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National Survey of Hazardous Waste Generators

QUESTIONNAIRE GB

HAZARDOUS WASTE CHARACTERIZATION

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EPA ID: NM0890010515

USDOE LOS ALAMOS SCIENTIFIC LABORATO
LOS ALAMOS AREA OFFICE
LOS ALAMOS NM 87544

NOTE: ALL FACILITIES NEED TO COMPLETE THIS QUESTIONNAIRE

16516

WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F, K, P, OR U WASTE CODE

A01 Spent solvent (F001-F005, K086)
A02 Other organic liquid (F001-F005, K086)
A03 Still bottom (F001-F005, K086)
A04 Other organic sludge (F001-F005, K086)
A05 Wastewater or aqueous mixture
A06 Contaminated soil or cleanup residue
A07 Other F or K waste, exactly as described*
A08 Concentrated off-spec or discarded product
A09 Empty containers
A10 Incinerator ash
A11 Solidified treatment residue
A12 Other treatment residue (specify in the answer space provided)
A13 Other untreated waste (specify in the answer space provided)

*"Exactly as described" means that the waste matches the description of the RCRA waste code.

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA D OR X WASTE CODE* OR THAT DESCRIBED BY MORE THAN ONE RCRA OR X WASTE CODE

INORGANIC LIQUIDS—Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content.

B01 Aqueous waste with low solvents
B02 Aqueous waste with low other toxic organics
B03 Spent acid with metals
B04 Spent acid without metals
B05 Acidic aqueous waste
B06 Caustic solution with metals but no cyanides
B07 Caustic solution with metals and cyanides
B08 Caustic solution with cyanides but no metals
B09 Spent caustic
B10 Caustic aqueous waste
B11 Aqueous waste with reactive sulfides
B12 Aqueous waste with other reactives (e.g., explosives)
B13 Other aqueous waste with high dissolved solids
B14 Other aqueous waste with low dissolved solids
B15 Scrubber water
B16 Leachate
B17 Waste liquid mercury
B18 Other inorganic liquid (specify in the answer space provided)

INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable.

B19 Lime sludge without metals
B20 Lime sludge with metals/metal hydroxide sludge
B21 Wastewater treatment sludge with toxic organics
B22 Other wastewater treatment sludge
B23 Untreated plating sludge without cyanides
B24 Untreated plating sludge with cyanides
B25 Other sludge with cyanides
B26 Sludge with reactive sulfides
B27 Sludge with other reactives
B28 Degreasing sludge with metal scale or filings
B29 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B30 Sediment or lagoon dragout contaminated with organics
B31 Sediment or lagoon dragout contaminated with inorganics only
B32 Drilling mud
B33 Asbestos slurry or sludge
B34 Chloride or other brine sludge
B35 Other inorganic sludge (specify in the answer space provided)

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable.

B36 Soil contaminated with organics
B37 Soil contaminated with inorganics only
B38 Ash, slag, or other residue from incineration of wastes
B39 Other "dry" ash, slag, or thermal residue
B40 "Dry" lime or metal hydroxide solids chemically "fixed"
B41 "Dry" lime or metal hydroxide solids not "fixed"
B42 Metal scale, filings, or scrap
B43 Empty or crushed metal drums or containers
B44 Batteries or battery parts, casings, cores
B45 Spent solid filters or adsorbents
B46 Asbestos solids and debris
B47 Metal-cyanide salts/chemicals
B48 Reactive cyanide salts/chemicals
B49 Reactive sulfide salts/chemicals
B50 Other reactive salts/chemicals
B51 Other metal salts/chemicals
B52 Other waste inorganic chemicals
B53 Lab packs of old chemicals only
B54 Lab packs of debris only
B55 Mixed lab packs
B56 Other inorganic solids (specify in the answer space provided)

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

B57 Inorganic gases

ORGANIC LIQUIDS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content.

B58 Concentrated solvent-water solution
B59 Halogenated (e.g., chlorinated) solvent
B60 Nonhalogenated solvent
B61 Halogenated/nonhalogenated solvent mixture
B62 Oil-water emulsion or mixture
B63 Waste oil
B64 Concentrated aqueous solution of other organics
B65 Concentrated phenolics
B66 Organic paint, ink, lacquer, or varnish
B67 Adhesives or expoxies
B68 Paint thinner or petroleum distillates
B69 Reactive or polymerizable organic liquid
B70 Other organic liquid (specify in the answer space provided)

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable.

B71 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B72 Still bottoms of nonhalogenated solvents or other organic liquids
B73 Oily sludge
B74 Organic paint or ink sludge
B75 Reactive or polymerizable organics
B76 Resins, tars, or tarry sludge
B77 Biological treatment sludge
B78 Sewage or other untreated biological sludge
B79 Other organic sludge (specify in the answer space provided)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

B80 Halogenated pesticide solid
B81 Nonhalogenated pesticide solid
B82 Solid resins or polymerized organics
B83 Spent carbon
B84 Reactive organic solid
B85 Empty fiber or plastic containers
B86 Lab packs of old chemicals only
B87 Lab packs of debris only
B88 Mixed lab packs
B89 Other halogenated organic solid (specify in the answer space provided)
B90 Other nonhalogenated organic solid (specify in the answer space provided)

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

B91 Organic gases

*A list of X waste codes was developed specifically for this survey. These X codes are not official RCRA waste codes and should be used ONLY for this survey.

Read the Instructions booklet **BEFORE** you answer this questionnaire. The Instructions contain example questions, lists of RCRA and other waste codes, and other important information you will need to consult as you complete the questions.

EPA needs the detailed waste characterization information requested in this questionnaire to address the following: the treatability of the hazardous waste generated onsite based on the constituents in the waste, the relationship between the constituents in the hazardous waste generated onsite and the processes that generated the waste, and the industry-wide variations in the types and quantity of hazardous waste generated.

This questionnaire asks for detailed information on EACH hazardous waste generated onsite at this facility during 1986:

- Quantity generated (including the quantity that was generated in 1985).
- Onsite and offsite management of the hazardous waste.
- Physical/chemical form, chemical characteristics, and constituents of the hazardous waste.
- Waste minimization practices for the hazardous waste.

The information requested must be answered for EACH hazardous waste generated onsite during 1986. This questionnaire is designed with five sets of answer spaces. These answer spaces appear in the gray columns opposite the questions. If your facility generated more than five different hazardous wastes onsite during 1986, call the Survey Helpline and we will provide additional answer spaces in one or more answer booklets specially designed and labeled for your facility. DO NOT PHOTOCOPY THIS QUESTIONNAIRE TO CREATE MORE ANSWER SPACES.

If you wish to clarify or explain any answers you give, use the two lined pages labeled "FACILITY NOTES" at the end of this questionnaire. Beside each question that you wish to clarify or explain, write "see note." Then turn to the note pages, enter the question number, the hazardous waste number, and write your comments beside the numbers. If a single note applies to more than one question, write the numbers of all the questions the note applies to.

If you need more answer spaces or have any questions about this survey or this questionnaire, call the Survey Helpline (1-800-635-8850).

For this survey, report all waste in the following categories as hazardous waste:

- Any waste considered hazardous waste under RCRA. This includes hazardous wastewater pretreated prior to discharge under a National Pollutant Discharge Elimination System (NPDES) permit or prior to discharge to a publicly owned treatment works (POTW); hazardous waste generated in a production process or waste treatment process; and hazardous waste that is a characteristic waste, even though it may lose its hazardous waste characteristic through mixing with other wastewater or by treatment.
- Any waste considered hazardous by your state.
- Wastes containing polychlorinated biphenyls (PCBs).
- Wastes containing asbestos.
- Wastes containing dioxins/furans.
- Radioactive waste mixed with hazardous waste.

Complete Questions 1 through 46 for EACH hazardous waste or wastewater that was generated onsite at this facility during 1986. Refer to the box on page 1 of this booklet for the types of wastes that should be reported in this survey. Hazardous waste treatment residuals generated onsite and hazardous wastes that were generated onsite during the closure of surface impoundments or waste piles must also be reported. Report separately hazardous wastes that have the same RCRA waste code but were generated from different sources. To minimize errors in recording your answers in the multiple answer columns, answer the questions for only one hazardous waste at a time. A space has been provided at the top of each answer column for you to enter the name of the hazardous waste so that the information for each hazardous waste is recorded in the correct column. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces or if you have any questions.

Question	Hazardous Waste ~~No. 1~~ 11	Hazardous Waste ~~No. 2~~ 12
1. What RCRA waste code or codes best describe this hazardous waste? *See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. If you generate a waste that is considered hazardous by regulations in your state and a waste code is not provided, call the Survey Helpline (1-800-635-8850).*	a. U134 b. c. d. e.	a. D002 b. c. d. e.
Use the list of Waste Description Codes on the inside front cover of this questionnaire to answer Questions 2 and 3. If a code requires you to specify, do so in the space provided. **2. What Waste Description Code best describes this hazardous waste?**	B18 Off spec. material (specify)	B04 (specify)
3. What other Waste Description Codes describe this hazardous waste? *(If no other Waste Description Codes describe this waste, enter "NA.")*	a. B43 (specify) b. (specify) c. (specify)	a. B03 (specify) b. B06 (specify) c. B55 (specify)

Hazardous Waste ~~No. 3~~ 13	Hazardous Waste ~~No. 4~~ 14	Hazardous Waste ~~No. 5~~ 15
a. D003	a. D004	a. D005
b. K044	b.	b.
c.	c.	c.
d.	d.	d.
e.	e.	e.
B53 (specify)	B55 (specify)	B56 Sand/Ash from burning KO (specify)
a. B55 (specify)	a. B53 (specify)	a. B53 (specify)
b. B35 Explosives Sludge (specify)	b. (specify)	b. B55 (specify)
c. (specify)	c. (specify)	c. (specify)

Question	Hazardous Waste ~~No. 1~~ 11	Hazardous Waste ~~No. 2~~ 12
Use the list of Waste Source Codes on the inside back cover of this questionnaire to answer Questions 4 and 5. If a code requires you to specify, do so in the space provided.		
4. What Waste Source Code best describes the process(es) at this facility that generate this hazardous waste?	S 4 9 (specify)	S 4 9 (specify)
5. What other Waste Source Codes describe the process(es) at this facility that generate this hazardous waste? *(If no other Waste Source Codes describe the processes that generate this waste, enter "NA.")*	a. S (specify) b. S (specify) c. S (specify)	a. S 2 2 (specify) b. S 0 4 (specify) c. S 4 7 (specify)
6. What four-digit SIC code(s) describes the operations at this facility that generate this hazardous waste? *(List up to three SIC codes. See Appendix B of the Instructions booklet for a list of SIC codes.)*	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1
7. Describe the process(es) that generate this hazardous waste, including a description of any products produced by the process(es).	R+D	R+D

