	2.1	46	38	0.2
NEW JERSEY	13	650,534	1.6	4	1,071	5.3
NEW YORK	14	548,928	1.4	1	2,647	13.2
ALABAMA	15	491,178	1.2	24	274	1.4
CALIFORNIA	16	427,302	1.1	2	1,850	9.2
PENNSYLVANIA	17	417,477	1.0	6	965	4.8
OKLAHOMA	18	417,460	1.0	33	147	0.7
FLORIDA	19	272,387	0.7	18	366	1.8
NEW MEXICO	20	238,558	0.6	45	41	0.2
KENTUCKY	21	214,842	0.5	20	340	1.7
GEORGIA	22	209,206	0.5	17	384	1.9
WISCONSIN	23	159,174	0.4	11	540	2.7
MISSOURI	24	158,682	0.4	22	312	1.6
VIRGINIA	25	121,787	0.3	21	332	1.7
WEST VIRGINIA	26	92,503	0.2	35	139	0.7
CONNECTICUT	27	92,201	0.2	16	391	1.9
WASHINGTON	28	91,245	0.2	10	545	2.7
PUERTO RICO	29	86,630	0.2	37	105	0.5
OREGON	30	81,270	0.2	28	208	1.0
UTAH	31	80,427	0.2	40	91	0.5
MARYLAND	32	80,256	0.2	23	289	1.4
NORTH CAROLINA	33	74,757	0.2	12	508	2.5
MINNESOTA	34	56,573	0.1	25	262	1.3
COLORADO	35	49,190	0.1	32	163	0.8
IOWA	36	46,828	0.1	30	188	0.9
NEBRASKA	37	43,224	0.1	41	85	0.4
ARIZONA	38	39,016	0.1	29	193	1.0
RHODE ISLAND	39	37,622	0.1	34	145	0.7
DELAWARE	40	26,071	0.1	42	76	0.4
MONTANA	41	23,986	0.1	48	30	0.1
SOUTH CAROLINA	42	14,761	0.0	19	347	1.7
VIRGIN ISLANDS	43	12,511	0.0	56	1	0.0
NEVADA	44	11,473	0.0	38	102	0.5
NEW HAMPSHIRE	45	11,082	0.0	31	168	0.8
VERMONT	46	5,275	0.0	43	65	0.3
WYOMING	47	4,746	0.0	50	22	0.1
MAINE	48	4,374	0.0	38	102	0.5
NORTH DAKOTA	49	2,675	0.0	52	16	0.1
HAWAII	50	1,456	0.0	47	37	0.2
ALASKA	51	1,335	0.0	44	42	0.2
DISTRICT OF COLUMBIA	52	1,167	0.0	48	30	0.1
SOUTH DAKOTA	53	1,074	0.0	51	21	0.1
TRUST TERRITORIES	54	827	0.0	54	4	0.0
GUAM	55	696	0.0	55	3	0.0
NAVAJO NATION	56	89	0.0	53	6	0.0
CBI DATA	N/A	1,066	N/A	N/A	4	N/A
Total		**40,026,050**	**100.0**		**20,083**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.6 Rank Ordering of States Based on Number of Hazardous Waste Generators and Quantity of RCRA Hazardous Waste Generated, 1999

State	Large Quantity Generators			Hazardous Waste Quantity		
	Rank	Number	Percentage	Rank	Tons Generated	Percentage
NEW YORK	1	2,647	13.2	14	548,928	1.4
CALIFORNIA	2	1,850	9.2	16	427,302	1.1
OHIO	3	1,181	5.9	5	1,644,029	4.1
NEW JERSEY	4	1,071	5.3	13	650,534	1.6
ILLINOIS	5	1,006	5.0	3	2,907,327	7.3
PENNSYLVANIA	6	965	4.8	17	417,477	1.0
TEXAS	7	907	4.5	1	14,923,520	37.3
MICHIGAN	8	823	4.1	8	1,385,375	3.5
INDIANA	9	586	2.9	10	984,895	2.5
WASHINGTON	10	545	2.7	28	91,245	0.2
WISCONSIN	11	540	2.7	23	159,174	0.4
NORTH CAROLINA	12	508	2.5	33	74,757	0.2
MASSACHUSETTS	13	448	2.2	9	1,191,465	3.0
LOUISIANA	14	440	2.2	2	4,351,245	10.9
TENNESSEE	15	396	2.0	4	2,218,753	5.5
CONNECTICUT	16	391	1.9	27	92,201	0.2
GEORGIA	17	384	1.9	22	209,206	0.5
FLORIDA	18	366	1.8	19	272,387	0.7
SOUTH CAROLINA	19	347	1.7	42	14,761	0.0
KENTUCKY	20	340	1.7	21	214,842	0.5
VIRGINIA	21	332	1.7	25	121,787	0.3
MISSOURI	22	312	1.6	24	158,682	0.4
MARYLAND	23	289	1.4	32	80,256	0.2
ALABAMA	24	274	1.4	15	491,178	1.2
MINNESOTA	25	262	1.3	34	56,573	0.1
ARKANSAS	26	241	1.2	11	970,995	2.4
KANSAS	27	224	1.1	7	1,594,119	4.0
OREGON	28	208	1.0	30	81,270	0.2
ARIZONA	29	193	1.0	38	39,016	0.1
IOWA	30	188	0.9	36	46,828	0.1
NEW HAMPSHIRE	31	168	0.8	45	11,082	0.0
COLORADO	32	163	0.8	35	49,190	0.1
OKLAHOMA	33	147	0.7	18	417,460	1.0
RHODE ISLAND	34	145	0.7	39	37,622	0.1
WEST VIRGINIA	35	139	0.7	26	92,503	0.2
MISSISSIPPI	36	136	0.7	6	1,598,642	4.0
PUERTO RICO	37	105	0.5	29	86,630	0.2
MAINE	38	102	0.5	48	4,374	0.0
NEVADA	38	102	0.5	44	11,473	0.0
UTAH	40	91	0.5	31	80,427	0.2
NEBRASKA	41	85	0.4	37	43,224	0.1
DELAWARE	42	76	0.4	40	26,071	0.1
VERMONT	43	65	0.3	46	5,275	0.0
ALASKA	44	42	0.2	51	1,335	0.0
NEW MEXICO	45	41	0.2	20	238,558	0.6
IDAHO	46	38	0.2	12	851,764	2.1
HAWAII	47	37	0.2	50	1,456	0.0
DISTRICT OF COLUMBIA	48	30	0.1	52	1,167	0.0
MONTANA	48	30	0.1	41	23,986	0.1
WYOMING	50	22	0.1	47	4,746	0.0
SOUTH DAKOTA	51	21	0.1	53	1,074	0.0
NORTH DAKOTA	52	16	0.1	49	2,675	0.0
NAVAJO NATION	53	6	0.0	56	89	0.0
TRUST TERRITORIES	54	4	0.0	54	827	0.0
GUAM	55	3	0.0	55	696	0.0
VIRGIN ISLANDS	56	1	0.0	43	12,511	0.0
CBI DATA	N/A	4	N/A	N/A	1,066	N/A
Total		**20,083**	**100.0**		**40,026,050**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

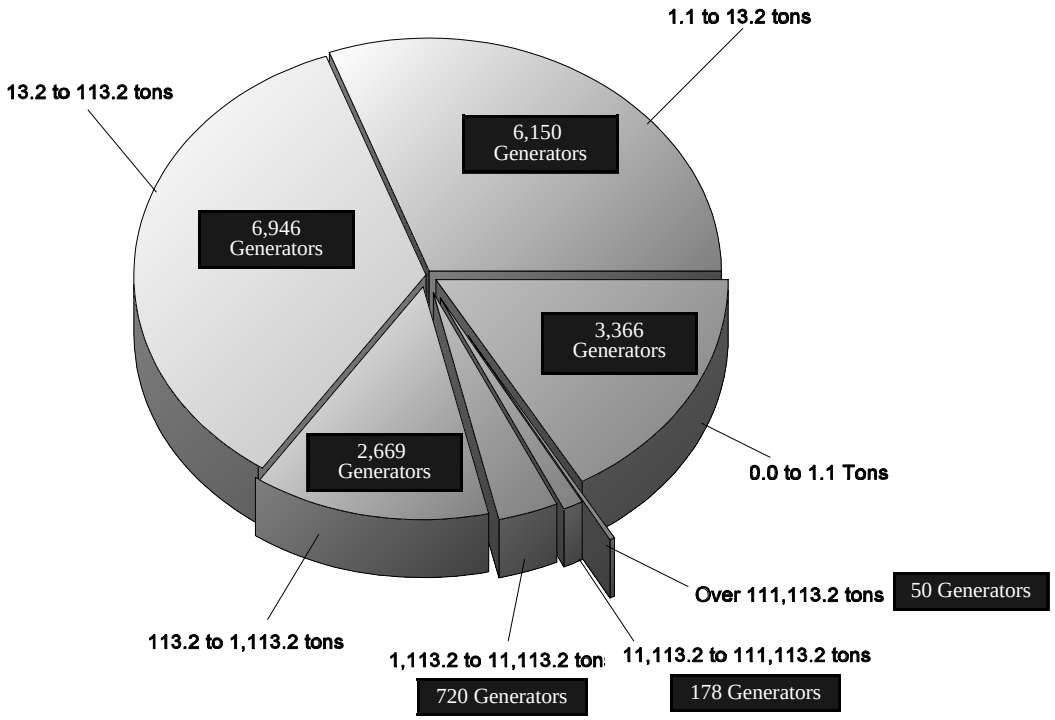
Exhibit 1.7 Fifty Largest RCRA Hazardous Waste Generators in the U.S., 1999

Rank	EPA ID	Name	City	Tons Generated
1	TXD008123317	DU PONT DE NEMOURS & CO., E.I.	VICTORIA, TX	2,953,867
2	TXD008080533	AMOCO OIL COMPANY	TEXAS CITY, TX	2,446,339
3	TXD001700806	SOLUTIA, INC.	ALVIN, TX	2,382,761
4	LAD008213191	RUBICON INC.	GEISMAR, LA	1,761,129
5	LAD008175390	CYTEC INDUSTRIES INC.	WAGGAMAN, LA	1,550,974
6	KSD007482029	VULCAN MATERIALS COMPANY	WICHITA, KS	1,504,006
7	TXD059685339	DIAMOND SHAMROCK REFINING COMPANY, L.P.	SUNRAY, TX	1,347,628
8	TXD008081101	E.I. DUPONT DE NEMOURS & COMPANY	BEAUMONT, TX	1,311,309
9	ILD064403199	MOBIL OIL CORP	CHANNAHON, IL	1,195,517
10	MSD096046792	E.I.DUPONT DE NEMOURS & CO DELISLE PLANT	PASS CHRISTIAN, MS	1,183,885
11	TND007024664	VELSICOL CHEMICAL	MEMPHIS, TN	1,118,851
12	OHD042157644	BP CHEMICALS INC	LIMA, OH	900,881
13	IDD070929518	ASTARIS IDAHO LLC (FORMER FMC CORP)	POCATELLO, ID	846,150
14	TXD008079642	E.I. DUPONT DE NEMOURS & COMPANY	ORANGE, TX	826,987
15	MAD985290980	WAKEFIELD ENGINEERING, INC.	FALL RIVER, MA	546,952
16	TXD008106999	MERISOL USA LLC	HOUSTON, TX	519,891
17	ARD043195429	GREAT LAKES CHEMICAL CORP	EL DORADO, AR	501,205
18	ILD042075333	CABOT CORP	TUSCOLA, IL	475,081
19	TXD083472266	LYONDELL CHEMICAL COMPANY	CHANNELVIEW, TX	472,711
20	MAD055744908	TYROLIT NORTH AMERICA INC.	WESTBOROUGH, MA	458,557
21	MSD008186587	MORTON INTERNATIONAL	MOSS POINT, MS	390,834
22	OKD000829440	ZINC CORPORATION OF AMERICA	BARTLESVILLE, OK	375,265
23	IND003913423	BETHLEHEM STEEL CORP., BURNS HARBOR DIV.	BURNS HARBOR, IN	370,379
24	NJD002454544	MARISOL INCORPORATED	MIDDLESEX, NJ	329,683
25	TXD078432457	CELANESE LTD.	PASADENA, TX	326,148
26	TXD008081697	BASF CORPORATION	FREEPORT, TX	286,155
27	MID981090509	LACKS INDUSTRIES INC	KENTWOOD, MI	255,939
28	TXR000036251	CHEMICAL WASTE MANAGEMENT, INC.	PORT ARTHUR, TX	252,602
29	TXD087491973	ASARCO INCORPORATED	AMARILLO, TX	242,808
30	LAD001890367	E. I. DUPONT DE NEMOURS & CO., INC.	LAPLACE, LA	227,444
31	MID006013643	PARKE DAVIS DIV OF WARNER LAMBERT	HOLLAND, MI	225,784
32	TND053983862	ALLTRISTA ZINC PRODUCTS L.P.	GREENEVILLE, TN	216,001
33	TND003337292	OLIN CORPORATION - CHARLESTON PLANT	CHARLESTON, TN	203,286
34	NMD048918817	NAVAJO REFINING CO	ARTESIA, NM	195,143
35	ILD080012305	WOOD RIVER REFINING CO	ROXANA, IL	191,454
36	TXD008092793	THE DOW CHEMICAL COMPANY, TEXAS OPERATIO	FREEPORT, TX	183,966
37	LAD086478047	CONDEA VISTA/GEORGIA GULF	WESTLAKE, LA	181,119
38	ALD046481032	SANDERS LEAD CO INC	TROY, AL	177,388
39	ARD006354161	REYNOLDS METALS COMPANY GUM SPRINGS PLAN	ARKADELPHIA, AR	176,627
40	NYD049836679	CWM CHEMICAL SERVICES, L.L.C.	MODEL CITY, NY	169,746
41	FLD004106811	KAISER ALUMINUM & CHEMICAL CORPORATION	MULBERRY, FL	164,152
42	ILD006271696	OLIN BRASS & WINCHESTER INC	EAST ALTON, IL	161,432
43	MID047153077	PRODUCTION PLATED PLASTICS INC)	RICHLAND, MI	160,542
44	TND003376928	TENN EASTMAN DIVISION OF EASTMAN CHEMICA	KINGSPORT, TN	156,506
45	LAD000777201	CHEMICAL WASTE MANAGEMENT	SULPHUR, LA	143,662
46	TXD008079527	STERLING CHEMICALS, INC.	TEXAS CITY, TX	136,180
47	MAD086534864	HEWLETT-PACKARD COMPANY	ANDOVER, MA	131,365
48	TND095050019	YALE SECURITY INC.	LENOIR CITY, TN	130,942
49	MID006409387	PLASTIC PLATE INC	GRAND RAPIDS, MI	124,713
50	LAD020597597	ANGUS CHEMICAL COMPANY	STERLINGTON, LA	122,990
Total				**30,714,936**

Note: Column may not sum due to rounding.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.8 Number of Large Quantity Generators by Generator Quantity Range, 1999*



* CBI data excluded from exhibit.

Hazardous waste is categorized as either *characteristic* or *listed* waste. Both waste categories (and the subcategories of each) are specifically described in §40 CFR[5] 261, and a list of EPA Hazardous Waste Codes is provided as Appendix D of this Report.

Characteristic wastes refer to any solid waste that exhibits one or more of the following characteristics, ignitability (D001), corrosivity (D002), or reactivity (D003), or contains toxic constituents in excess of Federal standards (D004 to D043).

An ignitable waste is a solid waste that exhibits any of the following properties:

- A liquid, except aqueous solutions containing less than 24 percent alcohol, with a flash point less than 60 degrees Celsius (140 degrees Fahrenheit).
- A nonliquid capable, under normal conditions, of spontaneous and sustained combustion.
- An ignitable compressed gas as defined by Department of Transportation (DOT) regulations.
- An oxidizer per DOT regulations.

[5] Code of Federal Regulations.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

A corrosive waste is a solid waste that exhibits the following properties:

- An aqueous material with pH less than or equal to 2, or greater than or equal to 12.5.
- A liquid that corrodes steel at a rate greater than 1/4 inch per year at a temperature of 55 degrees Celsius (130 degrees Fahrenheit).

A reactive waste is a solid waste that exhibits the following properties:

- Normally unstable and reacts violently without detonating.
- Reacts violently with water.
- Forms an explosive mixture with water.
- Contains cyanide or sulfide and generates toxic gases, vapors, or fumes at a pH of between 2 and 12.5.
- Capable of detonation if heated under confinement or subjected to a strong initiating source.
- Capable of detonation at standard temperature and pressure.
- Listed by DOT as Class A or B explosive.

Wastes with the toxicity characteristic are identified through failure of the Toxicity Characteristic Leaching Procedure Test (TCLP). A solid waste exhibits the toxicity characteristic if, using the TCLP or an equivalent method, the extract from a representative sample of the waste contains any of the contaminants D004 to D043 at a concentration equal to or greater than the value described in §40 CFR 261.24.

The term “listed waste” (F, K, P, and U codes) refers to waste that EPA has identified as hazardous as a result of its investigations of particular industries or because EPA has specifically recognized a commercial chemical waste’s toxicity. A solid waste is a “listed” hazardous waste if it is named on one of three lists developed by EPA:

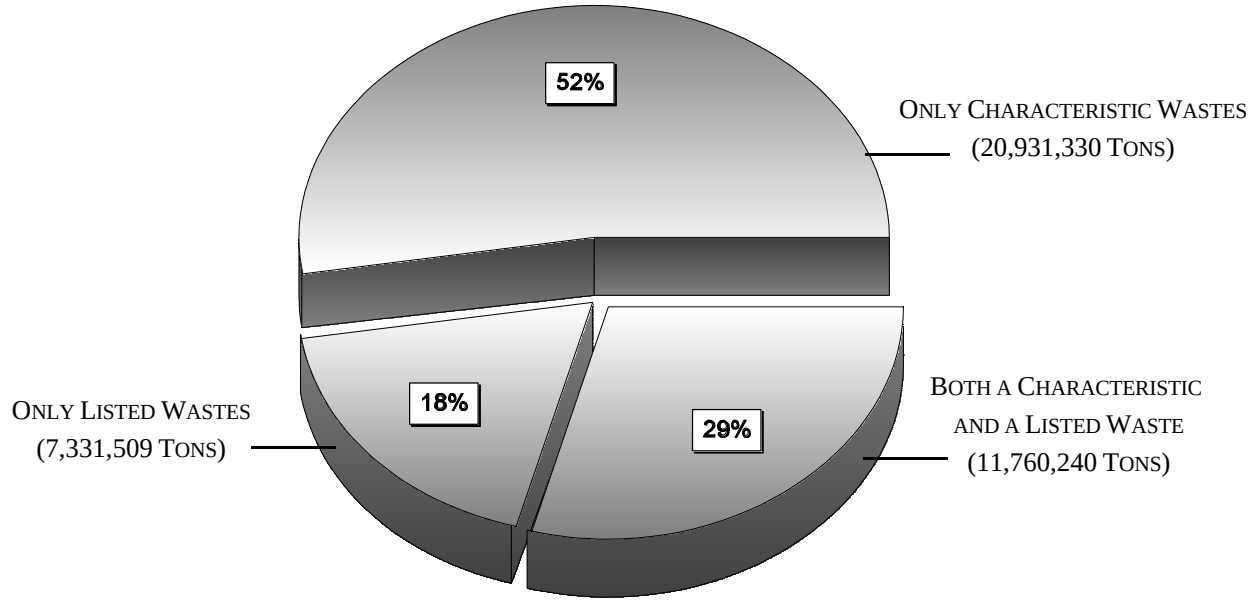
- Non-specific source wastes (‘F’ wastes): These are generic wastes, commonly produced by manufacturing and industrial processes. Examples from this list include spent halogenated solvents used in degreasing, and wastewater treatment sludge from electroplating processes, as well as dioxin wastes, most of which are acutely hazardous wastes due to the danger they present to human health and the environment.