Hazardous Waste No. ~~3~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste ~~No. 5~~ 15
S 7 6 (specify)	S 4 9 (specify)	S 7 7 Thermal Treatment (specify)
a. S 5 0 (specify)	a. S 5 0 (specify)	a. S 4 9 (specify)
b. S (specify)	b. S (specify)	b. S 5 0 (specify)
c. S (specify)	c. S (specify)	c. S (specify)
a. 9 7 1 1	a. 9 7 1 1	a. 9 7 1 1
b. 8 9 2 2	b. 8 9 2 2	b. 8 9 2 2
c. 9 6 6 1	c. 9 6 6 1	c. 9 6 6 1
R+D	R+D	R+D

Question	Hazardous Waste ~~No. 1~~ 11	Hazardous Waste ~~No. 2~~ 12
8. Was this hazardous waste generated from the closure of a surface impoundment or waste pile? *(Circle one)*		
Yes	01	01
No	(02)	(02)
9. What quantity of this hazardous waste was generated onsite DURING 1985? *(Enter the quantity and circle a unit of measure. If this hazardous waste was not generated onsite during 1985, enter zero.)*		
a. Quantity	0	1
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
10. What quantity of this hazardous waste was generated onsite DURING 1986? *(Enter the quantity and circle a unit of measure)*		
a. Quantity	4	11
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02

Hazardous Waste ~~No. 3~~ 13	Hazardous Waste ~~No. 4~~ 14	Hazardous Waste ~~No. 5~~ 15
01 02	01 02	01 02
2 6 01 02	0 01 02	6 01 02
2 0 01 02	1 01 02	2 0 01 02

HAZARDOUS WASTE MANAGEMENT

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
11. What was the general sequence of management operations this hazardous waste went through ONSITE during 1986? *(Enter process codes from Appendix A of the Instructions booklet to describe the general or typical sequence of management operations for this hazardous waste. Include in your answer any exempt processes this hazardous waste went through.)*	1st 1ST 2nd 3rd 4th 5th 6th 7th 8th 9th 10th	1st 1ST 2nd LOWT 3rd 4th 5th 6th 7th 8th 9th 10th
12. Was this waste discharged to a POTW WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 02	01 02
13. Was this waste discharged to a POTW following treatment during 1986? *(Circle one)* Yes No	01 02	01 02
14. Was this waste discharged under a NPDES permit WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 02	01 02
15. Was this waste discharged under a NPDES permit following treatment during 1986? *(Circle one)* Yes No	01 02	01 02

Hazardous Waste No. ~~2~~ 3 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
1st 2A	1st 1ST	1st 1ST
2nd 1ST	2nd	2nd
3rd 111	3rd	3rd
4th	4th	4th
5th	5th	5th
6th	6th	6th
7th	7th	7th
8th	8th	8th
9th	9th	9th
10th	10th	10th
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02

NOTE: *The quantities entered for Questions 16 through 18 may be different from the quantity of hazarc waste that was generated onsite during 1986 due to alteration by treatment processes.*

Question	Hazardous Waste ~~No. 1~~ 14	Hazardous Waste ~~No. 2~~ 12
16. Of the quantity of this hazardous waste that was generated onsite during 1986 and that STILL REMAINS HAZARDOUS, how much was or will be disposed of ONSITE? *(If this hazardous waste was solidified prior to disposal, enter the quantity prior to solidification. Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Quantity disposed of onsite in a surface impoundment, landfill, or land treatment area		
i. Quantity	0	
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Quantity disposed of onsite in an underground injection well		
i. Quantity	0	
ii. Unit of measure *(Circle one)*		
Tons	01	01
Million gallons	02	02
17. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be managed ONSITE in the following methods? *(Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Treated onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Stored onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
c. Stored or treated onsite in a waste pile		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Cubic yards	02	02

Hazardous Waste ~~No. 3~~ 13	Hazardous Waste ~~No. 4~~ 14	Hazardous Waste ~~No. 5~~ 15
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02

Question	Hazardous Waste ~~No. 1~~ 11	Hazardous Waste ~~No. 2~~ 12
18. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be shipped offsite for management? *(Enter the quantity and circle a unit of measure; if none, enter zero and skip to the note on page 16 prior to Question 20 for this hazardous waste.)*		
a. Quantity	4	1
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02
19. To what offsite facilities was this hazardous waste shipped for management during 1986? What hazardous waste management operations were performed on this hazardous waste? *For each offsite facility to which this hazardous waste was shipped, enter the facility name, EPA identification number, and Offsite Management Codes (from the inside back cover of this questionnaire) to describe the general or typical sequence of the operations performed on this hazardous waste. DO NOT INCLUDE in your answer transporters, transfer stations, or waste brokers. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.*		
Facility No. 1		
a. Name	USPCI	Trade Waste Incineration
b. EPA ID Number	UTD991301748	ILDC986424242
c. Offsite Management Codes	1st. M07	1st. M01
	2nd. M	2nd. M
	3rd. M	3rd. M
	4th. M	4th. M
	5th. M	5th. M

(continue

Hazardous Waste No. ~~2~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
2	1	7
01 / 02	01 / 02	01 / 02
Trade Waste Incineration	Trade Waste Incineration	Trade Waste Incineration
ILD0986424 24	ILD0986424 24	ILD0986424 24
1st. M 01	1st. M 01	1st. M 01
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M

(continued)

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
19. (continued)		
Facility No. 2		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M
Facility No. 3		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M

Hazardous Waste No. ~~3~~ 13	Hazardous Waste No. ~~3~~ 14	Hazardous Waste No. ~~5~~ 15
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M

PHYSICAL/CHEMICAL FORM, CHEMICAL CHARACTERISTICS, AND CONSTITUENTS

NOTE: *The basis for your answers to Questions 20 and 21 may be either waste testing or general knowledge o the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter values for the parameters listed, enter one of the following codes:*

"P" — Present, value of parameter unknown.

"DK" — Do not know.

In some cases, the parameters listed will not apply to every waste. For example, cyanide and pH are typically measured for wastewaters but not for waste solvents; while Btu and flash point are primarily measured for organic wastes. If the parameter does not apply, enter "NA," for not applicable.

For variable waste streams, enter the typical value in the answer space and provide an explanation and range in the "Facility Notes."

For each parameter listed, indicate the basis for the data you provide by entering a "1" for analysis base on testing or a "2" for an estimate.

Question	Hazardous Waste No. 1 11	Basis for Data	Hazardous Waste No. 2 12	Bas for Dat
20. What is the physical/chemical form of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. Total solids content	NA %	2	NA %	2
b. Total suspended solids	NA %	2	NA %	2
c. Ash content	NA %	2	DK %	2
d. Water content	NA %	2	NA %	2
e. Total organic carbon—TOC	NA %	2	DK %	2
f. Oil and grease	NA %	2	NA %	2
g. Specific gravity (The specific gravity of water is 1.0)	NA .	2	NA .	2

Hazardous Waste No. 3/3		Basis for Data
NA	%	2
NA	%	2
DK	%	2
NA	%	2
NA	%	2
NA	%	2
NA	.	2

Hazardous Waste No. 4/4		Basis for Data
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	.	2

Hazardous Waste No. 5/5		Basis for Data
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	%	2
NA	.	2

Question	Hazardous Waste No. ~~1~~ 1	Basis for Data	Hazardous Waste No. ~~2~~ 2	Basis for Data
21. What are the characteristics of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. pH	<1	2	DK	
b. Flash point (°F)	NA	2	NA	
c. Btu (higher heating value, per pound)	NA	2	DK	
d. Total organic halogen (%)	NA	2	NA	
e. Cyanide (ppm)	NA	2	NA	
f. Fluoride (ppm)	DK	2	NA	
g. Sulfide (ppm)	NA	2	NA	
h. 5-day biological oxygen demand—BOD (ppm)	NA	2	NA	
i. Chemical oxygen demand—COD (ppm)	NA	2	NA	
22. Is this hazardous waste a liquid by the paint filter test? *(Circle one)*				
Yes	(01)		(01)	
No	02		02	
Don't know	03		03	
23. Does this hazardous waste contain any constituents in concentrations that exceed the California List land disposal limits? *(Circle one)*				
Yes	01		01	
No	02		02	
Don't know	(03)		(03)	

Hazardous Waste No. ~~3~~ 73	Basis for Data	Hazardous Waste No. ~~4~~ 74	Basis for Data	Hazardous Waste No. ~~5~~ 75	Basis for Data
NA	2	DK	2	NA	2
NA	2	NA	2	NA	2
DK	2	DK	2	DK	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
NA	2	NA	2	NA	2
01		01		01	
(02)		(02)		(02)	
03		03		03	
01		01		01	
02		02		02	
(03)		(03)		(03)	

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
24. Are there any metal constituents present in this hazardous waste? *(Circle one)*		
Yes *(Go to next question)*	01	(01)
No *(Circle 02 and skip to the note on page 24 prior to Question 26 for this hazardous waste)*	(02) *(Skip to Q.26)*	02 *(Skip to Q.26)*

NOTE: *The basis for your answer to Question 25 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter concentration range codes (from the box on page 22) for the metal constituents listed, enter one of the following codes:*

"P" — Present, concentration of constituent unknown.

"DK" — Do not know if constituent is present.

If a constituent is not present in a waste, enter "NP."

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each metal constituent listed, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Hazardous Waste No. ~~3~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
01	01	01
02 *(Skip to Q.26)*	02 *(Skip to Q.26)*	02 *(Skip to Q.26)*

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%
02 — ≥ 75% < 90%
03 — ≥ 50% < 75%
04 — ≥ 25% < 50%
05 — ≥ 10% < 25%
06 — ≥ 1% < 10%
07 — ≥ 0.1% < 1%
08 — ≥ 500 ppm < 0.1%
09 — ≥ 100 ppm < 500 ppm
10 — ≥ 10 ppm < 100 ppm
11 — ≥ 1 ppm < 10 ppm
12 — ≥ 0.1 ppm < 1 ppm
13 — ≥ 1 ppb < 0.1 ppm
14 — < 1 ppb

Question	Hazardous Waste No. ~~1~~ 11	Basis for Data	Hazardous Waste No. ~~2~~ 12	Basis for Data
25. What is the concentration range of the metal constituents listed below in this hazardous waste? *Indicate the concentration range of each constituent by entering the numerical code corresponding to the appropriate range provided in the above box. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. Antimony			D K	2
b. Arsenic			D K	2
c. Barium			D K	2
d. Beryllium			D K	2
e. Cadmium			D K	2
f. Chromium (total)			D K	2
g. Chromium (hexavalent)			D K	2
h. Copper			D K	2
i. Lead			D K	2
j. Mercury			D K	2
k. Nickel			D K	2
l. Selenium			D K	2
m. Silver			D K	2
n. Thallium			D K	2
o. Vanadium			D K	2
p. Zinc			D K	2

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
30. (continued)		
Test Type 2		
2a. Type of test conducted *(Circle one)*		
EP toxicity test	01	01
Corrosivity	02	02
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07	07
	(specify)	*(specify)*
2b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02	02
	(specify)	*(specify)*
Annually or more often *(specify the number of times per year)*	03	03
	(specify)	*(specify)*
Continuously *(Circle 04 and skip to Question 2e for this hazardous waste)*	04 *(Skip to Q.2e)*	04 *(Skip to Q.2e)*
2c. Typical number of samples per test		
2d. For each sample taken, typical number of replicates analyzed		
2e. Location of testing *(Circle one)*		
Onsite at this facility	01	01
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

Hazardous Waste ~~No. 3~~ 13	Hazardous Waste ~~No. 4~~ 14	Hazardous Waste ~~No. 5~~ 15
01 02 03 04 05 06 07 (specify)	01 (02) 03 04 05 06 07 (specify)	01 02 03 04 05 06 07 (specify)
01 02 (specify) 03 (specify) 04 (Skip to Q.2e)	01 02 (specify) 03 (specify) (04) (Skip to Q.2e)	01 02 (specify) 03 (specify) 04 (Skip to Q.2e)
☐☐	☐☐	☐☐
☐☐	☐☐	☐☐
01 02 03	(01) 02 03	01 02 03

HAZARDOUS WASTE MINIMIZATION

Question	Hazardous Waste No. 1 11	Hazardous Waste No. 2 12
31. Was this hazardous waste generated by a one-time discharge or process or from a clean out or closure process? *(Circle one)* *See the Waste Source Codes on the inside back cover of this questionnaire for a list of one-time processes and clean out or closure processes.*		
Yes *(Circle 01 and skip to Question 47 on on page 42 for this hazardous waste)*	01 *(Skip to Q.47)*	01 *(Skip to Q.47)*
No *(Go to next question)*	02	02
32. For the process(es) that generated this hazardous waste, what was the percentage change in PRODUCT PRODUCTION from 1985 to 1986? *(Use 1985 as the base year in your calculation. If more than one process was operated to generate this hazardous waste, enter the combined change in production for ALL of the processes that generated this hazardous waste.)*		
a. Percentage change in product production	☐☐☐ %	☐☐☐ %
b. Unit of measure *(Circle one)*		
Percentage increase	01	01
Percentage decrease	02	02
33. Were any of the following waste minimization practices implemented PRIOR TO 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	05	05
Waste stream segregation	06	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 39 on page 38 for this hazardous waste)*	09 *(Skip to Q.39)*	09 *(Skip to Q.39)*
Other *(specify)*	10	10
	(specify)	*(specify)*

Hazardous Waste No. ~~2~~ 13	Hazardous Waste ~~No. 4~~ 14	Hazardous Waste No. ~~5~~ 15
01 (Skip to Q.47) 02	01 (Skip to Q.47) 02	01 (Skip to Q.47) 02
☐☐☐ % 01 02	☐☐☐ % 01 02	☐☐☐ % 01 02
01 02 03 04 05 06 07 08 09 (Skip to Q.39) 10	01 02 03 04 05 06 07 08 09 (Skip to Q.39) 10	01 02 03 04 05 06 07 08 09 (Skip to Q.39) 10
(specify)	(specify)	(specify)

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. 2 12
34. Describe the waste minimization practices that were implemented PRIOR TO 1986 for this hazardous waste.		Our administrative procedures have allowed audits for better housekeeping/segregation practices
35. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	01	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	03
36. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	01	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	03	03
37. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*		NA
38. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*		NA

Hazardous Waste No. ~~3~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
Our administrative procedures have allowed audits for better housekeeping/segregation practices.		Our administrative procedures have allowed audits for better housekeeping/segregation practices
01 02 (03)	01 02 03	(01) 02 03
01 02 (03)	01 02 03	01 (02) 03
NA		NA
NA		NA

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
39. Were any of the following waste minimization practices implemented DURING 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/ substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	05	05
Waste stream segregation	06	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 45 for this hazardous waste)*	09 *(Skip to Q.45)*	09 *(Skip to Q.45)*
Other *(specify)*	10	10
	(specify)	Lab-wide reevaluation of VM *(specify)*
40. Describe the waste minimization practices that were implemented for this hazardous waste DURING 1986 including the effect these practices had on the volume generated and toxicity of this hazardous waste. Indicate if changes in product production account for changes in waste volume.		Initiated a lab-wide review of waste production processes for new waste minimization practices to institute
41. What effect did the waste minimization practices implemented DURING 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	01	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	03

Hazardous Waste ~~No. 3~~ 3	Hazardous Waste No. ~~4~~ 4	Hazardous Waste No. ~~5~~ 5
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
09 (Skip to Q.45)	09 (Skip to Q.45)	09 (Skip to Q.45)
(10)	10	(10)
Labwide reevaluation of WM (specify)	(specify)	Labwide reevaluation of W (specify)
Initiated a lab-wide review of waste production processes for new waste minimization practices to institute.		Initiated a lab-wide review of waste productio processes for new waste minimization practices t institute
01	01	(01)
02	02	02
(03)	03	03

Question	Hazardous Waste No. 1 11	Hazardous Waste No. 2 12
42. What effect did the waste minimization practices implemented DURING 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	01	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	03	(03)
43. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*		NA
44. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*		NA
45. What quantity of this hazardous waste went to recycling/recovery for reuse processes ONSITE during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity		0
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
46. What quantity of this hazardous waste was SHIPPED OFFSITE for recycling/ recovery for reuse during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity		0
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02

NOTE: *If your facility generated more than five different hazardous wastes during 1986, call the Survey Helpline (1-800-635-8850) to receive additional Questionnaire(s) GB and complete Questions 1 through 46 for EACH hazardous waste.*

Hazardous Waste No. ~~3~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
01	01	01
02	02	02
03	03	03
NA		NA
NA		NA
0		0
01	01	01
02	02	02
0		0
01	01	01
02	02	02

47. a. **What is the name, title, and telephone number of the person who completed this questionnaire?**

Name:

Title:

Telephone:

Area Code — *(Go to Question b)*

b. **Is your MAILING ADDRESS the same as the address given in the label on the cover of this questionnaire?** *(Circle one)*

"MAILING ADDRESS" refers to the address at which you can be reached for potential future survey-related contacts.

01 Yes *(Skip to note at bottom of page)*

02 No *(Go to Question c)*

c. **At what MAILING ADDRESS can you be contacted for future survey-related information?**

Mailing address:

City:

State:

ZIP: — *(Go to note at bottom of page)*

NOTE: *You have now completed this questionnaire. If you have also completed all the other questionnaires you must complete, MAKE A PHOTOCOPY OF THEM FOR YOUR RECORDS and send the originals to the following address using the enclosed postage-paid return envelope:*

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, NC 27711

If you have not completed all the necessary questionnaires, go to the next questionnaire. If you have any questions about this or the other questionnaires used in this survey, call the Survey Helpline (1-800-635-8850).

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

QUESTIONNAIRE GB	HAZARDOUS WASTE CHARACTERIZATION

EPA Use Only ☐

1. ☐
2. ☐
3. ☐
4. ☐
5. ☐
6. ☐
7. ☐
8. ☐
9. ☐
10. ☐
11. ☐
12. ☐
13. ☐
14. ☐
15. ☐
16. ☐
17. ☐
18. ☐
19. ☐
20. ☐
21. ☐
22. ☐
23. ☐
24. ☐
25. ☐
26. ☐
27. ☐
28. ☐
29. ☐
30. ☐
31. ☐
32. ☐
33. ☐
34. ☐
35. ☐
36. ☐
37. ☐
38. ☐
39. ☐
40. ☐
41. ☐
42. ☐
43. ☐
44. ☐
45. ☐
46. ☐
47. ☐

WASTE SOURCE CODES/OFFSITE MANAGEMENT CODES

The Waste Source Codes describe the processes that generate hazardous waste. The Offsite Management Codes describe the management operations hazardous waste goes through offsite.