- Specific source wastes ('K' wastes): This list consists of wastes from specifically identified industries such as wood preserving, petroleum refining, and organic chemical manufacturing. These wastes typically include sludges, still bottoms, wastewater, spent catalysts, and residues, (e.g., wastewater treatment sludge from pigment production).

- Commercial chemical products ('P' and 'U' wastes): The third list consists of specific commercial chemical products, or manufacturing chemical intermediates. This list includes chemicals such as chloroform and creosote, acids such as sulfuric acid and hydrochloric acid, and pesticides such as DDT and kepone. The 'U' wastes include toxic chemicals while 'P' waste listings are reserved for acutely toxic chemicals.

Exhibits 1.9, 1.10, and 1.11 divide the 1999 national generation total according to the percentage of characteristic, listed, or a mixture of characteristic and listed. Wastes categorized as only characteristic wastes represented 52% (20.9 million tons) of the national generation total, while listed-only wastes comprised 18% (7.3 million tons), and wastes with both characteristic and listed waste codes constituted 29% (11.8 million tons) of the national total. Mixed wastes (wastes which have multiple characteristics, are listed on more than one list, or are both) represented 62% (24.7 million tons) of the national generation total in 1999.

Exhibit 1.9 Percentages of National Generation Total That Were Characteristic, Listed, or Both Characteristic and Listed Waste, 1999*



* CBI data excluded from exhibit.

Exhibit 1.10 Tons of Generated Waste That Were Only Characteristic Waste, Only Listed Waste, or Both Characteristic and Listed Waste, 1999

Only Characteristic Wastes		Only Listed Wastes		Both a Characteristic and a Listed Waste	
ONLY IGNITABLE	681,936	ONLY AN F CODE	2,213,492		
ONLY CORROSIVE	1,075,431	ONLY A K CODE	3,695,803		
ONLY REACTIVE	247,748	ONLY A P CODE	80,396		
ONLY D004-17	2,379,016	ONLY A U CODE	496,466		
ONLY D018-43	4,464,793				
HAS MORE THAN ONE CHARACTERISTIC CODE	12,082,405	HAS MORE THAN ONE LISTED CODE	845,353		
TOTAL	**20,931,330**	**TOTAL**	**7,331,509**	**Both Characteristic and Listed**	**11,760,240**

Note: All quantities are in tons.
CBI data excluded from exhibit.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 1.11 Tons of Generated Waste with Multiple Characteristics, That Were Multiply Listed, or Both, 1999

Only Characteristic Wastes But With Multiple Characteristics		Only Listed Wastes But Multiply Listed		Both Characteristic and Listed Wastes [1]	
HAS IGNITABLE CODE	2,772,386			IGNITABLE CODE W/ AT LEAST ONE LISTED CODE	2,705,393
HAS CORROSIVE CODE	6,918,610			CORROSIVE CODE W/ AT LEAST ONE LISTED CODE	3,786,895
HAS REACTIVE CODE	3,962,072			REACTIVE CODE W/ AT LEAST ONE LISTED CODE	1,342,170
HAS D004-17 CODE	4,334,218			D004-17 CODE W/ AT LEAST ONE LISTED CODE	5,824,262
HAS D018-43 CODE	7,984,201			D018-43 CODE W/ AT LEAST ONE LISTED CODE	6,824,995
		HAS F CODE	816,227	F WASTE W/ AT LEAST ONE CHARACTERISTIC CODE	7,288,644
		HAS K CODE	777,380	K WASTE W/ AT LEAST ONE CHARACTERISTIC CODE	6,268,146
		HAS P CODE	147,079	P WASTE W/ AT LEAST ONE CHARACTERISTIC CODE	212,413
		HAS U CODE	686,685	U WASTE W/ AT LEAST ONE CHARACTERISTIC CODE	3,468,219
TOTAL	**12,082,405**	**TOTAL**	**845,353**	**TOTAL**	**11,760,240**

[1] Listed wastes with ignitable, corrosive, reactive, D004-17 (toxic), or D018-43 (Toxic) characteristics respectively may have other characteristics as well. Similarly, characteristic wastes that are also F, K, P, or U listed wastes respectively may be other listed wastes as well.

Note: All quantities are in tons.
Columns do not sum to total because wastes may be included in more than one category.
CBI data excluded from exhibit.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

2.0 WASTE MANAGEMENT

The following section provides an overview of the 1999 RCRA hazardous waste management data through a series of exhibits and textual summaries. For a complete description of this section's contents, please refer to the *Executive Summary* sections entitled "RCRA Hazardous Waste" and "RCRA Hazardous Waste Management." Also, Appendix B provides a complete list of management systems and the System Type Codes used to identify them.

In 1999, 1,575 treatment, storage, or disposal (TSD) facilities reported they managed 26.3 million tons of hazardous waste through treatment, storage, or disposal. Of the 1,575 TSDs, 1,049 were storage-only facilities in 1999. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs decreased by 450, and the quantity of hazardous waste managed decreased 11.4 million tons (30%). Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the management of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exhibits 2.1, 2.2, and 2.3 present the quantity of RCRA hazardous waste managed and the number of TSDs *in each EPA Region*[1]. TSDs located in three (3) Regions managed 80% of the 26.3 million tons managed nationally in 1999. These Regions were Region 6 (11.5 million tons), Region 4 (5.2 million tons), and Region 5 (4.4 million tons). As would seem logical, Region 6, Region 4 and Region 5 were also the top ranked Regions in hazardous waste generation in 1999.

The three (3) Regions that managed the most waste also have the most TSDs. The number of TSDs in these three (3) Regions were Region 4 (305), Region 5 (284), and Region 6 (245). These three (3) Regions combined accounted for 53% of the total number of TSDs. Region 10 had the fewest TSDs (41).

[1] Appendix A includes a list of States by EPA Region.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.1 Number and Percentage of RCRA TSD Facilities and Total RCRA Hazardous Waste Quantity Managed, by EPA Region, 1999

EPA Region	Hazardous Waste Quantity [1]		TSD Facilities	
	Tons Managed	Percentage	Number	Percentage
1	18,514	0.1	86	5.5
2	637,364	2.4	135	8.6
3	433,053	1.6	144	9.1
4	5,157,467	19.6	305	19.4
5	4,438,039	16.9	284	18.0
6	11,502,142	43.7	245	15.6
7	2,578,158	9.8	107	6.8
8	162,585	0.6	55	3.5
9	455,375	1.7	172	10.9
10	926,510	3.5	41	2.6
CBI DATA	88	N/A	1	N/A
Total	**26,309,296**	**100.0**	**1,575**	**100.0**

Exhibit 2.2 Number and Percentage of RCRA TSD Facilities and Total RCRA Hazardous Waste Quantity Managed, by Management Quantity, 1999

EPA Region	Hazardous Waste Quantity [1]		TSD Facilities	
	Tons Managed	Percentage	Number	Percentage
6	11,502,142	43.7	245	15.6
4	5,157,467	19.6	305	19.4
5	4,438,039	16.9	284	18.0
7	2,578,158	9.8	107	6.8
10	926,510	3.5	41	2.6
2	637,364	2.4	135	8.6
9	455,375	1.7	172	10.9
3	433,053	1.6	144	9.1
8	162,585	0.6	55	3.5
1	18,514	0.1	86	5.5
CBI DATA	88	N/A	1	N/A
Total	**26,309,296**	**100.0**	**1,575**	**100.0**

[1]Quantity managed by storage only is excluded.

Note: Columns for these two exhibits may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.3 Number and Percentage of RCRA TSD Facilities and Total RCRA Hazardous Waste Quantity Managed in Each EPA Region, by Highest Number of TSD Facilities, 1999

EPA Region	TSD Facilities		Hazardous Waste Quantity [1]	
	Number	Percentage	Tons Managed	Percentage
4	305	19.4	5,157,467	19.6
5	284	18.0	4,438,039	16.9
6	245	15.6	11,502,142	43.7
9	172	10.9	455,375	1.7
3	144	9.1	433,053	1.6
2	135	8.6	637,364	2.4
7	107	6.8	2,578,158	9.8
1	86	5.5	18,514	0.1
8	55	3.5	162,585	0.6
10	41	2.6	926,510	3.5
CBI DATA	1	N/A	88	N/A
Total	**1,575**	**100.0**	**26,309,296**	**100.0**

[1]Quantity managed by storage only is excluded.

Note: Columns for this exhibit may not sum due to rounding.
Percentages do not include CBI data.

Exhibits 2.4, 2.5, and 2.6 present the quantity of RCRA hazardous waste managed and the number of TSDs *in each State*. TSDs in Texas managed the largest amount of waste (5.8 million tons), followed by Louisiana (4.2 million tons), Florida (2.8 million tons), Kansas (2.3 million tons), and Ohio (1.7 million tons). Together, the TSDs in these States accounted for 64% of the national management total.

California reported the most TSDs (144), followed by Texas (105), Illinois (86), North Carolina (75), Louisiana (68), Michigan (61), New York (59), Missouri (51), Pennsylvania (51), and Ohio (49). TSDs in these States constituted 48% of the total number of TSDs. Montana and the Navajo Nation reported no TSDs. The District of Columbia, Guam, New Hampshire, South Dakota, and Wyoming all reported having TSD facilities but zero management quantities. The TSDs in these States reported storage-only management or the management of wastewaters excluded from the 1999 national reporting logic.

Exhibit 2.7 presents the 50 largest RCRA hazardous waste management facilities in the nation in 1999. Collectively, these TSDs accounted for 82% (21.6 million tons) of the national management total. The largest manager, Fairbanks Disposal, in Gainesville, Florida, managed 2.6 million tons of RCRA hazardous waste in 1999, which accounted for 10% of the national management total.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.4 Quantity of RCRA Hazardous Waste Managed and Number of RCRA TSD Facilities, by State, 1999

State	Hazardous Waste Quantity [1]			TSD Facilities		
	Rank	Tons Managed	Percentage	Rank	Number	Percentage
ALABAMA	18	211,762	0.8	11	47	3.0
ALASKA	47	4	0.0	40	6	0.4
ARIZONA	38	6,193	0.0	35	16	1.0
ARKANSAS	9	977,784	3.7	18	35	2.2
CALIFORNIA	13	400,559	1.5	1	144	9.1
COLORADO	39	5,282	0.0	33	18	1.1
CONNECTICUT	35	8,627	0.0	31	20	1.3
DELAWARE	41	2,064	0.0	45	5	0.3
DISTRICT OF COLUMBIA	50	0	0.0	51	1	0.1
FLORIDA	3	2,822,198	10.7	12	46	2.9
GEORGIA	23	82,693	0.3	17	37	2.4
GUAM	50	0	0.0	49	2	0.1
HAWAII	46	156	0.0	46	3	0.2
IDAHO	10	860,261	3.3	40	6	0.4
ILLINOIS	12	428,280	1.6	3	86	5.5
INDIANA	7	1,187,981	4.5	20	30	1.9
IOWA	42	1,389	0.0	25	26	1.7
KANSAS	4	2,278,712	8.7	27	24	1.5
KENTUCKY	22	92,897	0.4	23	27	1.7
LOUISIANA	2	4,232,705	16.1	5	68	4.3
MAINE	43	571	0.0	36	10	0.6
MARYLAND	33	12,306	0.0	29	22	1.4
MASSACHUSETTS	36	7,092	0.0	14	43	2.7
MICHIGAN	8	1,132,279	4.3	6	61	3.9
MINNESOTA	29	29,958	0.1	16	40	2.5
MISSISSIPPI	27	45,763	0.2	32	19	1.2
MISSOURI	17	270,066	1.0	8	51	3.2
MONTANA	50	0	0.0	55	0	0.0
NAVAJO NATION	50	0	0.0	55	0	0.0
NEBRASKA	30	27,991	0.1	40	6	0.4
NEVADA	26	48,283	0.2	40	6	0.4
NEW HAMPSHIRE	50	0	0.0	46	3	0.2
NEW JERSEY	19	192,698	0.7	13	44	2.8
NEW MEXICO	49	2	0.0	37	7	0.4
NEW YORK	15	316,470	1.2	7	59	3.7
NORTH CAROLINA	32	20,405	0.1	4	75	4.8
NORTH DAKOTA	44	504	0.0	37	7	0.4
OHIO	5	1,652,870	6.3	10	49	3.1
OKLAHOMA	11	485,193	1.8	20	30	1.9
OREGON	28	38,874	0.1	40	6	0.4
PENNSYLVANIA	16	293,078	1.1	8	51	3.2
PUERTO RICO	21	116,796	0.4	19	31	2.0
RHODE ISLAND	40	2,220	0.0	46	3	0.2
SOUTH CAROLINA	14	329,906	1.3	25	26	1.7
SOUTH DAKOTA	50	0	0.0	51	1	0.1
TENNESSEE	6	1,551,844	5.9	22	28	1.8
TEXAS	1	5,806,458	22.1	2	105	6.7
TRUST TERRITORIES	45	185	0.0	51	1	0.1
UTAH	20	156,799	0.6	23	27	1.7
VERMONT	48	4	0.0	37	7	0.4
VIRGIN ISLANDS	34	11,400	0.0	51	1	0.1
VIRGINIA	24	70,587	0.3	14	43	2.7
WASHINGTON	31	27,371	0.1	28	23	1.5
WEST VIRGINIA	25	55,017	0.2	29	22	1.4
WISCONSIN	37	6,671	0.0	33	18	1.1
WYOMING	50	0	0.0	49	2	0.1
CBI DATA	N/A	88	N/A	N/A	1	N/A
Total		**26,309,296**	**100.0**		**1,575**	**100.0**

[1]Quantity managed by storage only is excluded.

Note: Column may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.5 Rank Ordering of States Based on Quantity of RCRA Hazardous Waste Managed and Number of RCRA TSD Facilities, 1999

State	Hazardous Waste Quantity [1]			TSD Facilities		
	Rank	Tons Managed	Percentage	Rank	Number	Percentage
TEXAS	1	5,806,458	22.1	2	105	6.7
LOUISIANA	2	4,232,705	16.1	5	68	4.3
FLORIDA	3	2,822,198	10.7	12	46	2.9
KANSAS	4	2,278,712	8.7	27	24	1.5
OHIO	5	1,652,870	6.3	10	49	3.1
TENNESSEE	6	1,551,844	5.9	22	28	1.8
INDIANA	7	1,187,981	4.5	20	30	1.9
MICHIGAN	8	1,132,279	4.3	6	61	3.9
ARKANSAS	9	977,784	3.7	18	35	2.2
IDAHO	10	860,261	3.3	40	6	0.4
OKLAHOMA	11	485,193	1.8	20	30	1.9
ILLINOIS	12	428,280	1.6	3	86	5.5
CALIFORNIA	13	400,559	1.5	1	144	9.1
SOUTH CAROLINA	14	329,906	1.3	25	26	1.7
NEW YORK	15	316,470	1.2	7	59	3.7
PENNSYLVANIA	16	293,078	1.1	8	51	3.2
MISSOURI	17	270,066	1.0	8	51	3.2
ALABAMA	18	211,762	0.8	11	47	3.0
NEW JERSEY	19	192,698	0.7	13	44	2.8
UTAH	20	156,799	0.6	23	27	1.7
PUERTO RICO	21	116,796	0.4	19	31	2.0
KENTUCKY	22	92,897	0.4	23	27	1.7
GEORGIA	23	82,693	0.3	17	37	2.4
VIRGINIA	24	70,587	0.3	14	43	2.7
WEST VIRGINIA	25	55,017	0.2	29	22	1.4
NEVADA	26	48,283	0.2	40	6	0.4
MISSISSIPPI	27	45,763	0.2	32	19	1.2
OREGON	28	38,874	0.1	40	6	0.4
MINNESOTA	29	29,958	0.1	16	40	2.5
NEBRASKA	30	27,991	0.1	40	6	0.4
WASHINGTON	31	27,371	0.1	28	23	1.5
NORTH CAROLINA	32	20,405	0.1	4	75	4.8
MARYLAND	33	12,306	0.0	29	22	1.4
VIRGIN ISLANDS	34	11,400	0.0	51	1	0.1
CONNECTICUT	35	8,627	0.0	31	20	1.3
MASSACHUSETTS	36	7,092	0.0	14	43	2.7
WISCONSIN	37	6,671	0.0	33	18	1.1
ARIZONA	38	6,193	0.0	35	16	1.0
COLORADO	39	5,282	0.0	33	18	1.1
RHODE ISLAND	40	2,220	0.0	46	3	0.2
DELAWARE	41	2,064	0.0	45	5	0.3
IOWA	42	1,389	0.0	25	26	1.7
MAINE	43	571	0.0	36	10	0.6
NORTH DAKOTA	44	504	0.0	37	7	0.4
TRUST TERRITORIES	45	185	0.0	51	1	0.1
HAWAII	46	156	0.0	46	3	0.2
ALASKA	47	4	0.0	40	6	0.4
VERMONT	48	4	0.0	37	7	0.4
NEW MEXICO	49	2	0.0	37	7	0.4
DISTRICT OF COLUMBIA	50	0	0.0	51	1	0.1
GUAM	50	0	0.0	49	2	0.1
MONTANA	50	0	0.0	55	0	0.0
NAVAJO NATION	50	0	0.0	55	0	0.0
NEW HAMPSHIRE	50	0	0.0	46	3	0.2
SOUTH DAKOTA	50	0	0.0	51	1	0.1
WYOMING	50	0	0.0	49	2	0.1
CBI DATA	N/A	88	N/A	N/A	1	N/A
Total		**26,309,296**	**100.0**		**1,575**	**100.0**

[1]Quantity managed by storage only is excluded.