WASTE SOURCE CODES

Surface Preparation Processes (Cleaning/Degreasing)

S01 Stripping
S02 Vapor degreasing
S03 Steam cleaning
S04 Dip rinsing
S05 Flush rinsing
S06 Spray rinsing
S07 Fill and gravity draining
S08 Backflush rinsing
S09 Physical scraping/removal
S10 Pickling
S11 Caustic (alkali) cleaning
S12 Other cleaning/degreasing process (specify in the answer space provided)

Other Waste Production Processes

S13 Light ends condensation
S14 Heavy ends/still bottoms removal
S15 Reaction/synthesis media processing
S16 Crystallization
S17 Slag removal
S18 Tank bottoms removal
S19 Molding/forming
S20 By-product processing
S21 Polymerization
S22 Electroplating
S23 Electrolysis of aqueous solutions
S24 High temperature metal refining
S25 Fermentation and other biological processes
S26 Pyrolysis (thermal decomposition without enough oxygen for combustion, such as "cracking")
S27 Solvent extraction (organic and/or inorganic)
S28 Distillation and fractionation
S29 Size reduction (e.g., screening, milling, shredding)
S30 Materials handling
S31 Halogenation
S32 Hydrogenation
S33 Nitration
S34 Oxidation (other than combustion)
S35 Calcination
S36 Esterification
S37 Sulfonation
S38 Inorganic aqueous reactions
S39 Gas adsorption
S40 Filtration/centrifuging
S41 Combustion processes
S42 Extrusion/wet spinning
S43 Surface coating (e.g., painting, electroless plating, phosphating)
S44 Product rinsing
S45 Decantation/sedimentation
S46 Air and steam stripping
S47 Laboratory wastes
S48 Other waste production process (specify in the answer space provided)

One-Time Processes

S49 Discarding of off-spec material
S50 Discarding of out-of-date products or chemicals
S51 Cleanup of spill residues
S52 Discarding of contaminated cleanup equipment
S53 Accidental spills or discharges
S54 Other remedial action/cleanup (specify in the space provided)
S55 Other one-time process (specify in the answer space provided)

Clean Out or Closure Processes

S56 Clean out of surface impoundments
S57 Closure of surface impoundments
S58 Clean out of waste piles
S59 Closure of waste piles
S60 Clean out of process equipment
S61 Closure of process equipment
S62 Other clean out or closure process (specify in the answer space provided)

Pollution Control or Waste Treatment Processes

S63 Flue gas desulfurization
S64 Caustic scrubbing
S65 Electrostatic precipitation
S66 Condensate from VOC removal
S67 Filtering/screening
S68 Dewatering
S69 Regenerating
S70 Quench cooling
S71 Centrifugation
S72 Incineration
S73 Wastewater treatment
S74 Distillation
S75 Flotation or skimming
S76 Decantation or settling/clarification
S77 Other pollution control or waste treatment process (specify in the answer space provided)

Other Processes

S78 Other process (specify in the answer space provided)

OFFSITE MANAGEMENT CODES

M01 Incineration
M02 Reused as fuel
M03 Fuel blending
M04 Solidification/stabilization
M05 Solvent or liquid organic recovery for reuse
M06 Metals recovery for reuse
M07 Wastewater treatment in tank
M08 Wastewater treatment in surface impoundment
M09 Wastewater treatment in unknown equipment type
M10 Other treatment/recovery
M11 Storage/treatment in waste pile
M12 Storage/disposal in surface impoundment
M13 Landfill
M14 Land treatment
M15 Underground injection
M16 Discharge to POTW
M17 Discharge under NPDES permit
M18 Other
M19 Unknown

Hazardous Waste No. ~~3~~ 13	Basis for Data	Hazardous Waste No. ~~4~~ 14	Basis for Data	Hazardous Waste No. ~~5~~ 15	Basis for Data
D K	2	D K	2	D K	2
D K	2	P	1	D K	2
P	1	D K	2	P	1
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2
D K	2	D K	2	D K	2

NOTE: *The basis for your answer to Question 26 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter a concentration range code for each hazardous constituent you list, enter "P," for present, concentration of constituent unknown.*

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each hazardous constituent you list, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Question	Hazardous Waste No. ~~1~~ 11			Hazardous Waste No. ~~2~~ 12		
26. Which hazardous constituents (40 CFR §261, Appendix VIII) of this hazardous waste are of the greatest concern either due to their toxicity or concentration? What is the concentration range of these hazardous constituents? *Enter up to 10 codes from Appendix D of the Instructions booklet for the hazardous constituents with the highest concentration. Indicate the concentration range of the constituents by entering the numerical code corresponding to the appropriate range provided in the box on page 25. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate. If no Appendix VIII hazardous constituents are present in this waste, enter "NA" in the answer space for Constituent No. 1.*	Constituent Code	Concentration Range Code	Basis for Data	Constituent Code	Concentration Range Code	Basis for Data
Constituent No. 1	Y			Y		
Constituent No. 2	Y			Y		
Constituent No. 3	Y			Y		
Constituent No. 4	Y			Y		
Constituent No. 5	Y			Y		
Constituent No. 6	Y			Y		
Constituent No. 7	Y			Y		
Constituent No. 8	Y			Y		
Constituent No. 9	Y			Y		
Constituent No. 10	Y			Y		

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%
02 — ≥ 75% < 90%
03 — ≥ 50% < 75%
04 — ≥ 25% < 50%
05 — ≥ 10% < 25%
06 — ≥ 1% < 10%
07 — ≥ 0.1% < 1%
08 — ≥ 500 ppm < 0.1%
09 — ≥ 100 ppm < 500 ppm
10 — ≥ 10 ppm < 100 ppm
11 — ≥ 1 ppm < 10 ppm
12 — ≥ 0.1 ppm < 1 ppm
13 — ≥ 1 ppb < 0.1 ppm
14 — < 1 ppb

Hazardous Waste No. ~~3~~ 13

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste No. ~~4~~ 14

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste No. ~~5~~ 15

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

TESTING PROCEDURES

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
27. Is this hazardous waste a characteristic waste? *(Circle one)* Characteristic wastes are RCRA "D" wastes that exhibit ignitable, corrosive, reactive, or toxic characteristics.		
Yes *(Go to next question)*	01	(01)
No *(Circle 02 and skip to Question 31 on page 34 for this hazardous waste)*	(02) *(Skip to Q.31)*	02 *(Skip to Q.31)*
28. How did you determine that this waste was hazardous? *(Circle all that apply)*		
Waste testing	01	(01)
Mass balance shows that bulk concentrations (mass of pollutants per mass of waste) of hazardous constituents are above regulatory threshold levels	02	02
Mass balance performed in conjunction with a leaching model shows that extraction concentrations (as shown under the extraction procedure toxicity characteristic leaching protocol) of hazardous constituents are above regulatory threshold levels	03	03
Demonstration that hazardous constituents are present in raw materials or by-products of the process	04	04
Other *(specify)*	05	05
	_____ *(specify)*	_____ *(specify)*

Hazardous Waste No. ~~2~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
01	01	01
02 (Skip to Q.31)	02 (Skip to Q.31)	02 (Skip to Q.31)
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
Process Knowledge + Knowledge of Chemicals (specify)	(specify)	(specify)

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
29. What types of test does this facility conduct (either onsite or offsite) on this hazardous waste? *(Circle all that apply)*		
No testing is done on this hazardous waste *(Circle 01 and skip to Question 31 on page 34 for this hazardous waste)*	01 *(Skip to Q.31)*	01 *(Skip to Q.31)*
EP toxicity test	02	(02)
Corrosivity	03	03
Reactivity	04	04
Ignitibility	05	05
Total constituent analysis	06	(06)
Toxicity characteristic leaching procedure (TCLP)	07	07
Other *(specify)*	08	08
	(specify)	*(specify)*

Hazardous Waste No. ~~2~~ 13	Hazardous Waste No. ~~4~~ 14	Hazardous Waste No. ~~5~~ 15
01 (Skip to Q.31)	01 (Skip to Q.31)	01 (Skip to Q.31)
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
(specify)	(specify)	(specify)

Question	Hazardous Waste No. ~~1~~ 11	Hazardous Waste No. ~~2~~ 12
30. Describe the testing procedures for this hazardous waste. *Complete Question 30 for EACH type of test that you indicated in Question 29 that you conduct on this hazardous waste. If you conduct more than two types of tests on this hazardous waste, call the Survey Helpline (1-800-635-8850) for additional answer spaces.*		
Test Type 1		
1a. Type of test conducted *(Circle one)*		
EP toxicity test	01	(01)
Corrosivity	02	02
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07	07
	_____ *(specify)*	_____ *(specify)*
1b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02	02
	_____ *(specify)*	_____ *(specify)*
Annually or more often *(specify the number of times per year)*	03	03
	_____ *(specify)*	_____ *(specify)*
Continuously *(Circle 04 and skip to Question 1e for this hazardous waste)*	04 *(Skip to Q.1e)*	(04) *(Skip to Q.1e)*
1c. Typical number of samples per test	[ ][ ]	[ ][ ]
1d. For each sample taken, typical number of replicates analyzed	[ ][ ]	[ ][ ]
1e. Location of testing *(Circle one)*		
Onsite at this facility	01	(01)
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

(continued)

Hazardous Waste No. ~~3~~ 73	Hazardous Waste No. ~~4~~ 74	Hazardous Waste No. ~~5~~ 75
01 02 03 04 05 06 07 (specify)	(01) 02 03 04 05 06 07 (specify)	(01) 02 03 04 05 06 07 (specify)
01 02 (specify) 03 (specify) 04 (Skip to Q.1e)	01 02 (specify) 03 (specify) (04) (Skip to Q.1e)	01 02 (specify) 03 (specify) (04) (Skip to Q.1e)
☐☐	☐☐	☐☐
☐☐	☐☐	☐☐
01 02 03	(01) 02 03	(01) 02 03

(continued)

OMB No. 2050-0075
Expires November 1989

EPA

National Survey of Hazardous Waste Generators

QUESTIONNAIRE GB

HAZARDOUS WASTE CHARACTERIZATION

RTI ID: 033175 Q-GB 4 of 10
EPA ID: NM0890010515

USDOE LOS ALAMOS SCIENTIFIC LABORATO
LOS ALAMOS AREA OFFICE
LOS ALAMOS NM 87544

NOTE: ALL FACILITIES NEED TO COMPLETE THIS QUESTIONNAIRE

WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F, K, P, OR U WASTE CODE

A01 Spent solvent (F001-F005, K086)
A02 Other organic liquid (F001-F005, K086)
A03 Still bottom (F001-F005, K086)
A04 Other organic sludge (F001-F005, K086)
A05 Wastewater or aqueous mixture
A06 Contaminated soil or cleanup residue
A07 Other F or K waste, exactly as described*
A08 Concentrated off-spec or discarded product
A09 Empty containers
A10 Incinerator ash
A11 Solidified treatment residue
A12 Other treatment residue (specify in the answer space provided)
A13 Other untreated waste (specify in the answer space provided)

*"Exactly as described" means that the waste matches the description of the RCRA waste code.

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA D OR X WASTE CODE* OR THAT DESCRIBED BY MORE THAN ONE RCRA OR X WASTE CODE

INORGANIC LIQUIDS—Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content.

B01 Aqueous waste with low solvents
B02 Aqueous waste with low other toxic organics
B03 Spent acid with metals
B04 Spent acid without metals
B05 Acidic aqueous waste
B06 Caustic solution with metals but no cyanides
B07 Caustic solution with metals and cyanides
B08 Caustic solution with cyanides but no metals
B09 Spent caustic
B10 Caustic aqueous waste
B11 Aqueous waste with reactive sulfides
B12 Aqueous waste with other reactives (e.g., explosives)
B13 Other aqueous waste with high dissolved solids
B14 Other aqueous waste with low dissolved solids
B15 Scrubber water
B16 Leachate
B17 Waste liquid mercury
B18 Other inorganic liquid (specify in the answer space provided)

INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable.

B19 Lime sludge without metals
B20 Lime sludge with metals/metal hydroxide sludge
B21 Wastewater treatment sludge with toxic organics
B22 Other wastewater treatment sludge
B23 Untreated plating sludge without cyanides
B24 Untreated plating sludge with cyanides
B25 Other sludge with cyanides
B26 Sludge with reactive sulfides
B27 Sludge with other reactives
B28 Degreasing sludge with metal scale or filings
B29 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B30 Sediment or lagoon dragout contaminated with organics
B31 Sediment or lagoon dragout contaminated with inorganics only
B32 Drilling mud
B33 Asbestos slurry or sludge
B34 Chloride or other brine sludge
B35 Other inorganic sludge (specify in the answer space provided)

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable.

B36 Soil contaminated with organics
B37 Soil contaminated with inorganics only
B38 Ash, slag, or other residue from incineration of wastes
B39 Other "dry" ash, slag, or thermal residue
B40 "Dry" lime or metal hydroxide solids chemically "fixed"
B41 "Dry" lime or metal hydroxide solids not "fixed"
B42 Metal scale, filings, or scrap
B43 Empty or crushed metal drums or containers
B44 Batteries or battery parts, casings, cores
B45 Spent solid filters or adsorbents
B46 Asbestos solids and debris
B47 Metal-cyanide salts/chemicals
B48 Reactive cyanide salts/chemicals
B49 Reactive sulfide salts/chemicals
B50 Other reactive salts/chemicals
B51 Other metal salts/chemicals
B52 Other waste inorganic chemicals
B53 Lab packs of old chemicals only
B54 Lab packs of debris only
B55 Mixed lab packs
B56 Other inorganic solids (specify in the answer space provided)

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

B57 Inorganic gases

ORGANIC LIQUIDS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content.

B58 Concentrated solvent-water solution
B59 Halogenated (e.g., chlorinated) solvent
B60 Nonhalogenated solvent
B61 Halogenated/nonhalogenated solvent mixture
B62 Oil-water emulsion or mixture
B63 Waste oil
B64 Concentrated aqueous solution of other organics
B65 Concentrated phenolics
B66 Organic paint, ink, lacquer, or varnish
B67 Adhesives or expoxies
B68 Paint thinner or petroleum distillates
B69 Reactive or polymerizable organic liquid
B70 Other organic liquid (specify in the answer space provided)

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable.

B71 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B72 Still bottoms of nonhalogenated solvents or other organic liquids
B73 Oily sludge
B74 Organic paint or ink sludge
B75 Reactive or polymerizable organics
B76 Resins, tars, or tarry sludge
B77 Biological treatment sludge
B78 Sewage or other untreated biological sludge
B79 Other organic sludge (specify in the answer space provided)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

B80 Halogenated pesticide solid
B81 Nonhalogenated pesticide solid
B82 Solid resins or polymerized organics
B83 Spent carbon
B84 Reactive organic solid
B85 Empty fiber or plastic containers
B86 Lab packs of old chemicals only
B87 Lab packs of debris only
B88 Mixed lab packs
B89 Other halogenated organic solid (specify in the answer space provided)
B90 Other nonhalogenated organic solid (specify in the answer space provided)

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

B91 Organic gases

*A list of X waste codes was developed specifically for this survey. These X codes are not official RCRA waste codes and should be used ONLY for this survey.

Read the Instructions booklet **BEFORE** you answer this questionnaire. The Instructions contain example questions, lists of RCRA and other waste codes, and other important information you will need to consult as you complete the questions.

EPA needs the detailed waste characterization information requested in this questionnaire to address the following: the treatability of the hazardous waste generated onsite based on the constituents in the waste, the relationship between the constituents in the hazardous waste generated onsite and the processes that generated the waste, and the industry-wide variations in the types and quantity of hazardous waste generated.

This questionnaire asks for detailed information on EACH hazardous waste generated onsite at this facility during 1986:

- Quantity generated (including the quantity that was generated in 1985).
- Onsite and offsite management of the hazardous waste.
- Physical/chemical form, chemical characteristics, and constituents of the hazardous waste.
- Waste minimization practices for the hazardous waste.

The information requested must be answered for EACH hazardous waste generated onsite during 1986. This questionnaire is designed with five sets of answer spaces. These answer spaces appear in the gray columns opposite the questions. If your facility generated more than five different hazardous wastes onsite during 1986, call the Survey Helpline and we will provide additional answer spaces in one or more answer booklets specially designed and labeled for your facility. DO NOT PHOTOCOPY THIS QUESTIONNAIRE TO CREATE MORE ANSWER SPACES.

If you wish to clarify or explain any answers you give, use the two lined pages labeled "FACILITY NOTES" at the end of this questionnaire. Beside each question that you wish to clarify or explain, write "see note." Then turn to the note pages, enter the question number, the hazardous waste number, and write your comments beside the numbers. If a single note applies to more than one question, write the numbers of all the questions the note applies to.

If you need more answer spaces or have any questions about this survey or this questionnaire, call the Survey Helpline (1-800-635-8850).

For this survey, report all waste in the following categories as hazardous waste:

- Any waste considered hazardous waste under RCRA. This includes hazardous wastewater pretreated prior to discharge under a National Pollutant Discharge Elimination System (NPDES) permit or prior to discharge to a publicly owned treatment works (POTW); hazardous waste generated in a production process or waste treatment process; and hazardous waste that is a characteristic waste, even though it may lose its hazardous waste characteristic through mixing with other wastewater or by treatment.
- Any waste considered hazardous by your state.
- Wastes containing polychlorinated biphenyls (PCBs).
- Wastes containing asbestos.
- Wastes containing dioxins/furans.
- Radioactive waste mixed with hazardous waste.

Complete Questions 1 through 46 for EACH hazardous waste or wastewater that was generated onsite at this facility during 1986. Refer to the box on page 1 of this booklet for the types of wastes that should be reported in this survey. Hazardous waste treatment residuals generated onsite and hazardous wastes that were generated onsite during the closure of surface impoundments or waste piles must also be reported. Report separately hazardous wastes that have the same RCRA waste code but were generated from different sources. To minimize errors in recording your answers in the multiple answer columns, answer the questions for only one hazardous waste at a time. A space has been provided at the top of each answer column for you to enter the name of the hazardous waste so that the information for each hazardous waste is recorded in the correct column. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces or if you have any questions.

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
1. What RCRA waste code or codes best describe this hazardous waste? *See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. If you generate a waste that is considered hazardous by regulations in your state and a waste code is not provided, call the Survey Helpline (1-800-635-8850).*	a. D006 b. c. d. e.	a. D007 b. c. d. e.
Use the list of Waste Description Codes on the inside front cover of this questionnaire to answer Questions 2 and 3. If a code requires you to specify, do so in the space provided. **2. What Waste Description Code best describes this hazardous waste?**	B42 (specify)	B03 (specify)
3. What other Waste Description Codes describe this hazardous waste? *(If no other Waste Description Codes describe this waste, enter "NA.")*	a. B03 (specify) b. (specify) c. (specify)	a. NA (specify) b. (specify) c. (specify)

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
a. D008	a. D009	a. D010
b.	b. U151	b.
c.	c.	c.
d.	d.	d.
e.	e.	e.
B42 (specify)	B17 (specify)	B56 Contaminated Hardware (specify)
a. NA (specify)	a. B56 Hardware contaminated w/ Hg (specify)	a. NA (specify)
b. (specify)	b. B44 (specify)	b. (specify)
c. (specify)	c. (specify)	c. (specify)

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
Use the list of Waste Source Codes on the inside back cover of this questionnaire to answer Questions 4 and 5. If a code requires you to specify, do so in the space provided.		
4. What Waste Source Code best describes the process(es) at this facility that generate this hazardous waste?	S 2 2 (specify)	S 2 2 (specify)
5. What other Waste Source Codes describe the process(es) at this facility that generate this hazardous waste? *(If no other Waste Source Codes describe the processes that generate this waste, enter "NA.")*	a. S 4 9 (specify) b. S (specify) c. S (specify)	a. S N A (specify) b. S (specify) c. S (specify)
6. What four-digit SIC code(s) describes the operations at this facility that generate this hazardous waste? *(List up to three SIC codes. See Appendix B of the Instructions booklet for a list of SIC codes.)*	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1
7. Describe the process(es) that generate this hazardous waste, including a description of any products produced by the process(es).	R+D	R+D

Hazardous Waste No. 3 18	Hazardous Waste No. 4 19	Hazardous Waste No. 5 20
S 4 9 (specify)	S 5 0 (specify)	S 6 2 Disposal of contaminated hardware (specify)
a. S 6 2 Disposal of contaminated hardware (specify) b. S (specify) c. S (specify)	a. S 5 1 (specify) b. S 6 2 Disposal of contaminated hardware (specify) c. S (specify)	a. S N A (specify) b. S (specify) c. S (specify)
a. 9 7 1 1 b. 8 9 2 2 c. 9 2 6 1	a. 9 7 1 1 b. 8 9 2 2 c. 9 2 6 1	a. 9 7 1 1 b. 8 9 2 2 c. 9 2 6 1
R+D	R+D	R+D

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
8. Was this hazardous waste generated from the closure of a surface impoundment or waste pile? *(Circle one)*		
Yes	01	01
No	(02)	(02)
9. What quantity of this hazardous waste was generated onsite DURING 1985? *(Enter the quantity and circle a unit of measure. If this hazardous waste was not generated onsite during 1985, enter zero.)*		
a. Quantity	1	0
b. Unit of measure *(Circle one)*		
Tons	(01)	01
Gallons	02	02
10. What quantity of this hazardous waste was generated onsite DURING 1986? *(Enter the quantity and circle a unit of measure)*		
a. Quantity	1	3
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
01	01	01
(02)	(02)	(02)
<1	<1	0
(01)	(01)	01
02	02	02
7	3	<1
(01)	(01)	(01)
02	02	02