Note: Column may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.6 Rank Ordering of States Based on Number of RCRA TSD Facilities and Quantity of RCRA Hazardous Waste Managed, 1999

State	TSD Facilities			Hazardous Waste Quantity [1]		
	Rank	Number	Percentage	Rank	Tons Managed	Percentage
CALIFORNIA	1	144	9.1	13	400,559	1.5
TEXAS	2	105	6.7	1	5,806,458	22.1
ILLINOIS	3	86	5.5	12	428,280	1.6
NORTH CAROLINA	4	75	4.8	32	20,405	0.1
LOUISIANA	5	68	4.3	2	4,232,705	16.1
MICHIGAN	6	61	3.9	8	1,132,279	4.3
NEW YORK	7	59	3.7	15	316,470	1.2
MISSOURI	8	51	3.2	17	270,066	1.0
PENNSYLVANIA	8	51	3.2	16	293,078	1.1
OHIO	10	49	3.1	5	1,652,870	6.3
ALABAMA	11	47	3.0	18	211,762	0.8
FLORIDA	12	46	2.9	3	2,822,198	10.7
NEW JERSEY	13	44	2.8	19	192,698	0.7
MASSACHUSETTS	14	43	2.7	36	7,092	0.0
VIRGINIA	14	43	2.7	24	70,587	0.3
MINNESOTA	16	40	2.5	29	29,958	0.1
GEORGIA	17	37	2.4	23	82,693	0.3
ARKANSAS	18	35	2.2	9	977,784	3.7
PUERTO RICO	19	31	2.0	21	116,796	0.4
INDIANA	20	30	1.9	7	1,187,981	4.5
OKLAHOMA	20	30	1.9	11	485,193	1.8
TENNESSEE	22	28	1.8	6	1,551,844	5.9
KENTUCKY	23	27	1.7	22	92,897	0.4
UTAH	23	27	1.7	20	156,799	0.6
IOWA	25	26	1.7	42	1,389	0.0
SOUTH CAROLINA	25	26	1.7	14	329,906	1.3
KANSAS	27	24	1.5	4	2,278,712	8.7
WASHINGTON	28	23	1.5	31	27,371	0.1
MARYLAND	29	22	1.4	33	12,306	0.0
WEST VIRGINIA	29	22	1.4	25	55,017	0.2
CONNECTICUT	31	20	1.3	35	8,627	0.0
MISSISSIPPI	32	19	1.2	27	45,763	0.2
COLORADO	33	18	1.1	39	5,282	0.0
WISCONSIN	33	18	1.1	37	6,671	0.0
ARIZONA	35	16	1.0	38	6,193	0.0
MAINE	36	10	0.6	43	571	0.0
NEW MEXICO	37	7	0.4	49	2	0.0
NORTH DAKOTA	37	7	0.4	44	504	0.0
VERMONT	37	7	0.4	48	4	0.0
ALASKA	40	6	0.4	47	4	0.0
IDAHO	40	6	0.4	10	860,261	3.3
NEBRASKA	40	6	0.4	30	27,991	0.1
NEVADA	40	6	0.4	26	48,283	0.2
OREGON	40	6	0.4	28	38,874	0.1
DELAWARE	45	5	0.3	41	2,064	0.0
HAWAII	46	3	0.2	46	156	0.0
NEW HAMPSHIRE	46	3	0.2	50	0	0.0
RHODE ISLAND	46	3	0.2	40	2,220	0.0
GUAM	49	2	0.1	50	0	0.0
WYOMING	49	2	0.1	50	0	0.0
DISTRICT OF COLUMBIA	51	1	0.1	50	0	0.0
SOUTH DAKOTA	51	1	0.1	50	0	0.0
TRUST TERRITORIES	51	1	0.1	45	185	0.0
VIRGIN ISLANDS	51	1	0.1	34	11,400	0.0
MONTANA	55	0	0.0	50	0	0.0
NAVAJO NATION	55	0	0.0	50	0	0.0
CBI DATA	N/A	1	N/A	N/A	88	N/A
Total		**1,575**	**100.0**		**26,309,296**	**100.0**

[1]Quantity managed by storage only is excluded.

Note: Column may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.7 Fifty Largest RCRA Hazardous Waste Managers in the U.S., 1999

Rank	EPA ID	Name	City	Tons Managed [1]
1	FLD980799050	FAIRBANKS DISPOSAL PIT	GAINESVILLE, FL	2,625,569
2	KSD007482029	VULCAN MATERIALS COMPANY	WICHITA, KS	2,128,899
3	LAD008213191	RUBICON INC.	GEISMAR, LA	1,756,225
4	LAD008175390	CYTEC INDUSTRIES INC.	WAGGAMAN, LA	1,550,783
5	TND007024664	VELSICOL CHEMICAL	MEMPHIS, TN	1,118,487
6	TXD001700806	SOLUTIA, INC.	ALVIN, TX	1,114,318
7	TXD008123317	DU PONT DE NEMOURS & CO., E.I.	VICTORIA, TX	1,066,617
8	OHD042157644	BP CHEMICALS INC	LIMA, OH	900,770
9	IDD070929518	ASTARIS IDAHO LLC (FORMER FMC CORP)	POCATELLO, ID	704,844
10	TXD059685339	DIAMOND SHAMROCK REFINING COMPANY, L.P.	SUNRAY, TX	661,237
11	TXD008080533	AMOCO OIL COMPANY	TEXAS CITY, TX	554,622
12	ARD043195429	GREAT LAKES CHEMICAL CORP	EL DORADO, AR	500,000
13	MID000724831	MICHIGAN DISPOSAL WASTE TREATMENT PLANT	BELLEVILLE, MI	427,118
14	OKD000829440	ZINC CORPORATION OF AMERICA	BARTLESVILLE, OK	374,683
15	IND003913423	BETHLEHEM STEEL CORP., BURNS HARBOR DIV.	BURNS HARBOR, IN	370,009
16	TXD083472266	LYONDELL CHEMICAL COMPANY	CHANNELVIEW, TX	324,872
17	TXD078432457	CELANESE LTD.	PASADENA, TX	303,916
18	TXD008081101	E.I. DUPONT DE NEMOURS & COMPANY	BEAUMONT, TX	299,990
19	TXR000036251	CHEMICAL WASTE MANAGEMENT, INC.	PORT ARTHUR, TX	293,487
20	LAD000777201	CHEMICAL WASTE MANAGEMENT	SULPHUR, LA	258,000
21	ARD006354161	REYNOLDS METALS COMPANY GUM SPRINGS PLAN	ARKADELPHIA, AR	240,501
22	LAD001890367	E. I. DUPONT DE NEMOURS & CO., INC.	LAPLACE, LA	229,473
23	MID006013643	PARKE DAVIS DIV OF WARNER LAMBERT	HOLLAND, MI	203,536
24	TND003337292	OLIN CORPORATION - CHARLESTON PLANT	CHARLESTON, TN	203,233
25	TXD000719518	DISPOSAL SYSTEMS INC.	DEER PARK, TX	197,235
26	OHD045243706	ENVIROSAFE SERVICES OF OHIO INC	OREGON, OH	174,198
27	NYD030485288	REVERE SMELTING & REFINING CORPORATION	MIDDLETOWN, NY	167,285
28	FLD004106811	KAISER ALUMINUM & CHEMICAL CORPORATION	MULBERRY, FL	164,152
29	ILD000805812	PEORIA DISPOSAL CO INC	PEORIA, IL	160,409
30	IND000199653	QUEMETCO, INC.	INDIANAPOLIS, IN	159,724
31	IDD073114654	ENVIROSAFE SERVICES OF IDAHO INC SITE B	GRAND VIEW, ID	154,780
32	TND003376928	TENN EASTMAN DIVISION OF EASTMAN CHEMICA	KINGSPORT, TN	150,918
33	MID048090633	WAYNE DISPOSAL INC	BELLEVILLE, MI	148,885
34	OHD020273819	WASTE MANAGEMENT OF OHIO INC	VICKERY, OH	136,615
35	TXD008079527	STERLING CHEMICALS, INC.	TEXAS CITY, TX	135,766
36	TXD008081697	BASF CORPORATION	FREEPORT, TX	133,988
37	IND980503890	HERITAGE ENVIRONMENTAL SVC - ROACHDALE	ROACHDALE, IN	128,153
38	CAD066233966	QUEMETCO INC.	CITY OF INDUSTRY, CA	127,628
39	TXD055141378	SAFETY-KLEEN (DEER PARK), INC.	DEER PARK, TX	122,721
40	LAD020597597	ANGUS CHEMICAL COMPANY	STERLINGTON, LA	122,483
41	MID980615298	PETRO CHEM PROCESSING GRP OF NORTRU	DETROIT, MI	120,923
42	SCD003351699	GIANT CEMENT COMPANY	HARLEYVILLE, SC	110,768
43	MOD029729688	HOLNAM INC./SAFETY-KLEEN SYSTEMS, INC.	CLARKSVILLE, MO	100,443
44	IND000810861	AMOCO OIL COMPANY - LAKEFRONT	WHITING, IN	99,157
45	OHD987048733	LAFARGE CORPORATION	PAULDING, OH	98,278
46	SCD003368891	HOLNAM INC SAFETY KLEEN SYSTEMS INC	HOLLY HILL, SC	95,550
47	OKD065438376	SAFETY-KLEEN, LONE MOUNTAIN	WAYNOKA, OK	95,358
48	OHD005048947	SYSTECH ENVIRONMENTAL CORP	PAULDING, OH	88,394
49	ALD070513767	M & M CHEMICAL AND EQUIPMENT COMPANY	ATTALLA, AL	87,021
50	CAT000646117	CHEMICAL WASTE MANAGEMENT, INC.	KETTLEMAN CITY, CA	86,086
Total				**21,578,106**

[1]Quantity managed by storage only is excluded.

Note: Column may not sum due to rounding.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Large TSDs in the five (5) States which managed the most waste (Texas, Louisiana, Florida, Kansas, and Ohio) also accounted for the majority of each State's management totals. Twelve (12) Texas TSDs managed 20% of the national management total and accounted for 90% of the State's management total. The five (5) largest Louisiana facilities managed 15% of the national management total and accounted for 93% of the State's management total. Eight (8) of the largest managers are located in Florida, Kansas, and Ohio, the States ranked third, fourth, and fifth, respectively, in hazardous waste management. These TSDs accounted for 24% of the national management total.

Exhibits 2.8, 2.9, and 2.10 provide an overview of the various management methods and quantity of waste managed by each method. As stated earlier, all wastewaters were excluded from the 1999 National Report data, therefore, most management methods employed for managing the wastewater (including aqueous treatment units and direct discharge to sewer/POTW or to surface water under NPDES) have also been excluded from this Report. However, wastes managed in Deepwell/Underground Injection (M134) are included in this Report.

Land disposal accounted for 69% of the national non-wastewater management total. The land disposal units and quantity managed by method include:

Deepwell/Underground Injection	16.0 million tons
Landfill	1.4 million tons
Surface Impoundment	705 thousand tons
Land Treatment/Application/Farming	30 thousand tons

Thermal treatment accounted for 11% of the national non-wastewater management total. Thermal treatment methods include:

Energy Recovery	1.5 million tons
Incineration	1.5 million tons

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Recovery operations represented 10% of the national non-wastewater management total. The methods defined as recovery operations and the quantity managed by each method include:

Fuel Blending	1.1 million tons
Metals Recovery (for Reuse)	720 thousand tons
Solvents Recovery	368 thousand tons
Other Recovery	152 thousand tons

The remaining non-wastewater management quantities (11%) were managed in *other treatment and disposal units*, including:

Other Disposal	1.4 million tons
Stabilization	1.3 million tons
Sludge Treatment	48 thousand tons

Exhibit 2.8 Quantity of RCRA Hazardous Waste Managed, by Management Method, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
METALS RECOVERY	M011-M019	719,916	2.7	88	16.8
SOLVENTS RECOVERY	M021-M029	367,899	1.4	111	21.1
OTHER RECOVERY	M031-M039	151,700	0.6	46	8.8
INCINERATION	M041-M049	1,454,403	5.5	149	28.4
ENERGY RECOVERY	M051-M059	1,542,315	5.9	99	18.9
FUEL BLENDING	M061	1,099,687	4.2	104	19.8
SLUDGE TREATMENT	M101-M109	47,653	0.2	16	3.0
STABILIZATION	M111-M119	1,337,162	5.1	84	16.0
LAND TREATMENT / APPLICATION / FARMING	M131	29,873	0.1	7	1.3
LANDFILL	M132	1,410,392	5.4	60	11.4
SURFACE IMPOUNDMENT	M133	705,304	2.7	2	0.4
DEEPWELL / UNDERGROUND INJECTION	M134	16,043,912	61.0	46	8.8
OTHER DISPOSAL	M137	1,398,993	5.3	39	7.4
Total		**26,309,208**	**100.0**	**525**	

[1] Facilities reporting storage only and their quantity managed are excluded.

[2] Column may not sum because facilities may have multiple handling methods.

Note: Columns may not sum due to rounding.
CBI data excluded from exhibit.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.9 Management Method, by Quantity of RCRA Hazardous Waste Managed, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
DEEPWELL / UNDERGROUND INJECTION	M134	16,043,912	61.0	46	8.8
ENERGY RECOVERY	M051-M059	1,542,315	5.9	99	18.9
INCINERATION	M041-M049	1,454,403	5.5	149	28.4
LANDFILL	M132	1,410,392	5.4	60	11.4
OTHER DISPOSAL	M137	1,398,993	5.3	39	7.4
STABILIZATION	M111-M119	1,337,162	5.1	84	16.0
FUEL BLENDING	M061	1,099,687	4.2	104	19.8
METALS RECOVERY	M011-M019	719,916	2.7	88	16.8
SURFACE IMPOUNDMENT	M133	705,304	2.7	2	0.4
SOLVENTS RECOVERY	M021-M029	367,899	1.4	111	21.1
OTHER RECOVERY	M031-M039	151,700	0.6	46	8.8
SLUDGE TREATMENT	M101-M109	47,653	0.2	16	3.0
LAND TREATMENT / APPLICATION / FARMING	M131	29,873	0.1	7	1.3
Total		**26,309,208**	**100.0**	**525**	

Exhibit 2.10 Management Method and Quantity of RCRA Hazardous Waste Managed, by Number of Facilities, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
INCINERATION	M041-M049	1,454,403	5.5	149	28.4
SOLVENTS RECOVERY	M021-M029	367,899	1.4	111	21.1
FUEL BLENDING	M061	1,099,687	4.2	104	19.8
ENERGY RECOVERY	M051-M059	1,542,315	5.9	99	18.9
METALS RECOVERY	M011-M019	719,916	2.7	88	16.8
STABILIZATION	M111-M119	1,337,162	5.1	84	16.0
LANDFILL	M132	1,410,392	5.4	60	11.4
DEEPWELL / UNDERGROUND INJECTION	M134	16,043,912	61.0	46	8.8
OTHER RECOVERY	M031-M039	151,700	0.6	46	8.8
OTHER DISPOSAL	M137	1,398,993	5.3	39	7.4
SLUDGE TREATMENT	M101-M109	47,653	0.2	16	3.0
LAND TREATMENT / APPLICATION / FARMING	M131	29,873	0.1	7	1.3
SURFACE IMPOUNDMENT	M133	705,304	2.7	2	0.4
Total		**26,309,208**	**100.0**	**525**	

[1] Facilities reporting storage only and their quantity managed are excluded.

[2] Column may not sum because facilities may have multiple handling methods.

Note: Columns for these two exhibits may not sum due to rounding.
CBI data excluded from these two exhibits.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibits 2.11, 2.12, and 2.13 present the management methods used for treating or disposing of **wastes received from off-site** and the quantity managed by each method. In 1999, 6 million tons (23% of the national management total) of waste was received from off-site and subsequently managed on-site in treatment and disposal units. As stated earlier, all wastewaters were excluded from the 1999 National Report data, therefore, most management methods employed for managing the wastewater (including aqueous treatment units and direct discharge to sewer/POTW or to surface water under NPDES) have also been excluded from this Report. However, wastes managed in Deepwell/Underground Injection (M134) are included in this Report.

Exhibit 2.11 Quantity of RCRA Hazardous Waste Managed, by Management Method, Limited to Waste Received from Off-Site, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
METALS RECOVERY	M011-M019	532,324	8.9	67	23.3
SOLVENTS RECOVERY	M021-M029	349,678	5.8	52	18.1
OTHER RECOVERY	M031-M039	47,952	0.8	28	9.7
INCINERATION	M041-M049	757,844	12.7	81	28.1
ENERGY RECOVERY	M051-M059	879,003	14.7	51	17.7
FUEL BLENDING	M061	927,769	15.5	96	33.3
SLUDGE TREATMENT	M101-M109	328	0.0	11	3.8
STABILIZATION	M111-M119	1,039,047	17.4	55	19.1
LAND TREATMENT / APPLICATION / FARMING	M131	13	0.0	3	1.0
LANDFILL	M132	792,923	13.3	39	13.5
DEEPWELL / UNDERGROUND INJECTION	M134	637,644	10.7	14	4.9
OTHER DISPOSAL	M137	15,586	0.3	17	5.9
Total		**5,980,112**	**100.0**	**288**	

Exhibit 2.12 Management Method, by Quantity of RCRA Hazardous Waste Managed, Limited to Waste Received from Off-Site, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
STABILIZATION	M111-M119	1,039,047	17.4	55	19.1
FUEL BLENDING	M061	927,769	15.5	96	33.3
ENERGY RECOVERY	M051-M059	879,003	14.7	51	17.7
LANDFILL	M132	792,923	13.3	39	13.5
INCINERATION	M041-M049	757,844	12.7	81	28.1
DEEPWELL / UNDERGROUND INJECTION	M134	637,644	10.7	14	4.9
METALS RECOVERY	M011-M019	532,324	8.9	67	23.3
SOLVENTS RECOVERY	M021-M029	349,678	5.8	52	18.1
OTHER RECOVERY	M031-M039	47,952	0.8	28	9.7
OTHER DISPOSAL	M137	15,586	0.3	17	5.9
SLUDGE TREATMENT	M101-M109	328	0.0	11	3.8
LAND TREATMENT / APPLICATION / FARMING	M131	13	0.0	3	1.0
Total		**5,980,112**	**100.0**	**288**	

[1] Facilities reporting storage only and their quantity managed are excluded.
[2] Column may not sum because facilities may have multiple handling methods.

Note: Columns for these two exhibits may not sum due to rounding.
CBI data excluded from these two exhibits.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 2.13 Management Method and Quantity of RCRA Hazardous Waste Managed, by Number of Facilities, Limited to Waste Received from Off-Site, 1999

Management Method	System Type Code	Tons Managed [1]	Percentage of Quantity	Number of Facilities [2]	Percentage of Facilities [2]
FUEL BLENDING	M061	927,769	15.5	96	33.3
INCINERATION	M041-M049	757,844	12.7	81	28.1
METALS RECOVERY	M011-M019	532,324	8.9	67	23.3
STABILIZATION	M111-M119	1,039,047	17.4	55	19.1
SOLVENTS RECOVERY	M021-M029	349,678	5.8	52	18.1
ENERGY RECOVERY	M051-M059	879,003	14.7	51	17.7
LANDFILL	M132	792,923	13.3	39	13.5
OTHER RECOVERY	M031-M039	47,952	0.8	28	9.7
OTHER DISPOSAL	M137	15,586	0.3	17	5.9
DEEPWELL / UNDERGROUND INJECTION	M134	637,644	10.7	14	4.9
SLUDGE TREATMENT	M101-M109	328	0.0	11	3.8
LAND TREATMENT / APPLICATION / FARMING	M131	13	0.0	3	1.0
Total		**5,980,112**	**100.0**	**288**	

[1] Facilities reporting storage only and their quantity managed are excluded.