HAZARDOUS WASTE MANAGEMENT

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
11. What was the general sequence of management operations this hazardous waste went through ONSITE during 1986? *(Enter process codes from Appendix A of the Instructions booklet to describe the general or typical sequence of management operations for this hazardous waste. Include in your answer any exempt processes this hazardous waste went through.)*	1st 1 S T 2nd 3rd 4th 5th 6th 7th 8th 9th 10th	1st 1 S T 2nd 1 S W T 3rd 4th 5th 6th 7th 8th 9th 10th
12. Was this waste discharged to a POTW WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 02	01 02
13. Was this waste discharged to a POTW following treatment during 1986? *(Circle one)* Yes No	01 02	01 02
14. Was this waste discharged under a NPDES permit WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 02	01 02
15. Was this waste discharged under a NPDES permit following treatment during 1986? *(Circle one)* Yes No	01 02	01 02

Hazardous Waste No. ~~3~~ 18	Hazardous Waste No. ~~4~~ 19	Hazardous Waste No. ~~5~~ 20
1st 1ST	1st 1ST	1st 1ST
2nd 2TR	2nd 10MR	2nd
3rd	3rd	3rd
4th	4th	4th
5th	5th	5th
6th	6th	6th
7th	7th	7th
8th	8th	8th
9th	9th	9th
10th	10th	10th
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02

NOTE: *The quantities entered for Questions 16 through 18 may be different from the quantity of hazardous waste that was generated onsite during 1986 due to alteration by treatment processes.*

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
16. Of the quantity of this hazardous waste that was generated onsite during 1986 and that STILL REMAINS HAZARDOUS, how much was or will be disposed of ONSITE? *(If this hazardous waste was solidified prior to disposal, enter the quantity prior to solidification. Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Quantity disposed of onsite in a surface impoundment, landfill, or land treatment area		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Quantity disposed of onsite in an underground injection well		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Million gallons	02	02
17. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be managed ONSITE in the following methods? *(Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Treated onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Stored onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
c. Stored or treated onsite in a waste pile		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
	02	02

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02
0	0	0
01	01	01
02	02	02

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
18. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be shipped offsite for management? *(Enter the quantity and circle a unit of measure; if none, enter zero and skip to the note on page 16 prior to Question 20 for this hazardous waste.)*		
a. Quantity	1	2
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02
19. To what offsite facilities was this hazardous waste shipped for management during 1986? What hazardous waste management operations were performed on this hazardous waste? *For each offsite facility to which this hazardous waste was shipped, enter the facility name, EPA identification number, and Offsite Management Codes (from the inside back cover of this questionnaire) to describe the general or typical sequence of the operations performed on this hazardous waste. DO NOT INCLUDE in your answer transporters, transfer stations, or waste brokers. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.*		
Facility No. 1		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M	1st. M
	2nd. M	2nd. M
	3rd. M	3rd. M
	4th. M	4th. M
	5th. M	5th. M

(continued)

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste 20 ~~No. 5~~
2	2	21
01	01	01
02	02	02
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M

(continued)

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
19. (continued) **Facility No. 2**		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M
Facility No. 3		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 3~~ 19	Hazardous Waste 20 ~~No. 5~~
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M

PHYSICAL/CHEMICAL FORM, CHEMICAL CHARACTERISTICS, AND CONSTITUENTS

NOTE: *The basis for your answers to Questions 20 and 21 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter values for the parameters listed, enter one of the following codes:*

"P" — Present, value of parameter unknown.

"DK" — Do not know.

In some cases, the parameters listed will not apply to every waste. For example, cyanide and pH are typically measured for wastewaters but not for waste solvents; while Btu and flash point are primarily measured for organic wastes. If the parameter does not apply, enter "NA," for not applicable.

For variable waste streams, enter the typical value in the answer space and provide an explanation and range in the "Facility Notes."

For each parameter listed, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Question	Hazardous Waste ~~No. 1~~ 16		Hazardous Waste ~~No. 2~~ 17	
20. What is the physical/chemical form of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*		**Basis for Data**		**Basis for Data**
a. Total solids content	DK %	2	DK %	2
b. Total suspended solids	DK %	2	DK %	2
c. Ash content	NA %	2	NA %	2
d. Water content	DK %	2	DK %	2
e. Total organic carbon—TOC	DK %	2	DK %	2
f. Oil and grease	DK %	2	DK %	2
g. Specific gravity (The specific gravity of water is 1.0)	DK .	2	DK .	2

Hazardous Waste ~~No. 3~~ 18		Basis for Data
	DK %	2
	DK %	2
	NA %	2
	DK %	2
	DK %	2
	DK %	2
	DK .	2

Hazardous Waste ~~No. 4~~ 19		Basis for Data
	DK %	2
	DK %	2
	NA %	2
	DK %	2
	DK %	2
	DK %	2
	DK .	2

Hazardous Waste ~~No. 5~~ 20		Basis for Data
	DK %	2
	DK %	2
	NA %	2
	DK %	2
	DK %	2
	DK %	2
	DK .	2

Question	Hazardous Waste ~~No. 1~~ 16	Basis for Data	Hazardous Waste ~~No. 2~~ 17	Basis for Data
21. What are the characteristics of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. pH	DK	2	DK	2
b. Flash point (°F)	NA	2	NA	2
c. Btu (higher heating value, per pound)	NA	2	NA	2
d. Total organic halogen (%)	DK	2	DK	2
e. Cyanide (ppm)	DK	2	DK	2
f. Fluoride (ppm)	DK	2	DK	2
g. Sulfide (ppm)	DK	2	DK	2
h. 5-day biological oxygen demand—BOD (ppm)	NA	2	NA	2
i. Chemical oxygen demand—COD (ppm)	NA	2	NA	2
22. Is this hazardous waste a liquid by the paint filter test? *(Circle one)*				
Yes	(01)		(01)	
No	02		02	
Don't know	03		03	
23. Does this hazardous waste contain any constituents in concentrations that exceed the California List land disposal limits? *(Circle one)*				
Yes	(01)		(01)	
No	02		02	
Don't know	(03)		03	

Hazardous Waste No. ~~3~~ 18		Basis for Data
	DK	2
	NA	2
	NA	2
	DK	2
	DK	2
	DK	2
	DK	2
	NA	2
	NA	2
	01	
	02	
	03	
	01	
	02	
	03	

Hazardous Waste No. ~~4~~ 19		Basis for Data
	DK	2
	NA	2
	NA	2
	DK	2
	DK	2
	DK	2
	DK	2
	NA	2
	NA	2
	01	
	02	
	03	
	01	
	02	
	03	

Hazardous Waste No. ~~5~~ 20		Basis for Data
	DK	2
	NA	2
	NA	2
	DK	2
	DK	2
	DK	2
	DK	2
	NA	2
	NA	2
	01	
	02	
	03	
	01	
	02	
	03	

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
24. Are there any metal constituents present in this hazardous waste? *(Circle one)*		
Yes *(Go to next question)*	01	01
No *(Circle 02 and skip to the note on page 24 prior to Question 26 for this hazardous waste)*	02 *(Skip to Q.26)*	02 *(Skip to Q.26)*

NOTE: *The basis for your answer to Question 25 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter concentration range codes (from the box on page 22) for the metal constituents listed, enter one of the following codes:*

"P" — Present, concentration of constituent unknown.

"DK" — Do not know if constituent is present.

If a constituent is not present in a waste, enter "NP."

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each metal constituent listed, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
01	01	01
02 (Skip to Q.26)	02 (Skip to Q.26)	02 (Skip to Q.26)

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%	06 — ≥ 1% < 10%	11 — ≥ 1 ppm < 10 ppm
02 — ≥ 75% < 90%	07 — ≥ 0.1% < 1%	12 — ≥ 0.1 ppm < 1 ppm
03 — ≥ 50% < 75%	08 — ≥ 500 ppm < 0.1%	13 — ≥ 1 ppb < 0.1 ppm
04 — ≥ 25% < 50%	09 — ≥ 100 ppm < 500 ppm	14 — < 1 ppb
05 — ≥ 10% < 25%	10 — ≥ 10 ppm < 100 ppm	

Question	Hazardous Waste ~~No. 1~~ 16		Basis for Data	Hazardous Waste ~~No. 2~~ 17		Basis for Data
25. What is the concentration range of the metal constituents listed below in this hazardous waste? *Indicate the concentration range of each constituent by entering the numerical code corresponding to the appropriate range provided in the above box. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*						
a. Antimony	D	K	2	D	K	2
b. Arsenic	D	K	2	D	K	2
c. Barium	D	K	2	D	K	2
d. Beryllium	D	K	2	D	K	2
e. Cadmium		P	2	D	K	2
f. Chromium (total)	D	K	2		P	2
g. Chromium (hexavalent)	D	K	2		P	2
h. Copper	D	K	2	D	K	2
i. Lead	D	K	2	D	K	2
j. Mercury	D	K	2	D	K	2
k. Nickel	D	K	2	D	K	2
l. Selenium	D	K	2	D	K	2
m. Silver	D	K	2	D	K	2
n. Thallium	D	K	2	D	K	2
o. Vanadium	D	K	2	D	K	2
p. Zinc	D	K	2	D	K	2

Hazardous Waste ~~No. 3~~ 18		Basis for Data
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
	P	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2

Hazardous Waste ~~No. 4~~ 19		Basis for Data
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
	P	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2

Hazardous Waste ~~No. 5~~ 20		Basis for Data
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
D	K	2
	P	2
D	K	2
D	K	2
D	K	2
D	K	2

NOTE: *The basis for your answer to Question 26 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter a concentration range code for each hazardous constituent you list, enter "P," for present, concentration of constituent unknown.*

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each hazardous constituent you list, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Question	Hazardous Waste ~~No. 1~~ 13			Hazardous Waste ~~No. 2~~ 7		
	Constituent Code	Concentration Range Code	Basis for Data	Constituent Code	Concentration Range Code	Basis for Data
26. Which hazardous constituents (40 CFR §261, Appendix VIII) of this hazardous waste are of the greatest concern either due to their toxicity or concentration? What is the concentration range of these hazardous constituents? *Enter up to 10 codes from Appendix D of the Instructions booklet for the hazardous constituents with the highest concentration. Indicate the concentration range of the constituents by entering the numerical code corresponding to the appropriate range provided in the box on page 25. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate. If no Appendix VIII hazardous constituents are present in this waste, enter "NA" in the answer space for Constituent No. 1.*						
Constituent No. 1	Y			Y		
Constituent No. 2	Y			Y		
Constituent No. 3	Y			Y		
Constituent No. 4	Y			Y		
Constituent No. 5	Y			Y		
Constituent No. 6	Y			Y		
Constituent No. 7	Y			Y		
Constituent No. 8	Y			Y		
Constituent No. 9	Y			Y		
Constituent No. 10	Y			Y		