[2] Column may not sum because facilities may have multiple handling methods.

Note: Columns may not sum due to rounding.
CBI data excluded from exhibit.

Recovery operations were used to manage 31% of the non-wastewater **waste received from off-site** and managed on-site. Recovery operations include:

Fuel Blending	928 thousand tons
Metals Recovery	532 thousand tons
Solvents Recovery	350 thousand tons
Other Recovery	48 thousand tons

Thermal treatment accounted for 27% of the national management total for **waste received from off-site** and subsequently managed on-site. Thermal treatment units include:

Energy Recovery	879 thousand tons
Incineration	758 thousand tons

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Land disposal units also accounted for 24% of the national non-wastewater management total for **waste received from off-site** and subsequently managed on-site. Land disposal units include:

Landfill	793 thousand tons
Deepwell/Underground Injection	638 thousand tons
Land Treatment / Application / Farming	13 tons

Other treatment and disposal units were used to manage the remaining 18% of the national non-wastewater management total for **wastes received from off-site** and managed on-site. Other treatment and disposal units include:

Stabilization	1 million tons
Other Disposal	16 thousand tons
Sludge treatment	328 tons

A comparison of the management profile for all wastes and for wastes received from off-site shows that wastes managed off-site are managed differently. Wastewaters were excluded from the 1999 National Report data, therefore, most management methods employed for managing wastewaters have also been excluded from this Report. Of the wastes included in this Report, most were managed on-site in Deepwell/Underground Injection. The majority of wastes received from off-site were managed by Stabilization, Fuel Blending, or Energy Recovery.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

3.0 SHIPMENTS AND RECEIPTS

The following section provides an overview of the 1999 RCRA hazardous waste shipping[1] and receiving data through a series of exhibits and textual summaries. For a complete description of this section's contents, please refer to the *Executive Summary* sections entitled "RCRA Hazardous Waste" and "RCRA Hazardous Waste Shipments and Receipts."

In 1999, 17,914 shippers reported shipping (either within the State or between States) 8.1 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of shippers decreased by 115, and the quantity of waste shipped increased by 817 thousand tons or 11%. All RCRA non-wastewater shipments reported by RCRA LQGs and TSDs are included in the waste shipment quantities in this Report, even if the waste was shipped to a transfer facility. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the shipment of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exhibits 3.1, 3.2, and 3.3 present the quantity of waste shipped and the number of shippers *in each EPA Region*[2]. Region 5 reported the largest number of shippers (4,130) and also reported shipping the greatest amount of waste, 2 million tons or 25% of the national shipment total. Region 8 reported the fewest shippers (329) and reported shipping the least amount of waste (140 thousand tons).

[1] The term "shipment" refers to the physical transfer of waste from one facility to another. In some instances, waste is transferred within a physical location that has more than one EPA Identification Number. These waste transfers are treated as shipments.

[2] Appendix A includes a list of States by EPA Region.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.1 Number and Percentage of Hazardous Waste Shippers and Total RCRA Hazardous Waste Quantity Shipped, by EPA Region, 1999

EPA Region	Hazardous Waste Quantity		Shippers	
	Tons Shipped	Percentage	Number	Percentage
1	767,970	9.4	1,256	7.0
2	894,998	11.0	3,006	16.8
3	632,818	7.8	1,708	9.5
4	1,273,344	15.6	2,231	12.5
5	2,011,561	24.7	4,130	23.1
6	1,195,811	14.7	1,710	9.5
7	607,250	7.5	780	4.4
8	140,194	1.7	329	1.8
9	440,114	5.4	1,983	11.1
10	185,013	2.3	778	4.3
CBI DATA	646	N/A	3	N/A
Total	**8,149,719**	**100.0**	**17,914**	**100.0**

Exhibit 3.2 Number and Percentage of Hazardous Waste Shippers and Total Quantity of RCRA Hazardous Waste Shipped by Region, by the Total Quantity of Waste Shipped, 1999

EPA Region	Hazardous Waste Quantity		Shippers	
	Tons Shipped	Percentage	Number	Percentage
5	2,011,561	24.7	4,130	23.1
4	1,273,344	15.6	2,231	12.5
6	1,195,811	14.7	1,710	9.5
2	894,998	11.0	3,006	16.8
1	767,970	9.4	1,256	7.0
3	632,818	7.8	1,708	9.5
7	607,250	7.5	780	4.4
9	440,114	5.4	1,983	11.1
10	185,013	2.3	778	4.3
8	140,194	1.7	329	1.8
CBI DATA	646	N/A	3	N/A
Total	**8,149,719**	**100.0**	**17,914**	**100.0**

Note: Columns for these two exhibits may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.3 Number and Percentage of Hazardous Waste Shippers and Total Quantity of RCRA Hazardous Waste Shipped by Region, by Highest Number of Shippers, 1999

EPA Region	Shippers		Hazardous Waste Quantity	
	Number	Percentage	Tons Shipped	Percentage
5	4,130	23.1	2,011,561	24.7
2	3,006	16.8	894,998	11.0
4	2,231	12.5	1,273,344	15.6
9	1,983	11.1	440,114	5.4
6	1,710	9.5	1,195,811	14.7
3	1,708	9.5	632,818	7.8
1	1,256	7.0	767,970	9.4
7	780	4.4	607,250	7.5
10	778	4.3	185,013	2.3
8	329	1.8	140,194	1.7
CBI DATA	3	N/A	646	N/A
Total	**17,914**	**100.0**	**8,149,719**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exhibits 3.4, 3.5, and 3.6 present the quantity of RCRA hazardous waste shipped and the number of shippers *in each State*. New York reported the most shippers (1,904), followed by California (1,662), Ohio (1,082), New Jersey (999), Illinois (934), Pennsylvania (929), Texas (883), and Michigan (799). Shippers in these States constituted 51% of the total number of shippers. South Carolina reported no shippers or shipments in 1999. Texas reported shipping the most waste, 727 thousand tons or 9% of the national shipment total. Massachusetts (640 thousand tons), Georgia (630 thousand tons), Ohio (614 thousand tons), Michigan (564 thousand tons), New Jersey (543 thousand tons), Kansas (429 thousand tons), and Indiana (389 thousand tons) were also among the top States in quantity of waste shipped. Shippers in these States accounted for 48% of the national shipment total. The 50 largest shippers in the United States are presented in Exhibit 3.7, and their shipments accounted for 44% of the national shipment total in 1999.

Exhibit 3.4 Quantity of RCRA Hazardous Waste Shipped and Number of Hazardous Waste Shippers, by State, 1999

State	Hazardous Waste Quantity			Shippers		
	Rank	Tons Shipped	Percentage	Rank	Number	Percentage
ALABAMA	14	220,690	2.7	22	264	1.5
ALASKA	49	1,348	0.0	43	40	0.2
ARIZONA	31	48,361	0.6	29	181	1.0
ARKANSAS	12	246,284	3.0	25	232	1.3
CALIFORNIA	9	381,776	4.7	2	1,662	9.3
COLORADO	30	50,060	0.6	31	155	0.9
CONNECTICUT	27	61,673	0.8	15	378	2.1
DELAWARE	38	24,637	0.3	41	72	0.4
DISTRICT OF COLUMBIA	50	1,165	0.0	47	29	0.2
FLORIDA	25	70,127	0.9	17	359	2.0
GEORGIA	3	630,345	7.7	16	368	2.1
GUAM	52	705	0.0	54	3	0.0
HAWAII	53	704	0.0	46	36	0.2
IDAHO	44	4,596	0.1	45	37	0.2
ILLINOIS	10	318,825	3.9	5	934	5.2
INDIANA	8	388,730	4.8	9	552	3.1
IOWA	32	46,294	0.6	28	183	1.0
KANSAS	7	429,109	5.3	26	212	1.2
KENTUCKY	15	194,989	2.4	18	321	1.8
LOUISIANA	17	172,360	2.1	14	415	2.3
MAINE	45	4,520	0.1	37	97	0.5
MARYLAND	16	187,208	2.3	23	260	1.5
MASSACHUSETTS	2	640,372	7.9	13	430	2.4
MICHIGAN	5	563,988	6.9	8	799	4.5
MINNESOTA	29	55,671	0.7	24	258	1.4
MISSISSIPPI	37	25,924	0.3	34	132	0.7
MISSOURI	19	101,573	1.2	19	301	1.7
MONTANA	39	13,276	0.2	47	29	0.2
NAVAJO NATION	55	84	0.0	52	6	0.0
NEBRASKA	36	30,273	0.4	40	84	0.5
NEVADA	42	7,919	0.1	38	91	0.5
NEW HAMPSHIRE	40	11,098	0.1	30	157	0.9
NEW JERSEY	6	543,002	6.7	4	999	5.6
NEW MEXICO	41	8,449	0.1	43	40	0.2
NEW YORK	13	244,695	3.0	1	1,904	10.6
NORTH CAROLINA	23	73,619	0.9	12	492	2.7
NORTH DAKOTA	47	2,285	0.0	51	15	0.1
OHIO	4	614,064	7.5	3	1,082	6.0
OKLAHOMA	34	42,048	0.5	32	140	0.8
OREGON	22	81,109	1.0	27	198	1.1
PENNSYLVANIA	11	281,040	3.4	6	929	5.2
PUERTO RICO	18	106,191	1.3	36	102	0.6
RHODE ISLAND	33	43,147	0.5	33	136	0.8
SOUTH CAROLINA	56	0	0.0	56	0	0.0
SOUTH DAKOTA	48	1,456	0.0	49	21	0.1
TENNESSEE	28	57,650	0.7	20	295	1.6
TEXAS	1	726,670	8.9	7	883	4.9
TRUST TERRITORIES	54	566	0.0	53	4	0.0
UTAH	26	69,090	0.8	39	88	0.5
VERMONT	43	7,160	0.1	42	58	0.3
VIRGIN ISLANDS	51	1,110	0.0	55	1	0.0
VIRGINIA	20	98,238	1.2	21	290	1.6
WASHINGTON	21	97,960	1.2	11	503	2.8
WEST VIRGINIA	35	40,530	0.5	35	128	0.7
WISCONSIN	24	70,284	0.9	10	505	2.8
WYOMING	46	4,027	0.0	49	21	0.1
CBI DATA	N/A	646	N/A	N/A	3	N/A
Total		**8,149,719**	**100.0**		**17,914**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.5 Rank Ordering of States Based on Quantity of RCRA Hazardous Waste Shipped and Number of Hazardous Waste Shippers, 1999

State	Hazardous Waste Quantity			Shippers		
	Rank	Tons Shipped	Percentage	Rank	Number	Percentage
TEXAS	1	726,670	8.9	7	883	4.9
MASSACHUSETTS	2	640,372	7.9	13	430	2.4
GEORGIA	3	630,345	7.7	16	368	2.1
OHIO	4	614,064	7.5	3	1,082	6.0
MICHIGAN	5	563,988	6.9	8	799	4.5
NEW JERSEY	6	543,002	6.7	4	999	5.6
KANSAS	7	429,109	5.3	26	212	1.2
INDIANA	8	388,730	4.8	9	552	3.1
CALIFORNIA	9	381,776	4.7	2	1,662	9.3
ILLINOIS	10	318,825	3.9	5	934	5.2
PENNSYLVANIA	11	281,040	3.4	6	929	5.2
ARKANSAS	12	246,284	3.0	25	232	1.3
NEW YORK	13	244,695	3.0	1	1,904	10.6
ALABAMA	14	220,690	2.7	22	264	1.5
KENTUCKY	15	194,989	2.4	18	321	1.8
MARYLAND	16	187,208	2.3	23	260	1.5
LOUISIANA	17	172,360	2.1	14	415	2.3
PUERTO RICO	18	106,191	1.3	36	102	0.6
MISSOURI	19	101,573	1.2	19	301	1.7
VIRGINIA	20	98,238	1.2	21	290	1.6
WASHINGTON	21	97,960	1.2	11	503	2.8
OREGON	22	81,109	1.0	27	198	1.1
NORTH CAROLINA	23	73,619	0.9	12	492	2.7
WISCONSIN	24	70,284	0.9	10	505	2.8
FLORIDA	25	70,127	0.9	17	359	2.0
UTAH	26	69,090	0.8	39	88	0.5
CONNECTICUT	27	61,673	0.8	15	378	2.1
TENNESSEE	28	57,650	0.7	20	295	1.6
MINNESOTA	29	55,671	0.7	24	258	1.4
COLORADO	30	50,060	0.6	31	155	0.9
ARIZONA	31	48,361	0.6	29	181	1.0
IOWA	32	46,294	0.6	28	183	1.0
RHODE ISLAND	33	43,147	0.5	33	136	0.8
OKLAHOMA	34	42,048	0.5	32	140	0.8
WEST VIRGINIA	35	40,530	0.5	35	128	0.7
NEBRASKA	36	30,273	0.4	40	84	0.5
MISSISSIPPI	37	25,924	0.3	34	132	0.7
DELAWARE	38	24,637	0.3	41	72	0.4
MONTANA	39	13,276	0.2	47	29	0.2
NEW HAMPSHIRE	40	11,098	0.1	30	157	0.9
NEW MEXICO	41	8,449	0.1	43	40	0.2
NEVADA	42	7,919	0.1	38	91	0.5
VERMONT	43	7,160	0.1	42	58	0.3
IDAHO	44	4,596	0.1	45	37	0.2
MAINE	45	4,520	0.1	37	97	0.5
WYOMING	46	4,027	0.0	49	21	0.1
NORTH DAKOTA	47	2,285	0.0	51	15	0.1
SOUTH DAKOTA	48	1,456	0.0	49	21	0.1
ALASKA	49	1,348	0.0	43	40	0.2
DISTRICT OF COLUMBIA	50	1,165	0.0	47	29	0.2
VIRGIN ISLANDS	51	1,110	0.0	55	1	0.0
GUAM	52	705	0.0	54	3	0.0
HAWAII	53	704	0.0	46	36	0.2
TRUST TERRITORIES	54	566	0.0	53	4	0.0
NAVAJO NATION	55	84	0.0	52	6	0.0
SOUTH CAROLINA	56	0	0.0	56	0	0.0
CBI DATA	N/A	646	N/A	N/A	3	N/A
Total		**8,149,719**	**100.0**		**17,914**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.6 Rank Ordering of States Based on Number of Hazardous Waste Shippers and Quantity of RCRA Hazardous Waste Shipped, 1999

State	Shippers			Hazardous Waste Quantity		
	Rank	Number	Percentage	Rank	Tons Shipped	Percentage
NEW YORK	1	1,904	10.6	13	244,695	3.0
CALIFORNIA	2	1,662	9.3	9	381,776	4.7
OHIO	3	1,082	6.0	4	614,064	7.5
NEW JERSEY	4	999	5.6	6	543,002	6.7
ILLINOIS	5	934	5.2	10	318,825	3.9
PENNSYLVANIA	6	929	5.2	11	281,040	3.4
TEXAS	7	883	4.9	1	726,670	8.9
MICHIGAN	8	799	4.5	5	563,988	6.9
INDIANA	9	552	3.1	8	388,730	4.8
WISCONSIN	10	505	2.8	24	70,284	0.9
WASHINGTON	11	503	2.8	21	97,960	1.2
NORTH CAROLINA	12	492	2.7	23	73,619	0.9
MASSACHUSETTS	13	430	2.4	2	640,372	7.9
LOUISIANA	14	415	2.3	17	172,360	2.1
CONNECTICUT	15	378	2.1	27	61,673	0.8
GEORGIA	16	368	2.1	3	630,345	7.7
FLORIDA	17	359	2.0	25	70,127	0.9
KENTUCKY	18	321	1.8	15	194,989	2.4
MISSOURI	19	301	1.7	19	101,573	1.2
TENNESSEE	20	295	1.6	28	57,650	0.7
VIRGINIA	21	290	1.6	20	98,238	1.2
ALABAMA	22	264	1.5	14	220,690	2.7
MARYLAND	23	260	1.5	16	187,208	2.3
MINNESOTA	24	258	1.4	29	55,671	0.7
ARKANSAS	25	232	1.3	12	246,284	3.0
KANSAS	26	212	1.2	7	429,109	5.3
OREGON	27	198	1.1	22	81,109	1.0
IOWA	28	183	1.0	32	46,294	0.6
ARIZONA	29	181	1.0	31	48,361	0.6
NEW HAMPSHIRE	30	157	0.9	40	11,098	0.1
COLORADO	31	155	0.9	30	50,060	0.6
OKLAHOMA	32	140	0.8	34	42,048	0.5
RHODE ISLAND	33	136	0.8	33	43,147	0.5
MISSISSIPPI	34	132	0.7	37	25,924	0.3
WEST VIRGINIA	35	128	0.7	35	40,530	0.5
PUERTO RICO	36	102	0.6	18	106,191	1.3
MAINE	37	97	0.5	45	4,520	0.1
NEVADA	38	91	0.5	42	7,919	0.1
UTAH	39	88	0.5	26	69,090	0.8
NEBRASKA	40	84	0.5	36	30,273	0.4
DELAWARE	41	72	0.4	38	24,637	0.3
VERMONT	42	58	0.3	43	7,160	0.1
ALASKA	43	40	0.2	49	1,348	0.0
NEW MEXICO	43	40	0.2	41	8,449	0.1
IDAHO	45	37	0.2	44	4,596	0.1
HAWAII	46	36	0.2	53	704	0.0
DISTRICT OF COLUMBIA	47	29	0.2	50	1,165	0.0
MONTANA	47	29	0.2	39	13,276	0.2
SOUTH DAKOTA	49	21	0.1	48	1,456	0.0
WYOMING	49	21	0.1	46	4,027	0.0
NORTH DAKOTA	51	15	0.1	47	2,285	0.0
NAVAJO NATION	52	6	0.0	55	84	0.0
TRUST TERRITORIES	53	4	0.0	54	566	0.0
GUAM	54	3	0.0	52	705	0.0
VIRGIN ISLANDS	55	1	0.0	51	1,110	0.0
SOUTH CAROLINA	56	0	0.0	56	0	0.0
CBI DATA	N/A	3	N/A	N/A	646	N/A
Total		**17,914**	**100.0**		**8,149,719**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.7 Fifty Largest RCRA Hazardous Waste Shippers in the U.S., 1999