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%
02 — ≥ 75% < 90%
03 — ≥ 50% < 75%
04 — ≥ 25% < 50%
05 — ≥ 10% < 25%
06 — ≥ 1% < 10%
07 — ≥ 0.1% < 1%
08 — ≥ 500 ppm < 0.1%
09 — ≥ 100 ppm < 500 ppm
10 — ≥ 10 ppm < 100 ppm
11 — ≥ 1 ppm < 10 ppm
12 — ≥ 0.1 ppm < 1 ppm
13 — ≥ 1 ppb < 0.1 ppm
14 — < 1 ppb

Hazardous Waste ~~No. 3~~ 18

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste ~~No. 4~~ 19

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste ~~No. 5~~ 20

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

TESTING PROCEDURES

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
27. Is this hazardous waste a characteristic waste? *(Circle one)* Characteristic wastes are RCRA "D" wastes that exhibit ignitable, corrosive, reactive, or toxic characteristics.		
Yes *(Go to next question)*	01	01
No *(Circle 02 and skip to Question 31 on page 34 for this hazardous waste)*	02 *(Skip to Q.31)*	02 *(Skip to Q.31)*
28. How did you determine that this waste was hazardous? *(Circle all that apply)*		
Waste testing	01	01
Mass balance shows that bulk concentrations (mass of pollutants per mass of waste) of hazardous constituents are above regulatory threshold levels	02	02
Mass balance performed in conjunction with a leaching model shows that extraction concentrations (as shown under the extraction procedure toxicity characteristic leaching protocol) of hazardous constituents are above regulatory threshold levels	03	03
Demonstration that hazardous constituents are present in raw materials or by-products of the process	04	04
Other *(specify)*	05	05
	_____ *(specify)*	_____ *(specify)*

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste 20 ~~No. 5~~
01	01	01
02 (Skip to Q.31)	02 (Skip to Q.31)	02 (Skip to Q.31)
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
(specify)	(specify)	(specify)

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
29. What types of test does this facility conduct (either onsite or offsite) on this hazardous waste? *(Circle all that apply)*		
No testing is done on this hazardous waste *(Circle 01 and skip to Question 31 on page 34 for this hazardous waste)*	01 *(Skip to Q.31)*	01 *(Skip to Q.31)*
EP toxicity test	02	02
Corrosivity	03	03
Reactivity	04	04
Ignitibility	05	05
Total constituent analysis	06	06
Toxicity characteristic leaching procedure (TCLP)	07	07
Other *(specify)*	08	08
	(specify)	*(specify)*

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
01 *(Skip to Q.31)*	01 *(Skip to Q.31)*	01 *(Skip to Q.31)*
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
(specify)	*(specify)*	*(specify)*

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
30. Describe the testing procedures for this hazardous waste. *Complete Question 30 for EACH type of test that you indicated in Question 29 that you conduct on this hazardous waste. If you conduct more than two types of tests on this hazardous waste, call the Survey Helpline (1-800-635-8850) for additional answer spaces.*		
Test Type 1		
1a. Type of test conducted *(Circle one)*		
EP toxicity test	(01)	(01)
Corrosivity	02	02
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07	07
	(specify)	*(specify)*
1b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02	02
	(specify)	*(specify)*
Annually or more often *(specify the number of times per year)*	03	03
	(specify)	*(specify)*
Continuously *(Circle 04 and skip to Question 1e for this hazardous waste)*	(04) *(Skip to Q.1e)*	(04) *(Skip to Q.1e)*
1c. Typical number of samples per test	[ ][ ]	[ ][ ]
1d. For each sample taken, typical number of replicates analyzed	[ ][ ]	[ ][ ]
1e. Location of testing *(Circle one)*		
Onsite at this facility	(01)	(01)
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

(continued)

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No 4~~ 19	Hazardous Waste ~~No. 5~~ 20
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
(specify)	(specify)	(specify)
01	01	01
02	02	02
(specify)	(specify)	(specify)
03	03	03
(specify)	(specify)	(specify)
04 (Skip to Q.1e)	04 (Skip to Q.1e)	04 (Skip to Q.1e)
01	01	01
02	02	02
03	03	03

(continued)

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
30. (continued)		
Test Type 2		
2a. Type of test conducted *(Circle one)*		
EP toxicity test	01	01
Corrosivity	(02)	(02)
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07 _____ *(specify)*	07 _____ *(specify)*
2b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02 _____ *(specify)*	02 _____ *(specify)*
Annually or more often *(specify the number of times per year)*	03 _____ *(specify)*	03 _____ *(specify)*
Continuously *(Circle 04 and skip to Question 2e for this hazardous waste)*	(04) *(Skip to Q.2e)*	(04) *(Skip to Q.2e)*
2c. Typical number of samples per test	[ ][ ]	[ ][ ]
2d. For each sample taken, typical number of replicates analyzed	[ ][ ]	[ ][ ]
2e. Location of testing *(Circle one)*		
Onsite at this facility	(01)	(01)
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste ~~No. 5~~ 20
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
(specify)	(specify)	(specify)
01	01	01
02	02	02
(specify)	(specify)	(specify)
03	03	03
(specify)	(specify)	(specify)
04 (Skip to Q.2e)	04 (Skip to Q.2e)	04 (Skip to Q.2e)
01	01	01
02	02	02
03	03	03

HAZARDOUS WASTE MINIMIZATION

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
31. Was this hazardous waste generated by a one-time discharge or process or from a clean out or closure process? *(Circle one)* *See the Waste Source Codes on the inside back cover of this questionnaire for a list of one-time processes and clean out or closure processes.*		
Yes *(Circle 01 and skip to Question 47 on page 42 for this hazardous waste)*	01 *(Skip to Q.47)*	01 *(Skip to Q.47)*
No *(Go to next question)*	02	02
32. For the process(es) that generated this hazardous waste, what was the percentage change in PRODUCT PRODUCTION from 1985 to 1986? *(Use 1985 as the base year in your calculation. If more than one process was operated to generate this hazardous waste, enter the combined change in production for ALL of the processes that generated this hazardous waste.)*		
a. Percentage change in product production	☐☐☐ %	☐☐☐ %
b. Unit of measure *(Circle one)*		
Percentage increase	01	01
Percentage decrease	02	02
33. Were any of the following waste minimization practices implemented PRIOR TO 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	05	05
Waste stream segregation	06	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 39 on page 38 for this hazardous waste)*	09 *(Skip to Q.39)*	09 *(Skip to Q.39)*
Other *(specify)*	10	10

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste 20 ~~No. 5~~
01 (Skip to Q.47)	01 (Skip to Q.47)	01 (Skip to Q.47)
02	02	02
☐☐☐ %	☐☐☐ %	☐☐☐ %
01	01	01
02	02	02
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
09 (Skip to Q.39)	09 (Skip to Q.39)	09 (Skip to Q.39)
10	10	10
(specify)	(specify)	(specify)

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
34. Describe the waste minimization practices that were implemented PRIOR TO 1986 for this hazardous waste.		Our administrative procedures have allowed for audits for better housekeeping/segregation practices
35. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	01	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	(03)
36. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	01	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	03	(03)
37. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*		NA
38. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*		NA

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste 20 ~~No. 5~~
01 02 03	01 02 03	01 02 03
01 02 03	01 02 03	01 02 03

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste ~~No. 2~~ 17
39. Were any of the following waste minimization practices implemented DURING 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	05	05
Waste stream segregation	06	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 45 for this hazardous waste)*	09 *(Skip to Q.45)*	09 *(Skip to Q.45)*
Other *(specify)*	10	10
	(specify)	Labwide reevaluation of W/M *(specify)*
40. Describe the waste minimization practices that were implemented for this hazardous waste DURING 1986 including the effect these practices had on the volume generated and toxicity of this hazardous waste. Indicate if changes in product production account for changes in waste volume.		Initiated a labwide review of waste production processes for new waste minimization practices to institute.
41. What effect did the waste minimization practices implemented DURING 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	01	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	03

Hazardous Waste ~~No. 3~~ 18	Hazardous Waste ~~No. 4~~ 19	Hazardous Waste 20 ~~No. 5~~
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
09 (Skip to Q.45)	09 (Skip to Q.45)	09 (Skip to Q.45)
10	10	10
(specify)	(specify)	(specify)
01	01	01
02	02	02
03	03	03

Question	Hazardous Waste ~~No. 1~~ 16	Hazardous Waste 17 ~~No. 2~~
42. What effect did the waste minimization practices implemented DURING 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	01	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	03	(03)
43. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*		NA
44. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*		NA
45. What quantity of this hazardous waste went to recycling/recovery for reuse processes ONSITE during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity		0
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
46. What quantity of this hazardous waste was SHIPPED OFFSITE for recycling/ recovery for reuse during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity		0
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02

NOTE: *If your facility generated more than five different hazardous wastes during 1986, call the Survey Helpline (1-800-635-8850) to receive additional Questionnaire(s) GB and complete Questions 1 through 46 for EACH hazardous waste.*

Hazardous Waste 18 ~~No. 3~~	Hazardous Waste 19 ~~No. 4~~	Hazardous Waste 20 ~~No. 5~~
01	01	01
02	02	02
03	03	03
01	01	01
02	02	02
01	01	01
02	02	02

47. a. **What is the name, title, and telephone number of the person who completed this questionnaire?**

Name:

Title:

Telephone:

Area Code — *(Go to Question b)*

b. **Is your MAILING ADDRESS the same as the address given in the label on the cover of this questionnaire?** *(Circle one)*

"MAILING ADDRESS" refers to the address at which you can be reached for potential future survey-related contacts.

01 Yes *(Skip to note at bottom of page)*

02 No *(Go to Question c)*

c. **At what MAILING ADDRESS can you be contacted for future survey-related information?**

Mailing address:

City:

State:

ZIP: — *(Go to note at bottom of page)*

NOTE: *You have now completed this questionnaire. If you have also completed all the other questionnaires you must complete, MAKE A PHOTOCOPY OF THEM FOR YOUR RECORDS and send the originals to the following address using the enclosed postage-paid return envelope:*

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, NC 27711

If you have not completed all the necessary questionnaires, go to the next questionnaire. If you have any questions about this or the other questionnaires used in this survey, call the Survey Helpline (1-800-635-8850).