Rank	EPA ID	Name	City	Tons Shipped
1	MAD985290980	WAKEFIELD ENGINEERING, INC.	FALL RIVER, MA	546,952
2	GAD096629282	ONYX ENVIRONMENTAL SERVICES LLC	MORROW, GA	502,715
3	NJD002454544	MARISOL INCORPORATED	MIDDLESEX, NJ	331,897
4	KSD007124506	FMC - LAWRENCE, KANSAS	LAWRENCE, KS	258,870
5	IND093219012	HERITAGE ENVIRONMENTAL SVC - INDY	INDIANAPOLIS, IN	104,723
6	OHD005048947	SYSTECH ENVIRONMENTAL CORP	PAULDING, OH	98,299
7	MD5170024686	NAVAL SURFACE WARFARE CENTER-CARDEROCK	WEST BETHESDA, MD	88,956
8	KSD980633259	SYSTECH FREDONIA	FREDONIA, KS	85,845
9	ARD981057870	RINECO	BENTON, AR	85,155
10	MID980615298	PETRO CHEM PROCESSING GRP OF NORTRU	DETROIT, MI	81,692
11	TXD058275769	EQUISTAR CHEMICALS, LP	CHANNELVIEW, TX	57,998
12	KYD053348108	SAFETY-KLEEN SYSTEMS, INC	SMITHFIELD, KY	56,242
13	OHD004254132	CHEVRON PRODUCTS COMPANY	HOOVEN, OH	54,520
14	INR000001099	STEEL DYNAMICS, INC.	BUTLER, IN	54,134
15	IND181157009	NUCOR STEEL	CRAWFORDSVILLE, IN	53,254
16	PRD090399718	SAFETY KLEEN ENVIROSYSTEMS	MANATI, PR	52,846
17	TXD058265067	LYONDELL CHEMICAL WORLDWIDE, INC.	PASADENA, TX	48,311
18	ARD983278243	NUCOR STEEL-ARKANSAS	BLYTHEVILLE, AR	47,745
19	ALD070513767	M & M CHEMICAL AND EQUIPMENT COMPANY	ATTALLA, AL	46,913
20	MIR000027763	CONSUMERS ENERGY MARSHALL	MARSHALL, MI	44,262
21	IND000646943	POLLUTION CONTROL INDUSTRIES, INC.	EAST CHICAGO, IN	43,179
22	ARD981908890	NUCOR-YAMATO STEEL COMPANY	BLYTHEVILLE, AR	40,573
23	CAT080033681	D/K ENVIRONMENTAL	VERNON, CA	38,581
24	TXD055330997	DYNAMIC DETAILS INC	GARLAND, TX	36,810
25	MID981200835	SYSTECH ENVIRONMENTAL CORP	ALPENA, MI	36,425
26	OHD093945293	ONYX ENVIRONMENTAL SERVICES, L.L.C.	WEST CARROLLTON, OH	33,845
27	ORD009020603	MCCORMICK & BAXTER SUPERFUND SITE	PORTLAND, OR	33,792
28	TXR000036251	CHEMICAL WASTE MANAGEMENT, INC.	PORT ARTHUR, TX	32,425
29	MID060975844	MICHIGAN RECOVERY SYSTEMS	ROMULUS, MI	31,690
30	MID000820381	PHARMACIA & UPJOHN	KALAMAZOO, MI	30,687
31	OHD004228003	REPUBLIC TECHNOLOGIES INTL	CANTON, OH	30,513
32	MID000809632	DOW CORNING MIDLAND PLT	MIDLAND, MI	30,349
33	ILD980613913	SAFETY-KLEEN ENVIRONSYSTEMS CO	DOLTON, IL	29,765
34	ARD069748192	ENSCO INC	EL DORADO, AR	29,756
35	NYD002080034	GENERAL ELECTRIC CO.	WATERFORD, NY	29,612
36	UTD981552177	SAFETY-KLEEN (ARAGONITE)	ARAGONITE, UT	29,465
37	MIP200001711	BP AMOCO PETROLEUM PRODUCTS	SHERWOOD, MI	27,938
38	OHD000816629	SPRING GROVE RESOURCE RECOVERY INC	CINCINNATI, OH	27,268
39	KYD985115237	GALLATIN STEEL COMPANY	WARSAW, KY	27,113
40	MO0000899260	UNIVERSAL GALVANIZING INC	ST PETERS, MO	27,050
41	KSD980854285	JAYHAWK FINE CHEMICALS CORP	GALENA, KS	26,451
42	ILD085349264	HERITAGE ENVIRONMENTAL SERVICE	LEMONT, IL	26,028
43	ILD000608471	CLEAN HARBORS SVCS INC	CHICAGO, IL	25,624
44	ALR000006817	TRICO STEEL CO	DECATUR, AL	25,002
45	MDD030324073	MD PORT ADMINISTRATION	BALTIMORE, MD	24,107
46	MDD980555189	CLEAN HARBORS OF BALTIMORE	BALTIMORE, MD	23,929
47	NJD002182897	SAFETY-KLEEN SYSTEMS (LINDEN)	LINDEN, NJ	23,356
48	KYD088438817	LWD, INC.	CALVERT CITY, KY	22,981
49	MAD053452637	CLEAN HARBORS OF BRAINTREE, INC.	BRAINTREE, MA	22,816
50	MID006013643	PARKE DAVIS DIV OF WARNER LAMBERT	HOLLAND, MI	22,248
Total				**3,590,708**

Note: Column may not sum due to rounding.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

In 1999, 499 TSDs reported receiving 6.6 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs receiving waste dropped by 44, and the quantity of waste received decreased by 1.4 million tons or 18%. All RCRA non-wastewater receipts reported by RCRA TSDs are included in the waste receipt quantities in this Report, even if the waste was received from a transfer facility. Beginning with 1997 BR cycle and continuing with the 1999 BR cycle, the receipt of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exhibits 3.8, 3.9, and 3.10 present the quantity of RCRA hazardous waste received and the number of receivers *in each EPA Region*[3]. Region 4 reported the most receiving facilities (90), while Region 5 reported receiving the most waste (2.2 million tons, or 33% of the national receipt total). Region 1 reported receiving the least amount of waste (84 thousand tons), while Region 8 reported the fewest receivers (20).

Exhibit 3.8 Number and Percentage of Hazardous Waste Receivers and Total Quantity of RCRA Hazardous Waste Received, by EPA Region, 1999

EPA Region	Hazardous Waste Quantity		Receiving Facilities	
	Tons Received	Percentage	Number	Percentage
1	84,448	1.3	24	4.8
2	411,669	6.3	41	8.2
3	406,790	6.2	41	8.2
4	709,722	10.8	90	18.0
5	2,193,151	33.5	82	16.4
6	1,340,107	20.4	74	14.8
7	572,365	8.7	39	7.8
8	164,028	2.5	20	4.0
9	447,371	6.8	66	13.2
10	224,710	3.4	22	4.4
CBI DATA	0	N/A	0	N/A
Total	**6,554,360**	**100.0**	**499**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

[3] Appendix A includes a list of States by EPA Region.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.9 Number and Percentage of Hazardous Waste Receivers and Total Quantity of RCRA Hazardous Waste Received by Region, by the Total Quantity of Waste Received, 1999

EPA Region	Hazardous Waste Quantity		Receiving Facilities	
	Tons Received	Percentage	Number	Percentage
5	2,193,151	33.5	82	16.4
6	1,340,107	20.4	74	14.8
4	709,722	10.8	90	18.0
7	572,365	8.7	39	7.8
9	447,371	6.8	66	13.2
2	411,669	6.3	41	8.2
3	406,790	6.2	41	8.2
10	224,710	3.4	22	4.4
8	164,028	2.5	20	4.0
1	84,448	1.3	24	4.8
CBI DATA	0	N/A	0	N/A
Total	**6,554,360**	**100.0**	**499**	**100.0**

Exhibit 3.10 Number and Percentage of Hazardous Waste Receivers and Total Quantity of RCRA Hazardous Waste Received by Region, by the Number of Receiving Facilities, 1999

EPA Region	Receiving Facilities		Hazardous Waste Quantity	
	Number	Percentage	Tons Received	Percentage
4	90	18.0	709,722	10.8
5	82	16.4	2,193,151	33.5
6	74	14.8	1,340,107	20.4
9	66	13.2	447,371	6.8
2	41	8.2	411,669	6.3
3	41	8.2	406,790	6.2
7	39	7.8	572,365	8.7
1	24	4.8	84,448	1.3
10	22	4.4	224,710	3.4
8	20	4.0	164,028	2.5
CBI DATA	0	N/A	0	N/A
Total	**499**	**100.0**	**6,554,360**	**100.0**

Note: Columns for these two exhibits may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibits 3.11, 3.12, and 3.13 present the quantity of RCRA hazardous waste received (both from within and from outside of the State) and the number of receivers *in each State*. California reported the most receivers (51), followed by Texas (40), New York (23), Pennsylvania (23), Ohio (20), Missouri (19), North Carolina (19), Florida (18), Illinois (17), and Indiana (17). Receivers in these States constituted 49% of the total number of receivers. Ohio reported receiving the largest quantity of waste (726 thousand tons), followed by Texas (723 thousand tons), Michigan (609 thousand tons), Indiana (561 thousand tons), California (388 thousand tons), South Carolina (335 thousand tons), and Kansas (308 thousand tons). Receivers from these States accounted for 56% of the national waste receipt total. Eight (8) States reported they did not have any TSDs that received hazardous waste in 1999: the District of Columbia, Guam, Montana, the Navajo Nation, New Hampshire, the Trust Territories, the Virgin Islands, and Wyoming.

Exhibit 3.14 presents the 50 largest RCRA hazardous waste receivers in the nation for 1999. The TSDs on this list received 68% of all waste received in 1999. Six (6) of the top 50 receivers are located in Ohio, the top-ranked State in hazardous waste receipts. These 6 TSDs accounted for 83% of the State's receipt total and 9% of the national receipt total.

As a cursory comparison of the shipment and receipt data reveals, the total quantity of waste reported shipped in 1999 is 1.6 million tons more than the total quantity received. The *Executive Summary* section entitled "RCRA Hazardous Waste Shipments and Receipts" provides possible explanations for the discrepancies between the amount of waste reported shipped and the amount reported received.

Exhibit 3.11 Quantity of RCRA Hazardous Waste Received and Number of Receivers, by State, 1999

State	Hazardous Waste Quantity			Receiving Facilities		
	Rank	Tons Received	Percentage	Rank	Number	Percentage
ALABAMA	18	124,078	1.9	24	8	1.6
ALASKA	48	58	0.0	36	4	0.8
ARIZONA	35	10,179	0.2	22	9	1.8
ARKANSAS	8	266,534	4.1	28	6	1.2
CALIFORNIA	5	388,329	5.9	1	51	10.2
COLORADO	34	16,011	0.2	27	7	1.4
CONNECTICUT	32	19,847	0.3	29	5	1.0
DELAWARE	40	1,891	0.0	46	1	0.2
DISTRICT OF COLUMBIA	49	0	0.0	49	0	0.0
FLORIDA	31	23,401	0.4	8	18	3.6
GEORGIA	27	37,789	0.6	15	11	2.2
GUAM	49	0	0.0	49	0	0.0
HAWAII	47	181	0.0	46	1	0.2
IDAHO	15	154,481	2.4	41	3	0.6
ILLINOIS	9	262,233	4.0	9	17	3.4
INDIANA	4	560,586	8.6	9	17	3.4
IOWA	42	1,075	0.0	29	5	1.0
KANSAS	7	307,722	4.7	18	10	2.0
KENTUCKY	20	92,274	1.4	18	10	2.0
LOUISIANA	11	242,305	3.7	11	15	3.0
MAINE	45	320	0.0	43	2	0.4
MARYLAND	36	9,201	0.1	36	4	0.8
MASSACHUSETTS	22	58,670	0.9	18	10	2.0
MICHIGAN	3	609,295	9.3	12	13	2.6
MINNESOTA	29	28,223	0.4	15	11	2.2
MISSISSIPPI	25	38,757	0.6	41	3	0.6
MISSOURI	12	236,920	3.6	6	19	3.8
MONTANA	49	0	0.0	49	0	0.0
NAVAJO NATION	49	0	0.0	49	0	0.0
NEBRASKA	30	26,648	0.4	29	5	1.0
NEVADA	23	48,682	0.7	29	5	1.0
NEW HAMPSHIRE	49	0	0.0	49	0	0.0
NEW JERSEY	13	165,543	2.5	12	13	2.6
NEW MEXICO	43	684	0.0	29	5	1.0
NEW YORK	14	157,296	2.4	3	23	4.6
NORTH CAROLINA	24	40,165	0.6	6	19	3.8
NORTH DAKOTA	44	602	0.0	36	4	0.8
OHIO	1	726,312	11.1	5	20	4.0
OKLAHOMA	19	108,035	1.6	24	8	1.6
OREGON	26	38,401	0.6	43	2	0.4
PENNSYLVANIA	10	247,387	3.8	3	23	4.6
PUERTO RICO	21	88,830	1.4	29	5	1.0
RHODE ISLAND	39	4,081	0.1	43	2	0.4
SOUTH CAROLINA	6	334,903	5.1	18	10	2.0
SOUTH DAKOTA	46	279	0.0	46	1	0.2
TENNESSEE	33	18,354	0.3	15	11	2.2
TEXAS	2	722,549	11.0	2	40	8.0
TRUST TERRITORIES	49	0	0.0	49	0	0.0
UTAH	16	147,135	2.2	24	8	1.6
VERMONT	41	1,530	0.0	29	5	1.0
VIRGIN ISLANDS	49	0	0.0	49	0	0.0
VIRGINIA	17	144,124	2.2	22	9	1.8
WASHINGTON	28	31,769	0.5	12	13	2.6
WEST VIRGINIA	38	4,187	0.1	36	4	0.8
WISCONSIN	37	6,501	0.1	36	4	0.8
WYOMING	49	0	0.0	49	0	0.0
CBI DATA	N/A	0	N/A	N/A	0	N/A
Total		**6,554,360**	**100.0**		**499**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.12 Rank Ordering of States Based on Quantity of RCRA Hazardous Waste Received and Number of Receivers, 1999

State	Hazardous Waste Quantity			Receiving Facilities		
	Rank	Tons Received	Percentage	Rank	Number	Percentage
OHIO	1	726,312	11.1	5	20	4.0
TEXAS	2	722,549	11.0	2	40	8.0
MICHIGAN	3	609,295	9.3	12	13	2.6
INDIANA	4	560,586	8.6	9	17	3.4
CALIFORNIA	5	388,329	5.9	1	51	10.2
SOUTH CAROLINA	6	334,903	5.1	18	10	2.0
KANSAS	7	307,722	4.7	18	10	2.0
ARKANSAS	8	266,534	4.1	28	6	1.2
ILLINOIS	9	262,233	4.0	9	17	3.4
PENNSYLVANIA	10	247,387	3.8	3	23	4.6
LOUISIANA	11	242,305	3.7	11	15	3.0
MISSOURI	12	236,920	3.6	6	19	3.8
NEW JERSEY	13	165,543	2.5	12	13	2.6
NEW YORK	14	157,296	2.4	3	23	4.6
IDAHO	15	154,481	2.4	41	3	0.6
UTAH	16	147,135	2.2	24	8	1.6
VIRGINIA	17	144,124	2.2	22	9	1.8
ALABAMA	18	124,078	1.9	24	8	1.6
OKLAHOMA	19	108,035	1.6	24	8	1.6
KENTUCKY	20	92,274	1.4	18	10	2.0
PUERTO RICO	21	88,830	1.4	29	5	1.0
MASSACHUSETTS	22	58,670	0.9	18	10	2.0
NEVADA	23	48,682	0.7	29	5	1.0
NORTH CAROLINA	24	40,165	0.6	6	19	3.8
MISSISSIPPI	25	38,757	0.6	41	3	0.6
OREGON	26	38,401	0.6	43	2	0.4
GEORGIA	27	37,789	0.6	15	11	2.2
WASHINGTON	28	31,769	0.5	12	13	2.6
MINNESOTA	29	28,223	0.4	15	11	2.2
NEBRASKA	30	26,648	0.4	29	5	1.0
FLORIDA	31	23,401	0.4	8	18	3.6
CONNECTICUT	32	19,847	0.3	29	5	1.0
TENNESSEE	33	18,354	0.3	15	11	2.2
COLORADO	34	16,011	0.2	27	7	1.4
ARIZONA	35	10,179	0.2	22	9	1.8
MARYLAND	36	9,201	0.1	36	4	0.8
WISCONSIN	37	6,501	0.1	36	4	0.8
WEST VIRGINIA	38	4,187	0.1	36	4	0.8
RHODE ISLAND	39	4,081	0.1	43	2	0.4
DELAWARE	40	1,891	0.0	46	1	0.2
VERMONT	41	1,530	0.0	29	5	1.0
IOWA	42	1,075	0.0	29	5	1.0
NEW MEXICO	43	684	0.0	29	5	1.0
NORTH DAKOTA	44	602	0.0	36	4	0.8
MAINE	45	320	0.0	43	2	0.4
SOUTH DAKOTA	46	279	0.0	46	1	0.2
HAWAII	47	181	0.0	46	1	0.2
ALASKA	48	58	0.0	36	4	0.8
DISTRICT OF COLUMBIA	49	0	0.0	49	0	0.0
GUAM	49	0	0.0	49	0	0.0
MONTANA	49	0	0.0	49	0	0.0
NAVAJO NATION	49	0	0.0	49	0	0.0
NEW HAMPSHIRE	49	0	0.0	49	0	0.0
TRUST TERRITORIES	49	0	0.0	49	0	0.0
VIRGIN ISLANDS	49	0	0.0	49	0	0.0
WYOMING	49	0	0.0	49	0	0.0
CBI DATA	N/A	0	N/A	N/A	0	N/A
Total		**6,554,360**	**100.0**		**499**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.13 Rank Ordering of States Based on Number of Receiving Facilities and Quantity of RCRA Hazardous Waste Received, 1999

State	Receiving Facilities			Hazardous Waste Quantity		
	Rank	Number	Percentage	Rank	Tons Received	Percentage
CALIFORNIA	1	51	10.2	5	388,329	5.9
TEXAS	2	40	8.0	2	722,549	11.0
NEW YORK	3	23	4.6	14	157,296	2.4
PENNSYLVANIA	3	23	4.6	10	247,387	3.8
OHIO	5	20	4.0	1	726,312	11.1
MISSOURI	6	19	3.8	12	236,920	3.6
NORTH CAROLINA	6	19	3.8	24	40,165	0.6
FLORIDA	8	18	3.6	31	23,401	0.4
ILLINOIS	9	17	3.4	9	262,233	4.0
INDIANA	9	17	3.4	4	560,586	8.6
LOUISIANA	11	15	3.0	11	242,305	3.7
MICHIGAN	12	13	2.6	3	609,295	9.3
NEW JERSEY	12	13	2.6	13	165,543	2.5
WASHINGTON	12	13	2.6	28	31,769	0.5
GEORGIA	15	11	2.2	27	37,789	0.6
MINNESOTA	15	11	2.2	29	28,223	0.4
TENNESSEE	15	11	2.2	33	18,354	0.3
KANSAS	18	10	2.0	7	307,722	4.7
KENTUCKY	18	10	2.0	20	92,274	1.4
MASSACHUSETTS	18	10	2.0	22	58,670	0.9
SOUTH CAROLINA	18	10	2.0	6	334,903	5.1
ARIZONA	22	9	1.8	35	10,179	0.2
VIRGINIA	22	9	1.8	17	144,124	2.2
ALABAMA	24	8	1.6	18	124,078	1.9
OKLAHOMA	24	8	1.6	19	108,035	1.6
UTAH	24	8	1.6	16	147,135	2.2
COLORADO	27	7	1.4	34	16,011	0.2
ARKANSAS	28	6	1.2	8	266,534	4.1
CONNECTICUT	29	5	1.0	32	19,847	0.3
IOWA	29	5	1.0	42	1,075	0.0
NEBRASKA	29	5	1.0	30	26,648	0.4
NEVADA	29	5	1.0	23	48,682	0.7
NEW MEXICO	29	5	1.0	43	684	0.0
PUERTO RICO	29	5	1.0	21	88,830	1.4
VERMONT	29	5	1.0	41	1,530	0.0
ALASKA	36	4	0.8	48	58	0.0
MARYLAND	36	4	0.8	36	9,201	0.1
NORTH DAKOTA	36	4	0.8	44	602	0.0
WEST VIRGINIA	36	4	0.8	38	4,187	0.1
WISCONSIN	36	4	0.8	37	6,501	0.1
IDAHO	41	3	0.6	15	154,481	2.4
MISSISSIPPI	41	3	0.6	25	38,757	0.6
MAINE	43	2	0.4	45	320	0.0
OREGON	43	2	0.4	26	38,401	0.6
RHODE ISLAND	43	2	0.4	39	4,081	0.1
DELAWARE	46	1	0.2	40	1,891	0.0
HAWAII	46	1	0.2	47	181	0.0
SOUTH DAKOTA	46	1	0.2	46	279	0.0
DISTRICT OF COLUMBIA	49	0	0.0	49	0	0.0
GUAM	49	0	0.0	49	0	0.0
MONTANA	49	0	0.0	49	0	0.0
NAVAJO NATION	49	0	0.0	49	0	0.0
NEW HAMPSHIRE	49	0	0.0	49	0	0.0
TRUST TERRITORIES	49	0	0.0	49	0	0.0
VIRGIN ISLANDS	49	0	0.0	49	0	0.0
WYOMING	49	0	0.0	49	0	0.0
CBI DATA	N/A	0	N/A	N/A	0	N/A
Total		**499**	**100.0**		**6,554,360**	**100.0**

Note: Columns may not sum due to rounding.
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 3.14 Fifty Largest RCRA Hazardous Waste Receivers in the U.S., 1999

Rank	EPA ID	Name	City	Tons Received
1	MID000724831	MICHIGAN DISPOSAL WASTE TREATMENT PLANT	BELLEVILLE, MI	220,568
2	OHD045243706	ENVIROSAFE SERVICES OF OHIO INC	OREGON, OH	173,904
3	TXD000719518	DISPOSAL SYSTEMS INC.	DEER PARK, TX	168,428
4	IND000199653	QUEMETCO, INC.	INDIANAPOLIS, IN	155,231
5	IDD073114654	ENVIROSAFE SERVICES OF IDAHO INC SITE B	GRAND VIEW, ID	154,161
6	KSD007482029	VULCAN MATERIALS COMPANY	WICHITA, KS	151,258
7	MID048090633	WAYNE DISPOSAL INC	BELLEVILLE, MI	131,759
8	OHD020273819	WASTE MANAGEMENT OF OHIO INC	VICKERY, OH	131,418
9	LAD000777201	CHEMICAL WASTE MANAGEMENT	SULPHUR, LA	128,224
10	IND980503890	HERITAGE ENVIRONMENTAL SVC - ROACHDALE	ROACHDALE, IN	128,153
11	CAD066233966	QUEMETCO INC.	CITY OF INDUSTRY, CA	127,628
12	NYD030485288	REVERE SMELTING & REFINING CORPORATION	MIDDLETOWN, NY	116,012
13	SCD003351699	GIANT CEMENT COMPANY	HARLEYVILLE, SC	113,248
14	ILD000805812	PEORIA DISPOSAL CO INC	PEORIA, IL	103,076
15	MOD029729688	HOLNAM INC./SAFETY-KLEEN SYSTEMS, INC.	CLARKSVILLE, MO	100,443
16	TXD083472266	LYONDELL CHEMICAL COMPANY	CHANNELVIEW, TX	98,497
17	OHD987048733	LAFARGE CORPORATION	PAULDING, OH	98,278
18	SCD003368891	HOLNAM INC SAFETY KLEEN SYSTEMS INC	HOLLY HILL, SC	95,550
19	OKD065438376	SAFETY-KLEEN, LONE MOUNTAIN	WAYNOKA, OK	95,344
20	OHD005048947	SYSTECH ENVIRONMENTAL CORP	PAULDING, OH	88,394
21	UTD991301748	SAFETY-KLEEN, INC. (LONE & GRASSY MTN.)	CLIVE, UT	86,149
22	CAT000646117	CHEMICAL WASTE MANAGEMENT, INC.	KETTLEMAN CITY, CA	85,971
23	KSD980633259	SYSTECH FREDONIA	FREDONIA, KS	82,037
24	MOD054018288	CONTINENTAL CEMENT COMPANY	HANNIBAL, MO	81,096
25	ARD981057870	RINECO	BENTON, AR	80,678
26	IND006419212	LONE STAR ALTERNATE FUELS	GREENCASTLE, IN	78,391
27	IND005081542	ESSROC CEMENT INC	LOGANSPORT, IN	76,381
28	PAD004835146	MILL SERVICE YUKON	YUKON, PA	74,400
29	ARD981512270	ASH GROVE CEMENT COMPANY	FOREMAN, AR	73,159
30	TXD055141378	SAFETY-KLEEN (DEER PARK), INC.	DEER PARK, TX	73,155
31	TXD007349327	TXI OPERATIONS, LP	MIDLOTHIAN, TX	72,995
32	ARD006354161	REYNOLDS METALS COMPANY GUM SPRINGS PLAN	ARKADELPHIA, AR	63,891
33	SCD070375985	SAFETY KLEEN (PINEWOOD), INC	PINEWOOD, SC	62,430
34	ALD000622464	CHEMICAL WASTE MANAGEMENT	EMELLE, AL	61,527
35	ILD980613913	SAFETY-KLEEN ENVIRONSYSTEMS CO	DOLTON, IL	61,309
36	OHD048415665	ROSS INCINERATION SERVICES INC	GRAFTON, OH	60,254
37	VAD077942266	GIANT RESOURCE RECOVERY, INC. , CASCADE	CASCADE, VA	59,074
38	KSD031203318	ASH GROVE CEMENT COMPANY	CHANUTE, KS	58,726
39	MID980991566	USL CITY ENVIRONMENTAL INC	DETROIT, MI	58,549
40	TXD988088464	WASTE CONTROL SPECIALISTS L.L.C.	ANDREWS, TX	56,539
41	TXD077603371	SAFETY KLEEN SYSTEMS, INC.	DENTON, TX	54,967
42	MID980615298	PETRO CHEM PROCESSING GRP OF NORTRU	DETROIT, MI	53,900
43	PAD002389559	KEYSTONE CEMENT CO	BATH, PA	53,524
44	TXR000036251	CHEMICAL WASTE MANAGEMENT, INC.	PORT ARTHUR, TX	49,608
45	PRD090399718	SAFETY KLEEN ENVIROSYSTEMS	MANATI, PR	48,253
46	NJD002182897	SAFETY-KLEEN SYSTEMS (LINDEN)	LINDEN, NJ	43,549
47	ARD069748192	ENSCO INC	EL DORADO, AR	43,524
48	MOD981127319	LONE STAR INDUSTRIES, INC.	CAPE GIRARDEAU, MO	42,558
49	ALD070513767	M & M CHEMICAL AND EQUIPMENT COMPANY	ATTALLA, AL	42,451
50	OHD980613541	VON ROLL AMERICA, INC.	EAST LIVERPOOL, OH	41,500
Total				**4,460,118**

Note: Column may not sum due to rounding.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

4.0 IMPORTS AND EXPORTS

The following section provides an overview of the 1999 RCRA hazardous waste imports and exports data through exhibits and textual summaries. Only those quantities of waste that enter or leave the State are included in this category. For a complete description of this section's contents, please refer to the *Executive Summary* sections entitled "RCRA Hazardous Waste" and "RCRA Hazardous Waste Shipments and Receipts."

Of the 6.6 million tons of RCRA hazardous waste received in 1999, 3.7 million tons of waste were imported from other States. This is a 242 thousand ton or 6% decrease when compared to the 1997 National Biennial Report. Of the 8.1 million tons of RCRA hazardous waste shipped in 1999, 5.7 million tons of waste were exported to other States. This reflects a 1.3 million ton or 30% increase in exports when compared to the 1997 National Biennial Report. Beginning with 1997 BR cycle and continuing with the 1999 BR cycle, the import and export of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Exhibit 4.1 presents the quantity of RCRA hazardous waste imported and exported *by each EPA Region*[1]. Receivers in Region 5 reported importing the largest quantity of waste (1.2 million tons). Shippers in Region 4 reported exporting the most waste (1.2 million tons). Receivers in Region 1 reported receiving the least amount of waste from out-of-State (52 thousand tons), while shippers in Region 8 reported exporting the least (77 thousand tons) amount of waste to other States.

Exhibit 4.2 presents the quantity of RCRA hazardous waste imported and exported *by each State*. The five (5) States whose TSDs reported importing the most hazardous waste were Ohio (421 thousand tons), Michigan (339 thousand tons), South Carolina (240 thousand tons), Arkansas (225 thousand tons), and Texas (224 thousand tons). The TSDs in these States imported 39% of the national total of waste imports. Ten (10) States reported they did not have any TSDs that imported waste in 1999: Alaska, the District of Columbia, Guam, Montana, the Navajo Nation, New Hampshire, Puerto Rico, the Trust Territories, the Virgin Islands, and Wyoming.

[1] Appendix A includes a list of States by EPA Region.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 4.1 RCRA Hazardous Waste Imports and Exports, by EPA Region, 1999

EPA Region	Imports (Tons)	Exports (Tons)
1	51,991	747,330
2	142,394	678,813
3	245,746	442,529
4	498,308	1,171,239
5	1,184,338	1,153,087
6	723,668	594,950
7	394,510	486,519
8	92,626	76,830
9	210,694	217,806
10	194,304	147,685
CBI DATA	0	645
TOTAL	**3,738,581**	**5,717,433**

Note: Columns may not sum due to rounding.

The five (5) States whose shippers reported exporting the most hazardous waste were Massachusetts (627 thousand tons), Georgia (623 thousand tons), New Jersey (449 thousand tons), Ohio (340 thousand tons), and Michigan (297 thousand tons). The exports from these five (5) States accounted for 41% of the national total of hazardous waste exports. South Carolina reported they did not have any shippers that exported waste to other States in 1999.

As a cursory comparison of the import and export data reveals, the total quantity of waste imports in 1999 are 2 million tons less than the total quantity of exports. The *Executive Summary* section entitled "RCRA Hazardous Waste Shipments and Receipts" provides possible explanations for the discrepancies between the amount of waste reported shipped and the amount reported received.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

Exhibit 4.2 RCRA Hazardous Waste Imports and Exports, by State, 1999

State	Imports (Tons)	Exports (Tons)
ALABAMA	82,494	175,601
ALASKA	0	1,307
ARIZONA	4,219	41,949
ARKANSAS	225,089	207,408
CALIFORNIA	161,748	168,722
COLORADO	2,219	37,184
CONNECTICUT	10,505	55,863
DELAWARE	1,750	24,420
DISTRICT OF COLUMBIA	0	1,165
FLORIDA	5,372	65,350
GEORGIA	28,040	623,342
GUAM	0	653
HAWAII	6	551
IDAHO	151,931	2,260
ILLINOIS	184,690	227,746
INDIANA	221,180	190,766
IOWA	193	46,077
KANSAS	149,016	322,274
KENTUCKY	68,838	171,374
LOUISIANA	177,434	110,709
MAINE	2	4,448
MARYLAND	4,299	181,043
MASSACHUSETTS	37,264	626,537
MICHIGAN	338,610	297,185
MINNESOTA	14,272	40,306
MISSISSIPPI	37,903	25,454
MISSOURI	219,862	88,449
MONTANA	0	13,276
NAVAJO NATION	0	84
NEBRASKA	25,438	29,719
NEVADA	44,721	5,281
NEW HAMPSHIRE	0	11,074
NEW JERSEY	108,098	449,482
NEW MEXICO	168	7,970
NEW YORK	34,296	185,354
NORTH CAROLINA	22,050	58,596
NORTH DAKOTA	267	2,282
OHIO	420,962	339,840
OKLAHOMA	97,388	30,086
OREGON	32,072	67,822
PENNSYLVANIA	150,069	147,438
PUERTO RICO	0	42,866
RHODE ISLAND	3,018	42,291
SOUTH CAROLINA	239,946	0
SOUTH DAKOTA	107	1,455
TENNESSEE	13,666	51,523
TEXAS	223,588	238,777
TRUST TERRITORIES	0	566
UTAH	90,033	18,606
VERMONT	1,202	7,117
VIRGIN ISLANDS	0	1,110
VIRGINIA	85,481	48,000
WASHINGTON	10,302	76,296
WEST VIRGINIA	4,148	40,464
WISCONSIN	4,624	57,243
WYOMING	0	4,027
CBI DATA	0	645
TOTAL	**3,738,581**	**5,717,433**

Note: Columns may not sum due to rounding.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

APPENDIX A

EPA REGION - STATE MAPPING

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EPA REGION - STATE MAPPING

EPA REGION	STATES IN REGION
REGION 1	Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont
REGION 2	New Jersey New York Puerto Rico Virgin Islands
REGION 3	Delaware District of Columbia Maryland Pennsylvania Virginia West Virginia
REGION 4	Alabama Florida Georgia Kentucky Mississippi North Carolina South Carolina Tennessee
REGION 5	Illinois Indiana Michigan Minnesota Ohio Wisconsin
REGION 6	Arkansas Louisiana New Mexico Oklahoma Texas
REGION 7	Iowa Kansas Missouri Nebraska
REGION 8	Colorado Montana North Dakota South Dakota Utah Wyoming
REGION 9	Arizona California Guam Hawaii Navajo Nation Nevada Trust Territories
REGION 10	Alaska Idaho Oregon Washington

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APPENDIX B

1999 HAZARDOUS WASTE REPORT
SYSTEM TYPE CODES

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EPA SYSTEM TYPE CODES

Code	System Type
	METALS RECOVERY (FOR REUSE)
M011	High temperature metals recovery
M012	Retorting
M013	Secondary smelting
M014	Other metals recovery for reuse: e.g., ion exchange, reverse osmosis, acid leaching, etc. (Specify in Comments)
M019	Metals recovery - type unknown
	SOLVENTS RECOVERY
M021	Fractionation/distillation
M022	Thin film evaporation
M023	Solvent extraction
M024	Other solvent recovery (Specify in Comments)
M029	Solvents recovery - type unknown
	OTHER RECOVERY
M031	Acid regeneration
M032	Other recovery: e.g., waste oil recovery, nonsolvent organics recovery, etc. (Specify in Comments)
M039	Other recovery - type unknown
	INCINERATION
M041	Incineration - liquids
M042	Incineration - sludges
M043	Incineration - solids
M044	Incineration - gases
M049	Incineration - type unknown
	ENERGY RECOVERY (REUSE AS FUEL)
M051	Energy recovery - liquids
M052	Energy recovery - sludges
M053	Energy recovery - solids
M059	Energy recovery - type unknown
	FUEL BLENDING
M061	Fuel blending
	AQUEOUS INORGANIC TREATMENT
M071	Chrome reduction followed by chemical precipitation
M072	Cyanide destruction followed by chemical precipitation
M073	Cyanide destruction only
M074	Chemical oxidation followed by chemical precipitation
M075	Chemical oxidation only
M076	Wet air oxidation
M077	Chemical precipitation
M078	Other aqueous inorganic treatment: e.g., ion exchange, reverse osmosis, etc. (Specify in Comments)
M079	Aqueous inorganic treatment - type unknown
	AQUEOUS ORGANIC TREATMENT
M081	Biological treatment
M082	Carbon adsorption
M083	Air/steam stripping
M084	Wet air oxidation
M085	Other aqueous organic treatment (Specify in Comments)
M089	Aqueous organic treatment - type unknown
	AQUEOUS ORGANIC AND INORGANIC TREATMENT
M091	Chemical precipitation in combination with biological treatment
M092	Chemical precipitation in combination with carbon adsorption
M093	Wet air oxidation
M094	Other organic/inorganic treatment (Specify in Comments)
M099	Aqueous organic and inorganic treatment - type unknown
	SLUDGE TREATMENT
M101	Sludge dewatering
M102	Addition of excess lime
M103	Absorption/adsorption
M104	Solvent extraction
M109	Sludge treatment - type unknown

EPA SYSTEM TYPE CODES

Code	System Type
	STABILIZATION
M111	Stabilization/Chemical fixation using cementitious and/or pozzolanic materials
M112	Other stabilization (Specify in Comments)
M119	Stabilization - type unknown
	OTHER TREATMENT
M121	Neutralization only
M122	Evaporation only
M123	Settling/clarification only
M124	Phase separation (e.g., emulsion breaking, filtration) only
M125	Other treatment (Specify in Comments)
M129	Other treatment - type unknown
	DISPOSAL
M131	Land treatment/application/farming
M132	Landfill
M133	Surface impoundment (to be closed as a landfill)
M134	Deepwell/underground injection
M135	Direct discharge to sewer/POTW (no prior treatment)
M136	Direct discharge to surface water under NPDES (no prior treatment)
M137	Other disposal (Specify in Comments)
	TRANSFER FACILITY STORAGE
M141	Transfer facility storage, waste was shipped off-site with no on-site TDR activity

APPENDIX C

1999 HAZARDOUS WASTE REPORT FORM CODES

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EPA FORM CODES

Code	Waste Description
	LAB PACKS
	LAB PACKS - Lab packs of mixed wastes, chemicals, lab wastes
B001	Lab packs of old chemicals only
B002	Lab packs of debris only
B003	Mixed lab packs (chemicals and debris)
B004	Lab packs containing acute hazardous wastes
B009	Other lab packs (Specify in Comments)
	LIQUIDS
	INORGANIC LIQUIDS - Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content
B101	Aqueous waste with low solvents
B102	Aqueous waste with low other toxic organics
B103	Spent acid with metals
B104	Spent acid without metals
B105	Acidic aqueous waste
B106	Caustic solution with metals but no cyanides
B107	Caustic solution with metals and cyanides
B108	Caustic solution with cyanides but no metals
B109	Spent caustic
B110	Caustic aqueous waste
B111	Aqueous waste with reactive sulfides
B112	Aqueous waste with other reactives (e.g., explosives)
B113	Other aqueous waste with high dissolved solids
B114	Other aqueous waste with low dissolved solids
B115	Scrubber water
B116	Leachate
B117	Waste liquid mercury
B119	Other inorganic liquids (Specify in Comments)

Code	Waste Description
	LIQUIDS *(cont'd)*
	ORGANIC LIQUIDS - Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content
B201	Concentrated solvent-water solution
B202	Halogenated (e.g., chlorinated) solvent
B203	Nonhalogenated solvent
B204	Halogenated/nonhalogenated solvent mixture
B205	Oil-water emulsion or mixture
B206	Waste oil
B207	Concentrated aqueous solution of other organics
B208	Concentrated phenolics
B209	Organic paint, ink, lacquer, or varnish
B210	Adhesives or epoxies
B211	Paint thinner or petroleum distillates
B212	Reactive or polymerizable organic liquid
B219	Other organic liquids (Specify in Comments)
	SOLIDS
	INORGANIC SOLIDS - Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable
B301	Soil contaminated with organics
B302	Soil contaminated with inorganics only
B303	Ash, slag, or other residue from incineration of wastes
B304	Other "dry" ash, slag, or thermal residue
B305	"Dry" lime or metal hydroxide solids chemically "fixed"
B306	"Dry" lime or metal hydroxide solids not "fixed"
B307	Metal scale, filings, or scrap
B308	Empty or crushed metal drums or containers
B309	Batteries or battery parts, casings, cores
B310	Spent solid filters or adsorbents
B311	Asbestos solids and debris
B312	Metal-cyanide salts/chemicals
B313	Reactive cyanide salts/chemicals
B314	Reactive sulfide salts/chemicals
B315	Other reactive salts/chemicals
B316	Other metal salts/chemicals
B319	Other waste inorganic solids (Specify in Comments)

EPA FORM CODES

Code	Waste Description
	SOLIDS *(cont'd)*
	ORGANIC SOLIDS - Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable
B401	Halogenated pesticide solid
B402	Nonhalogenated pesticide solid
B403	Solid resins or polymerized organics
B404	Spent carbon
B405	Reactive organic solid
B406	Empty fiber or plastic containers
B407	Other halogenated organic solids (Specify in Comments)
B409	Other nonhalogenated organic solids (Specify in Comments)
	SLUDGES
	INORGANIC SLUDGES - Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable
B501	Lime sludge without metals
B502	Lime sludge with metals/metal hydroxide sludge
B503	Wastewater treatment sludge with toxic organics
B504	Other wastewater treatment sludge
B505	Untreated plating sludge without cyanides
B506	Untreated plating sludge with cyanides
B507	Other sludge with cyanides
B508	Sludge with reactive sulfides
B509	Sludge with other reactives
B510	Degreasing sludge with metal scale or filings
B511	Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B512	Sediment or lagoon dragout contaminated with organics
B513	Sediment or lagoon dragout contaminated with inorganics only
B514	Drilling mud
B515	Asbestos slurry or sludge
B516	Chloride or other brine sludge
B519	Other inorganic sludges (Specify in Comments)
	SLUDGES *(cont'd)*
	ORGANIC SLUDGES - Waste that is primarily organic with low-to-moderate inorganic solids content and water content; pumpable
B601	Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B602	Still bottoms of nonhalogenated solvents or other organic liquids
B603	Oily sludge
B604	Organic paint or ink sludge
B605	Reactive or polymerizable organics
B606	Resins, tars, or tarry sludge
B607	Biological treatment sludge
B608	Sewage or other untreated biological sludge
B609	Other organic sludges (Specify in Comments)
	GASES
	INORGANIC GASES - Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure
B701	Inorganic gases
	ORGANIC GASES - Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure
B801	Organic gases

APPENDIX D

EPA HAZARDOUS WASTE CODES

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EPA HAZARDOUS WASTE CODES

Code	Waste description
CHARACTERISTICS OF HAZARDOUS WASTE *(SEE 40 CFR 261.24)*	
D001	Ignitable waste
D002	Corrosive waste
D003	Reactive waste
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
D012	Endrin
D013	Lindane
D014	Methoxychlor
D015	Toxaphene
D016	2,4-D
D017	2,4,5-TP Silvex
D018	Benzene
D019	Carbon tetrachloride
D020	Chlordane
D021	Chlorobenzene
D022	Chloroform
D023	o-Cresol
D024	m-Cresol
D025	p-Cresol
D026	Cresol
D027	1,4-Dichlorobenzene
D028	1,2-Dichloroethane
D029	1,1-Dichloroethylene
D030	2,4-Dinitrotoluene
D031	Heptachlor (and its epoxide)
D032	Hexachlorobenzene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D035	Methyl ethyl ketone
D036	Nitrobenzene
D037	Pentachlorophenol
D038	Pyridine
D039	Tetrachloroethylene
D040	Trichlorethylene
D041	2,4,5-Trichlorophenol
D042	2,4,6-Trichlorophenol
D043	Vinyl chloride
HAZARDOUS WASTE FROM NONSPECIFIC SOURCES *(SEE 40 CFR 261.31)*	
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichlorethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

EPA HAZARDOUS WASTE CODES

Code	Waste description
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2, trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F001, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/ blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above nonhalogenated solvents, and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F004	The following spent nonhalogenated solvents: cresols, cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F005	The following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations.
F008	Plating bath residues from the bottom of plating baths from electroplating operations in which cyanides are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations in which cyanides are used in the process.
F010	Quenching bath residues from oil baths from metal heat treating operations in which cyanides are used in the process.
F011	Spent cyanide solutions from slat bath pot cleaning from metal heat treating operations.
F012	Quenching wastewater treatment sludges from metal heat treating operations in which cyanides are used in the process.
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce derivatives.

EPA HAZARDOUS WASTE CODES

Code	Waste description
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)
F024	Process wastes including, but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludge, spent catalysts, and wastes listed in Sections 261.31, or 261.32.)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one, to and including five, with varying amounts and positions of chlorine substitution.
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA hazardous waste nos. F020, F021, F022, F023, F026, and F027.
F032	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use, or have previously used, chlorophenolic formulations [except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with Section 261.35 (i.e., the newly promulgated equipment cleaning or replacement standards), and where the generator does not resume or initiate use of chlorophenolic formulations]. (This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.)
F034	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.
F035	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.

EPA HAZARDOUS WASTE CODES

Code	Waste description
F037	Petroleum refinery primary oil/water/solids separation sludge - Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in Section 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units), and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under §261.4(a)(12)(i), if those residuals are to be disposed of.
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge - Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated in aggressive biological treatment units as defined in Section 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units), and F037, K048, and K051 wastes are exempted from this listing.
F039	Leachate resulting from the treatment, storage, or disposal of wastes classified by more than one waste code under Subpart D, or from a mixture of wastes classified under Subparts C and D of this part. (Leachate resulting from the management of one or more of the following EPA Hazardous Wastes and no other hazardous wastes retains its hazardous waste code(s): F020, F021, F022, F023, F026, F027, and/or F028.)

Code	Waste description
HAZARDOUS WASTE FROM SPECIFIC SOURCES *(SEE 40 CFR 261.32)*	
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	Wastewater treatment sludge from the production of iron blue pigments.
K008	Oven residue from the production of chrome oxide green pigments.
K009	Distillation bottoms from the production of acetaldehyde from ethylene.
K010	Distillation side cuts from the production of acetaldehyde from ethylene.
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.
K015	Still bottoms from the distillation of benzyl chloride.
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.

EPA HAZARDOUS WASTE CODES

Code	Waste description
K018	Heavy ends from the fractionation column in ethyl chloride production.
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.
K021	Aqueous spent antimony catalyst waste from fluoromethane production.
K022	Distillation bottom tars from the production of phenol/acetone from cumene.
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.
K026	Stripping still tails from the production of methyl ethyl pyridines.
K027	Centrifuge and distillation residues from toluene diisocyanate production.
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.
K031	By-product salts generated in the production of MSMA and cacodylic acid.
K032	Wastewater treatment sludge from the production of chlordane.
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.
K035	Wastewater treatment sludges generated in the production of creosote.
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.
K037	Wastewater treatment sludges from the production of disulfoton.
K038	Wastewater from the washing and stripping of phorate production.
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.
K040	Wastewater treatment sludge from the production of phorate.
K041	Wastewater treatment sludge from the production of toxaphene.
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.
K043	2,6-dichlorophenol waste from the production of 2,4-D.
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.
K045	Spent carbon from the treatment of wastewater containing explosives.
K046	Wastewater treatment sludges from the manufacturing, formulation, and loading of lead-based initiating compounds.
K047	Pink/red water from TNT operations.
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.
K049	Slop oil emulsion solids from the petroleum refining industry.
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K051	API separator sludge from the petroleum refining industry.

EPA HAZARDOUS WASTE CODES

Code	Waste description
K052	Tank bottoms (leaded) from the petroleum refining industry.
K060	Ammonia still lime sludge from coking operations.
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.
K062	Spent pickle liquor from steel finishing operations of plants that produce iron or steel.
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.
K069	Emission control dust/sludge from secondary lead smelting.
K071	Brine purification muds from the mercury cell process in chlorine production, in which separately prepurified brine is not used.
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.
K083	Distillation bottoms from aniline production.
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.
K087	Decanter tank tar sludge from coking operations.
K088	Spent potliners from primary aluminum reduction.
K090	Emission control dust or sludge from ferrochromiumsilicon production.
K091	Emission control dust or sludge from ferrochromium production.
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.
K098	Untreated process wastewater from the production of toxaphene.
K099	Untreated wastewater from the production of 2,4-D.
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K103	Process residues from aniline extraction from the production of aniline.
K104	Combined wastewaters generated from nitrobenzene/aniline production.

EPA HAZARDOUS WASTE CODES

Code	Waste description
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine from carboxylic acid hydrazides.
K109	Spent filter cartridges from product purification from the product of 1,1-dimethylhydrazine from carboxylic acid hydrazides.
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine from carboxylic acid hydrazides.
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.
K113	Condensed liquid light ends from purification of toluenediamine in production of toluenediamine via hydrogenation of dinitrotoluene.
K114	Vicinals from the purification of toluenediamine in production of toluenediamine via hydrogenation of dinitrotoluene.
K115	Heavy ends from purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.
K126	Baghouse dust and floor sweepings in milling and packaging operations from production or formulation of ethylenebisdithiocarbamic acid and its salts.
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
K140	Floor sweepings, off-specification product, and spent filter media from the production of 2,4,6-tribromophenol.
K141	Process residues from the recovery of coal tar, including, but not limited to, tar collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank sludge from coking operations).
K142	Tank storage residues from the production of coke from coal or from the recovery of coke by-products from coal.
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.

EPA HAZARDOUS WASTE CODES

Code	Waste description
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.
K147	Tar storage residues from coal tar refining.
K148	Residues from coal tar distillation, including, but not limited to, still bottoms.
K149	Distillation bottoms from the production of alpha (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. [This waste does not include still bottoms from the distillation of benzoyl chloride.]
K150	Organic residuals excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha (or methyl-) chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha (or methyl-) chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decamtates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2propynl n-butylcarbamate.)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2propynl n-butylcarbamate.)
K158	Bag house and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2propynl n-butylcarbamate.)
K159	Organics from the treatment of thiocarbamate wastes.
K161	Purification soilids (including filtration, evaporation, and centrifugation soilds), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)
K169	Crude oil tank sediment from petroleum refining operations.
K170	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations.
K171	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors. (This listing does not include inert support media.)
K172	Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors. (This listing does not include inert support media.)

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUALS, AND SPILL RESIDUES THEREOF – ACUTE HAZARDOUS WASTE *(SEE 40 CFR 261.33 FOR AN ALPHABETIZED LISTING)*

P001	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P001	Warfarin, & salts, when present at concentrations greater than 0.3%
P002	1-Acetyl-2-thiourea
P002	Acetamide, N-(aminothioxomethyl)-
P003	2-Propenal
P003	Acrolein

EPA HAZARDOUS WASTE CODES

Code	Waste description
P004	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-
P004	Aldrin
P005	2-Propen-1-ol
P005	Allyl alcohol
P006	Aluminum phosphide (R,T)
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-Aminopyridine
P008	4-Pyridinamine
P009	Ammonium picrate (R)
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P010	Arsenic acid H_3AsO_4
P011	Arsenic oxide As_2O_5
P011	Arsenic pentoxide
P012	Arsenic oxide As_2O_3
P012	Arsenic trioxide
P013	Barium cyanide
P014	Benzenethiol
P014	Thiophenol
P015	Beryllium powder
P016	Dichloromethyl ether
P016	Methane, oxybis[chloro-
P017	2-Propanone, 1-bromo-
P017	Bromoacetone
P018	Brucine
P018	Strychnidin-10-one, 2,3-dimethoxy-
P020	Dinoseb
P020	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P021	Calcium cyanide
P021	Calcium cyanide $Ca(CN)_2$
P022	Carbon disulfide
P023	Acetaldehyde, chloro-
P023	Chloroacetaldehyde
P024	Benzenamine, 4-chloro-
P024	p-Chloraniline
P026	1-(o-Chlorophenyl)thiourea
P026	Thiourea, (2-chlorophenyl)-
P027	3-Chloropropionitrile
P027	Propanenitrile, 3-chloro-
P028	Benzene, (chloromethyl)-
P028	Benzyl chloride
P029	Copper cyanide
P029	Copper cyanide Cu(CN)
P030	Cyanides (soluble cyanide salts), not otherwise specified
P031	Cyanogen
P031	Ethanedinitrile
P033	Cyanogen chloride
P033	Cyanogen chloride (CN)Cl
P034	2-Cyclohexyl-4,6-dinitrophenol
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P036	Arsonous dichloride, phenyl-
P036	Dichlorophenylarsine

EPA HAZARDOUS WASTE CODES

Code	Waste description
P037	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)-
P037	Dieldrin
P038	Arsine, diethyl-
P038	Diethylarsine
P039	Disulfoton
P039	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P040	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P041	Diethyl-p-nitrophenyl phosphate
P041	Phosphoric acid, diethyl 4-nitrophenyl ester
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P042	Epinephrine
P043	Diisopropylfluorophosphate (DFP)
P043	Phosphorofluoridic acid, bis(1-methylethyl) ester
P044	Dimethoate
P044	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P045	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P045	Thiofanox
P046	alpha,alpha-Dimethylphenethylamine
P046	Benzeneethanamine, alpha, alpha-dimethyl-
P047	4,6-Dinitro-o-cresol, & salts
P047	Phenol, 2-methyl-4,6-dinitro-, & salts
P048	2,4-Dinitrophenol
P048	Phenol, 2,4-dinitro-
P049	Dithiobiuret
P049	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P050	6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide
P050	Endosulfan
P051	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7aalpha)- & metabolites
P051	Endrin
P051	Endrin, & metabolites
P054	Aziridine
P054	Ethyleneimine
P056	Fluorine
P057	Acetamide, 2-fluoro-
P057	Fluoroacetamide
P058	Acetic acid, fluoro-, sodium salt
P058	Fluoroacetic acid, sodium salt
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P059	Heptachlor
P060	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)-
P060	Isodrin
P062	Hexaethyl tetraphosphate
P062	Tetraphosphoric acid, hexaethyl ester
P063	Hydrocyanic acid

EPA HAZARDOUS WASTE CODES

Code	Waste description
P063	Hydrogen cyanide
P064	Methane, isocyanato-
P064	Methyl isocyanate
P065	Fulminic acid, mercury(2+) salt (R,T)
P065	Mercury fulminate (R,T)
P066	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P066	Methomyl
P067	1,2-Propylenimine
P067	Aziridine, 2-methyl-
P068	Hydrazine, methyl-
P068	Methyl hydrazine
P069	2-Methyllactonitrile
P069	Propanenitrile, 2-hydroxy-2-methyl-
P070	Aldicarb
P070	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P071	Methyl parathion
P071	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P072	alpha-Naphthylthiourea
P072	Thiourea, 1-naphthalenyl-
P073	Nickel carbonyl
P073	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	Nickel cyanide
P074	Nickel cyanide $Ni(CN)_2$
P075	Nicotine, & salts
P075	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-,(S)-, & salts
P076	Nitric oxide
P076	Nitrogen oxide NO
P077	Benzenamine, 4-nitro-
P077	p-Nitroaniline
P078	Nitrogen dioxide
P078	Nitrogen oxide NO_2
P081	1,2,3-Propanetriol, trinitrate (R)
P081	Nitroglycerine (R)
P082	Methanimine, N-methyl-N-nitroso-
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P084	Vinylamine, N-methyl-N-nitroso-
P085	Diphosphoramide, octamethyl-
P085	Octamethylpyrophosphoramide
P087	Osmium oxide OsO_4, (T-4)-
P087	Osmium tetroxide
P088	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P088	Endothall
P089	Parathion
P089	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester
P092	Mercury, (acetato-O)phenyl-
P092	Phenylmercury acetate
P093	Phenylthiourea
P093	Thiourea, phenyl-
P094	Phorate
P094	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P095	Carbonic dichloride
P095	Phosgene

EPA HAZARDOUS WASTE CODES

Code	Waste description
P096	Hydrogen phosphide
P096	Phosphine
P097	Famphur
P097	Phosphorothioic acid O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P098	Potassium cyanide
P098	Potassium cyanide K(CN)
P099	Argentate (1-), bis(cyano-C)-, potassium
P099	Potassium silver cyanide
P101	Ethyl cyanide
P101	Propanenitrile
P102	2-Propyn-1-ol
P102	Propargyl alcohol
P103	Selenourea
P104	Silver cyanide
P104	Silver cyanide Ag(CN)
P105	Sodium azide
P106	Sodium cyanide
P106	Sodium cyanide Na(CN)
P108	Strychnidin-10-one, & salts
P108	Strychnine, & salts
P109	Tetraethyldithiopyrophosphate
P109	Thiodiphosphoric acid, tetraethyl ester
P110	Plumbane, tetraethyl-
P110	Tetraethyl lead
P111	Diphosphoric acid, tetraethyl ester
P111	Tetraethyl pyrophosphate
P112	Methane, tetranitro- (R)
P112	Tetranitromethane (R)
P113	Thallic oxide
P113	Thallium oxide Tl_2O_3
P114	Selenious acid, dithallium (1+) salt
P114	Thallium(I) selenite
P115	Sulfuric acid, dithallium (1+) salt
P115	Thallium(I) sulfate
P116	Hydrazinecarbothioamide
P116	Thiosemicarbazide
P118	Methanethiol, trichloro-
P118	Trichloromethanethiol
P119	Ammonium vanadate
P119	Vanadic acid, ammonium salt
P120	Vanadium oxide V_2O_5
P120	Vanadium pentoxide
P121	Zinc cyanide
P121	Zinc cyanide $Zn(CN)_2$
P122	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P123	Toxaphene
P127	7-Benzofuranol, 2-3dihydro-2,2-dimethyl-, methylcarbamate
P127	Carbofuran
P127	7-Benzufuranol, 2, 3-dihydro-2, 2 dimethyl-, methylcarbamate
P128	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P128	Mexacarbate
P185	1,3-Dithiolane-2carboxaldehyde, 2,4- dimethyl-, O-[(methylamino)- carbonyl]oxime

EPA HAZARDOUS WASTE CODES

Code	Waste description
P188	Physostigmine salicylate
P189	Carbosulfan
P189	Carbamic acid, [(dibutylamino)-thio]methyl-,2,3-dihydro-2,2dimethyl-7benzofuranyl ester
P190	Metolcarb
P191	Dimetilan
P191	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester
P192	Isolan
P192	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H-pyrazo-5-yl ester
P194	Ethanimidothioc acid, 2-(dimethylamino)-N-[((methylamino) carbonyl)oxy)-2-oxo-, methyl ester
P194	Oxamyl
P196	Manganese, bis(dimethylcarbamodithioato-S,S')
P196	Manganese dimethyldithiocarbamate
P197	Formparanate
P197	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4[[(methylamino)carbonyl)oxy] phenyl]
P198	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride
P198	Formetanate hydrochloride
P199	Methiocarb
P199	Phenol, (3,5-dimethyl-4(methlthio)-, methylcarbamate
P201	Promecarb
P201	Phenol, 3-methyl-5-(1-methylethyl)-,methyl carbamate
P202	Phenol, 3-(1 methylethyl)-, methylcarbamate
P202	3-Isopropylphenyl N-methylcarbamate
P202	m-Cumenyl methylcarbamate
P203	Aldicarb sulfone
P203	Propanal, 2-methyl-2-(methyl-sulfonyl)-,O-[(methylamino)carbonyl]oxime
P204	Physostigmine
P204	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1, 3a,8-trimethylmethylcarbamate (ester), (3aS-cis)-
P205	Ziram

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES, AND SPILL RESIDUES THEREOF – TOXIC WASTES *(SEE 40 CFR 261.33 FOR AN ALPHABETIZED LISTING)*

See F027	2,3,4,6-Tetrachlorophenol 2,4,5-T 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol Acetic acid, (2,4,5-trichlorophenoxy)- Pentachlorophenol Phenol, 2,3,4,6-tetrachloro- Phenol, 2,4,5-trichloro- Phenol, 2,4,6-trichloro- Phenol, pentachloro- Propanoic acid, 2-(2,4,5-trichlorophenoxy- Silvex (2,4,5-TP)

U001	Acetaldehyde (I)
U001	Ethanal (I)
U002	2-Propanone (I)
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U004	Ethanone, 1-phenyl-
U005	2-Acetylaminofluorene
U005	Acetamide, N-9H-fluoren-2-yl
U006	Acetyl chloride (C,R,T)

EPA HAZARDOUS WASTE CODES

Code	Waste description
U007	2-Propenamide
U007	Acrylamide
U008	2-Propenoic acid (I)
U008	Acrylic acid (I)
U009	2-Propenenitrile
U009	Acrylonitrile
U010	Azirino [2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy] methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha, 8balpha)]-
U010	Mitomycin C
U011	1H-1,2,4-Triazol-3-amine
U011	Amitrole
U012	Aniline (I,T)
U012	Benzenamine (I,T)
U014	Auramine
U014	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U015	Azaserine
U015	L-Serine, diazoacetate (ester)
U016	Benz[c]acridine
U017	Benzal chloride
U017	Benzene, (dichloromethyl)-
U018	Benz[a]anthracene
U019	Benzene (I,T)
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U021	[1,1'-Biphenyl]-4,4'-diamine
U021	Benzidine
U022	Benzo[a]pyrene
U023	Benzene, (trichloromethyl)-
U023	Benzotrichloride (C,R,T)
U024	Dichloromethoxy ethane
U024	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U025	Dichloroethyl ether
U025	Ethane, 1,1'-oxybis[2-chloro-
U026	Chlornaphazin
U026	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U027	Dichloroisopropyl ether
U027	Propane, 2,2'-oxybis[2-chloro-
U028	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U028	Diethylhexyl phthalate
U029	Methane, bromo-
U029	Methyl bromide
U030	4-Bromophenyl phenyl ether
U030	Benzene, 1-bromo-4-phenoxy-
U031	1-Butanol (I)
U031	n-Butyl alcohol (I)
U032	Calcium chromate
U032	Chromic acid H_2CrO_4, calcium salt
U033	Carbon oxyfluoride (R,T)
U033	Carbonic difluoride
U034	Acetaldehyde, trichloro-
U034	Chloral
U035	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U035	Chlorambucil
U036	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-

EPA HAZARDOUS WASTE CODES

Code	Waste description
U036	Chlordane, alpha & gamma isomers
U037	Benzene, chloro-
U037	Chlorobenzene
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U038	Chlorobenzilate
U039	p-Chloro-m-cresol
U039	Phenol, 4-chloro-3-methyl-
U041	Epichlorohydrin
U041	Oxirane, (chloromethyl)-
U042	2-Chloroethyl vinyl ether
U042	Ethene, (2-chloroethoxy)-
U043	Ethene, chloro-
U043	Vinyl chloride
U044	Chloroform
U044	Methane, trichloro-
U045	Methane, chloro- (I,T)
U045	Methyl chloride (I,T)
U046	Chloromethyl methyl ether
U046	Methane, chloromethoxy-
U047	beta-Chloronaphthalene
U047	Naphthalene, 2-chloro-
U048	o-Chlorophenol
U048	Phenol, 2-chloro-
U049	4-Chloro-o-toluidine, hydrochloride
U049	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U050	Chrysene
U051	Creosote
U052	Cresol (Cresylic acid)
U052	Phenol, methyl-
U053	2-Butenal
U053	Crotonaldehyde
U055	Benzene, (1-methylethyl)- (I)
U055	Cumene (I)
U056	Benzene, hexahydro- (I)
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U058	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U058	Cyclophosphamide
U059	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U059	Daunomycin
U060	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U060	DDD
U061	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U061	DDT
U062	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U062	Diallate
U063	Dibenz[a,h]anthracene
U064	Benzo[rst]pentaphene
U064	Dibenzo[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U066	Propane, 1,2-dibromo-3-chloro-

EPA HAZARDOUS WASTE CODES

Code	Waste description
U067	Ethane, 1,2-dibromo-
U067	Ethylene dibromide
U068	Methane, dibromo-
U068	Methylene bromide
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U069	Dibutyl phthalate
U070	Benzene, 1,2-dichloro-
U070	o-Dichlorobenzene
U071	Benzene, 1,3-dichloro-
U071	m-Dichlorobenzene
U072	Benzene, 1,4-dichloro-
U072	p-Dichlorobenzene
U073	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
U074	2-Butene, 1,4-dichloro- (I,T)
U075	Dichlorodifluoromethane
U075	Methane, dichlorodifluoro-
U076	Ethane, 1,1-dichloro-
U076	Ethylidene dichloride
U077	Ethane, 1,2-dichloro-
U077	Ethylene dichloride
U078	1,1-Dichloroethylene
U078	Ethene, 1,1-dichloro-
U079	1,2-Dichloroethylene
U079	Ethene, 1,2-dichloro-,(E)-
U080	Methane, dichloro-
U080	Methylene chloride
U081	2,4-Dichlorophenol
U081	Phenol, 2,4-dichloro-
U082	2,6-Dichlorophenol
U082	Phenol, 2,6-dichloro-
U083	Propane, 1,2-dichloro-
U083	Propylene dichloride
U084	1,3-Dichloropropene
U084	1-Propene, 1,3-dichloro-
U085	1,2:3,4-Diepoxybutane (I,T)
U085	2,2'-Bioxirane
U086	Hydrazine, 1,2-diethyl-
U086	N,N'-Diethylhydrazine
U087	O,O-Diethyl S-methyl dithiophosphate
U087	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U088	Diethyl phthalate
U089	Diethylstilbesterol
U089	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis, (E)-
U090	1,3-Benzodioxole, 5-propyl-
U090	Dihydrosafrole
U091	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U092	Methanamine, N-methyl- (I)
U093	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U093	p-Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene

EPA HAZARDOUS WASTE CODES

Code	Waste description
U094	Benz[a]anthracene, 7,12-dimethyl-
U095	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U096	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U097	Carbamic chloride, dimethyl-
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U098	Hydrazine, 1,1-dimethyl-
U099	1,2-Dimethylhydrazine
U099	Hydrazine, 1,2-diphenyl-
U101	2,4-Dimethylphenol
U101	Phenol, 2,4-dimethyl-
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U103	Sulfuric acid, dimethyl ester
U105	2,4-Dinitrotoluene
U105	Benzene, 1-methyl-2,4-dinitro-
U106	2,6-Dinitrotoluene
U106	Benzene, 2-methyl-1,3-dinitro-
U107	1,2-Benzenedicarboxylic acid, dioctyl ester
U107	Di-n-octyl phthalate
U108	1,4-Diethyleneoxide
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U109	Hydrazine, 1,2-diphenyl-
U110	1-Propanimine, N-propyl-(I)
U110	Dipropylamine (I)
U111	1-Propanamine, N-nitroso-N-propyl-
U111	Di-n-propylnitrosamine
U112	Acetic acid, ethyl ester (I)
U112	Ethyl acetate (I)
U113	2-Propenoic acid, ethyl ester (I)
U113	Ethyl acrylate (I)
U114	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U114	Ethylenebisdithiocarbamic acid, salts & esters
U115	Ethylene oxide (I,T)
U115	Oxirane (I,T)
U116	2-Imidazolidinethione
U116	Ethylenethiourea
U117	Ethane, 1,1'-oxybis-(I)
U117	Ethyl ether (I)
U118	2-Propenoic acid, 2-methyl-, ethyl ester
U118	Ethyl methacrylate
U119	Ethyl methanesulfonate
U119	Methanesulfonic acid, ethyl ester
U120	Fluoranthene
U121	Methane, trichlorofluoro-
U121	Trichloromonofluoromethane
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U124	Furfuran (I)
U125	2-Furancarboxaldehyde (I)

EPA HAZARDOUS WASTE CODES

Code	Waste description
U125	Furfural (I)
U126	Glycidylaldehyde
U126	Oxiranecarboxyaldehyde
U127	Benzene, hexachloro-
U127	Hexachlorobenzene
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U128	Hexachlorobutadiene
U129	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-
U129	Lindane
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U130	Hexachlorocyclopentadiene
U131	Ethane, hexachloro-
U131	Hexachloroethane
U132	Hexachlorophene
U132	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U133	Hydrazine (R,T)
U134	Hydrofluoric acid (C,T)
U134	Hydrogen fluoride (C,T)
U135	Hydrogen sulfide
U135	Hydrogen sulfide H_2S
U136	Arsinic acid, dimethyl-
U136	Cacodylic acid
U137	Indeno[1,2,3-cd]pyrene
U138	Methane, iodo-
U138	Methyl iodide
U140	1-Propanol, 2-methyl- (I,T)
U140	Isobutyl alcohol (I,T)
U141	1,3-Benzodioxole, 5-(1-propenyl)-
U141	Isosafrole
U142	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U142	Kepone
U143	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z), 7(2S*,3R*), 7aalpha]]-
U143	Lasiocarpine
U144	Acetic acid, lead(2+) salt
U144	Lead acetate
U145	Lead phosphate
U145	Phosphoric acid, lead(2+) salt (2:3)
U146	Lead subacetate
U146	Lead, bis(acetato-O)tetrahydroxytri-
U147	2,5-Furandione
U147	Maleic anhydride
U148	3,6-Pyridazinedione, 1,2-dihydro-
U148	Maleic hydrazide
U149	Malononitrile
U149	Propanedinitrile
U150	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U150	Melphalan
U151	Mercury
U152	2-Propenenitrile, 2-methyl- (I,T)
U152	Methacrylonitrile (I,T)
U153	Methanethiol (I,T)
U153	Thiomethanol (I,T)
U154	Methanol (I)

EPA HAZARDOUS WASTE CODES

Code	Waste description
U154	Methyl alcohol (I)
U155	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U155	Methapyrilene
U156	Carbonochloridic acid, methyl ester, (I,T)
U156	Methyl chlorocarbonate (I,T)
U157	3-Methylcholanthrene
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U158	4,4'-Methylenebis(2-chloroaniline)
U158	Benzenamine, 4,4'-methylenebis[2-chloro-
U159	2-Butanone (I,T)
U159	Methyl ethyl ketone (MEK) (I,T)
U160	2-Butanone, peroxide (R,T)
U160	Methyl ethyl ketone peroxide (R,T)
U161	4-Methyl-2-pentanone (I)
U161	Methyl isobutyl ketone (I)
U161	Pentanol, 4-methyl-
U162	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U162	Methyl methacrylate (I,T)
U163	Guanidine, N-methyl-N'-nitro-N-nitroso-
U163	MNNG
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U164	Methylthiouracil
U165	Naphthalene
U166	1,4-Naphthalenedione
U166	1,4-Naphthoquinone
U167	1-Napthalenamine
U167	alpha-Naphthylamine
U168	2-Napthalenamine
U168	beta-Naphthylamine
U169	Benzene, nitro-
U169	Nitrobenzene (I,T)
U170	p-Nitrophenol (I,T)
U170	Phenol, 4-nitro-
U171	2-Nitropropane (I,T)
U171	Propane, 2-nitro- (I,T)
U172	1-Butanamine, N-butyl-N-nitroso-
U172	N-Nitrosodi-n-butylamine
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U173	N-Nitrosodiethanolamine
U174	Ethanamine, N-ethyl-N-nitroso-
U174	N-Nitrosodiethylamine
U176	N-Nitroso-N-ethylurea
U176	Urea, N-ethyl-N-nitroso-
U177	N-Nitroso-N-methylurea
U177	Urea, N-methyl-N-nitroso-
U178	Carbamic acid, methylnitroso-, ethyl ester
U178	N-Nitroso-N-methylurethane
U179	N-Nitrosopiperidine
U179	Piperidine, 1-nitroso-
U180	N-Nitrosopyrrolidine
U180	Pyrrolidine, 1-nitroso-
U181	5-Nitro-o-toluidine
U181	Benzenamine, 2-methyl-5-nitro
U182	1,3,5-Trioxane, 2,4,6-trimethyl-
U182	Paraldehyde

EPA HAZARDOUS WASTE CODES

Code	Waste description
U183	Benzene, pentachloro-
U183	Pentachlorobenzene
U184	Ethane, pentachloro-
U184	Pentachloroethane
U185	Benzene, pentachloronitro-
U185	Pentachloronitrobenzene (PCNB)
U186	1,3-Pentadiene (I)
U186	1-Methylbutadiene (I)
U187	Acetamide, N-(4-ethoxyphenyl)-
U187	Phenacetin
U188	Phenol
U189	Phosphorus sulfide (R)
U189	Sulfur phosphide (R)
U190	1,3-Isobenzofurandione
U190	Phthalic anhydride
U191	2-Picoline
U191	Pyridine, 2-methyl-
U192	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U192	Pronamide
U193	1,2-Oxathiolane, 2,2-dioxide
U193	1,3-Propane sultone
U194	1-Propanamine (I,T)
U194	n-Propylamine (I,T)
U196	Pyridine
U197	2,5-Cyclohexadiene-1,4-dione
U197	p-Benzoquinone
U200	Reserpine
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl) oxy]-, methyl ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-
U201	1,3-Benzenediol
U201	Resorcinol
U202	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U202	Saccharin, & salts
U203	1,3-Benzodioxole, 5-(2-propenyl)-
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium sulfide
U205	Selenium sulfide SeS_2 (R,T)
U206	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U206	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-,D-
U206	Streptozotocin
U207	1,2,4,5-Tetrachlorobenzene
U207	Benzene, 1,2,4,5-tetrachloro-
U208	1,1,1,2-Tetrachloroethane
U208	Ethane, 1,1,1,2-tetrachloro-
U209	1,1,2,2-Tetrachloroethane
U209	Ethane, 1,1,2,2-tetrachloro-
U210	Ethene, tetrachloro-
U210	Tetrachloroethylene
U211	Carbon tetrachloride
U211	Methane, tetrachloro-
U213	Furan, tetrahydro-(I)

EPA HAZARDOUS WASTE CODES

Code	Waste description
U213	Tetrahydrofuran (I)
U214	Acetic acid, thallium(1+) salt
U214	Thallium(I) acetate
U215	Carbonic acid, dithallium(1+) salt
U215	Thallium(I) carbonate
U216	Thallium chloride Tlcl
U216	Thallium(I) chloride
U217	Nitric acid, thallium(1+) salt
U217	Thallium(I) nitrate
U218	Ethanethioamide
U218	Thioacetamide
U219	Thiourea
U220	Benzene, methyl-
U220	Toluene
U221	Benzenediamine, ar-methyl-
U221	Toluenediamine
U222	Benzenamine, 2-methyl-, hydrochloride
U222	o-Toluidine hydrochloride
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U223	Toluene diisocyanate (R,T)
U225	Bromoform
U225	Methane, tribromo-
U226	Ethane, 1,1,1-trichloro-
U226	Methyl chloroform
U227	1,1,2-Trichloroethane
U227	Ethane, 1,1,2-trichloro-
U228	Ethene, trichloro-
U228	Trichloroethylene
U234	1,3,5-Trinitrobenzene (R,T)
U234	Benzene, 1,3,5-trinitro-
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U235	Tris(2,3,-dibromopropyl) phosphate
U236	2,7-Naphthalenedisulfonic acid,3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U236	Trypan blue
U237	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U237	Uracil mustard
U238	Carbamic acid, ethyl ester
U238	Ethyl carbamate (urethane)
U239	Benzene, dimethyl- (I,T)
U239	Xylene (I)
U240	2,4-D, salts & esters
U240	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U240	Dichlorophenoxyacetic acid 2,4-D
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U243	Hexachloropropene
U244	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U244	Thiram
U246	Cyanogen bromide (CN)Br
U247	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U247	Methoxychlor
U248	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U248	Warfarin, & salts, when present at concentrations of 0.3% or less

EPA HAZARDOUS WASTE CODES

Code	Waste description
U249	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less
U271	Benomyl
U278	Bendiocarb
U278	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U279	Carbaryl
U279	1-Naphthalenol, methylcarbamate
U280	Barban
U280	Carbamic acid, (3-chlorophenol)-, 4-chloro-2-butynyl ester
U328	Benzenamine, 2-methyl-
U328	o-Toluidine
U353	Benzenamine, 4-methyl-
U353	p-Toluidine
U359	Ethanol, 2-ethoxy-
U359	Ethylene glycol monoethyl ether
U364	1,3-Benzodioxol-4ol, 2,2-dimethyl
U364	Bendiocarb phenol
U367	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U367	Carbofuran phenol
U372	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U372	Carbendazim
U373	Carbamic acid, phenyl-, 1-methylethyl ester
U373	Propham
U387	Carbamothiocic acid, dipropyl-, S-(phenylmethyl) ester
U387	Prosulfocarb
U389	Triallate
U389	Carbamothiocic acid, bis (1-methylethyl)-, S-(2,3,3-trichloro-2propenyl) ester
U394	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo, methyl ester
U394	A2213
U395	Diethylene glycol, dicarbamate
U395	Ethanol, 2, 2;-oxybis-,dicarbamate
U404	Ethanamine, N, N-diethyl-
U404	Triethylamine
U408	2,4,6-Tribromophenol
U409	Thiophanate-methyl
U409	Carbamic acid, (1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U410	Ethanimidothioci acid, N, N'-(thiobis[(methylimino)carbonyloxy])bis-, dimethyl ester
U411	Propoxur
U411	Phenol, 2-(-1-methylethoxy)-, methylcarbamate