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

QUESTIONNAIRE GB	HAZARDOUS WASTE CHARACTERIZATION

EPA Use Only

1. ☐
2. ☐
3. ☐
4. ☐
5. ☐
6. ☐
7. ☐
8. ☐
9. ☐
10. ☐
11. ☐
2. ☐
13. ☐
14. ☐
15. ☐
16. ☐
17. ☐
18. ☐
19. ☐
20. ☐
21. ☐
22. ☐
23. ☐
24. ☐
25. ☐
26. ☐
27. ☐
28. ☐
29. ☐
30. ☐
31. ☐
32. ☐
33. ☐
34. ☐
35. ☐
36. ☐
37. ☐
38. ☐
39. ☐
40. ☐
41. ☐
42. ☐
43. ☐
44. ☐
45. ☐
46. ☐
47. ☐

WASTE SOURCE CODES/OFFSITE MANAGEMENT CODES

The Waste Source Codes describe the processes that generate hazardous waste. The Offsite Management Codes describe the management operations hazardous waste goes through offsite.

WASTE SOURCE CODES

Surface Preparation Processes (Cleaning/Degreasing)

S01 Stripping
S02 Vapor degreasing
S03 Steam cleaning
S04 Dip rinsing
S05 Flush rinsing
S06 Spray rinsing
S07 Fill and gravity draining
S08 Backflush rinsing
S09 Physical scraping/removal
S10 Pickling
S11 Caustic (alkali) cleaning
S12 Other cleaning/degreasing process (specify in the answer space provided)

Other Waste Production Processes

S13 Light ends condensation
S14 Heavy ends/still bottoms removal
S15 Reaction/synthesis media processing
S16 Crystallization
S17 Slag removal
S18 Tank bottoms removal
S19 Molding/forming
S20 By-product processing
S21 Polymerization
S22 Electroplating
S23 Electrolysis of aqueous solutions
S24 High temperature metal refining
S25 Fermentation and other biological processes
S26 Pyrolysis (thermal decomposition without enough oxygen for combustion, such as "cracking")
S27 Solvent extraction (organic and/or inorganic)
S28 Distillation and fractionation
S29 Size reduction (e.g., screening, milling, shredding)
S30 Materials handling
S31 Halogenation
S32 Hydrogenation
S33 Nitration
S34 Oxidation (other than combustion)
S35 Calcination
S36 Esterification
S37 Sulfonation
S38 Inorganic aqueous reactions
S39 Gas adsorption
S40 Filtration/centrifuging
S41 Combustion processes
S42 Extrusion/wet spinning
S43 Surface coating (e.g., painting, electroless plating, phosphating)
S44 Product rinsing
S45 Decantation/sedimentation
S46 Air and steam stripping
S47 Laboratory wastes
S48 Other waste production process (specify in the answer space provided)

One-Time Processes

S49 Discarding of off-spec material
S50 Discarding of out-of-date products or chemicals
S51 Cleanup of spill residues
S52 Discarding of contaminated cleanup equipment
S53 Accidental spills or discharges
S54 Other remedial action/cleanup (specify in the space provided)
S55 Other one-time process (specify in the answer space provided)

Clean Out or Closure Processes

S56 Clean out of surface impoundments
S57 Closure of surface impoundments
S58 Clean out of waste piles
S59 Closure of waste piles
S60 Clean out of process equipment
S61 Closure of process equipment
S62 Other clean out or closure process (specify in the answer space provided)

Pollution Control or Waste Treatment Processes

S63 Flue gas desulfurization
S64 Caustic scrubbing
S65 Electrostatic precipitation
S66 Condensate from VOC removal
S67 Filtering/screening
S68 Dewatering
S69 Regenerating
S70 Quench cooling
S71 Centrifugation
S72 Incineration
S73 Wastewater treatment
S74 Distillation
S75 Flotation or skimming
S76 Decantation or settling/clarification
S77 Other pollution control or waste treatment process (specify in the answer space provided)

Other Processes

S78 Other process (specify in the answer space provided)

OFFSITE MANAGEMENT CODES

M01 Incineration
M02 Reused as fuel
M03 Fuel blending
M04 Solidification/stabilization
M05 Solvent or liquid organic recovery for reuse
M06 Metals recovery for reuse
M07 Wastewater treatment in tank
M08 Wastewater treatment in surface impoundment
M09 Wastewater treatment in unknown equipment type
M10 Other treatment/recovery
M11 Storage/treatment in waste pile
M12 Storage/disposal in surface impoundment
M13 Landfill
M14 Land treatment
M15 Underground injection
M16 Discharge to POTW
M17 Discharge under NPDES permit
M18 Other
M19 Unknown

OMB No. 2050-0075
Expires November 1989

EPA

National Survey of Hazardous Waste Generators

QUESTIONNAIRE GB

HAZARDOUS WASTE CHARACTERIZATION

RTI ID: 033175 Q-GB 5 of 10
EPA ID: NM0890010515

USDOE LOS ALAMOS SCIENTIFIC LABORATO
LOS ALAMOS AREA OFFICE
LOS ALAMOS NM 87544

NOTE: ALL FACILITIES NEED TO COMPLETE THIS QUESTIONNAIRE

WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F, K, P, OR U WASTE CODE

A01 Spent solvent (F001-F005, K086)
A02 Other organic liquid (F001-F005, K086)
A03 Still bottom (F001-F005, K086)
A04 Other organic sludge (F001-F005, K086)
A05 Wastewater or aqueous mixture
A06 Contaminated soil or cleanup residue
A07 Other F or K waste, exactly as described*
A08 Concentrated off-spec or discarded product
A09 Empty containers
A10 Incinerator ash
A11 Solidified treatment residue
A12 Other treatment residue (specify in the answer space provided)
A13 Other untreated waste (specify in the answer space provided)

*"Exactly as described" means that the waste matches the description of the RCRA waste code.

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA D OR X WASTE CODE* OR THAT DESCRIBED BY MORE THAN ONE RCRA OR X WASTE CODE

INORGANIC LIQUIDS—Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content.

B01 Aqueous waste with low solvents
B02 Aqueous waste with low other toxic organics
B03 Spent acid with metals
B04 Spent acid without metals
B05 Acidic aqueous waste
B06 Caustic solution with metals but no cyanides
B07 Caustic solution with metals and cyanides
B08 Caustic solution with cyanides but no metals
B09 Spent caustic
B10 Caustic aqueous waste
B11 Aqueous waste with reactive sulfides
B12 Aqueous waste with other reactives (e.g., explosives)
B13 Other aqueous waste with high dissolved solids
B14 Other aqueous waste with low dissolved solids
B15 Scrubber water
B16 Leachate
B17 Waste liquid mercury
B18 Other inorganic liquid (specify in the answer space provided)

INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable.

B19 Lime sludge without metals
B20 Lime sludge with metals/metal hydroxide sludge
B21 Wastewater treatment sludge with toxic organics
B22 Other wastewater treatment sludge
B23 Untreated plating sludge without cyanides
B24 Untreated plating sludge with cyanides
B25 Other sludge with cyanides
B26 Sludge with reactive sulfides
B27 Sludge with other reactives
B28 Degreasing sludge with metal scale or filings
B29 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B30 Sediment or lagoon dragout contaminated with organics
B31 Sediment or lagoon dragout contaminated with inorganics only
B32 Drilling mud
B33 Asbestos slurry or sludge
B34 Chloride or other brine sludge
B35 Other inorganic sludge (specify in the answer space provided)

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable.

B36 Soil contaminated with organics
B37 Soil contaminated with inorganics only
B38 Ash, slag, or other residue from incineration of wastes
B39 Other "dry" ash, slag, or thermal residue
B40 "Dry" lime or metal hydroxide solids chemically "fixed"
B41 "Dry" lime or metal hydroxide solids not "fixed"
B42 Metal scale, filings, or scrap
B43 Empty or crushed metal drums or containers
B44 Batteries or battery parts, casings, cores
B45 Spent solid filters or adsorbents
B46 Asbestos solids and debris
B47 Metal-cyanide salts/chemicals
B48 Reactive cyanide salts/chemicals
B49 Reactive sulfide salts/chemicals
B50 Other reactive salts/chemicals
B51 Other metal salts/chemicals
B52 Other waste inorganic chemicals
B53 Lab packs of old chemicals only
B54 Lab packs of debris only
B55 Mixed lab packs
B56 Other inorganic solids (specify in the answer space provided)

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

B57 Inorganic gases

ORGANIC LIQUIDS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content.

B58 Concentrated solvent-water solution
B59 Halogenated (e.g., chlorinated) solvent
B60 Nonhalogenated solvent
B61 Halogenated/nonhalogenated solvent mixture
B62 Oil-water emulsion or mixture
B63 Waste oil
B64 Concentrated aqueous solution of other organics
B65 Concentrated phenolics
B66 Organic paint, ink, lacquer, or varnish
B67 Adhesives or expoxies
B68 Paint thinner or petroleum distillates
B69 Reactive or polymerizable organic liquid
B70 Other organic liquid (specify in the answer space provided)

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable.

B71 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B72 Still bottoms of nonhalogenated solvents or other organic liquids
B73 Oily sludge
B74 Organic paint or ink sludge
B75 Reactive or polymerizable organics
B76 Resins, tars, or tarry sludge
B77 Biological treatment sludge
B78 Sewage or other untreated biological sludge
B79 Other organic sludge (specify in the answer space provided)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

B80 Halogenated pesticide solid
B81 Nonhalogenated pesticide solid
B82 Solid resins or polymerized organics
B83 Spent carbon
B84 Reactive organic solid
B85 Empty fiber or plastic containers
B86 Lab packs of old chemicals only
B87 Lab packs of debris only
B88 Mixed lab packs
B89 Other halogenated organic solid (specify in the answer space provided)
B90 Other nonhalogenated organic solid (specify in the answer space provided)

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

B91 Organic gases

*A list of X waste codes was developed specifically for this survey. These X codes are not official RCRA waste codes and should be used ONLY for this survey.

Read the Instructions booklet **BEFORE** you answer this questionnaire. The Instructions contain example questions, lists of RCRA and other waste codes, and other important information you will need to consult as you complete the questions.

EPA needs the detailed waste characterization information requested in this questionnaire to address the following: the treatability of the hazardous waste generated onsite based on the constituents in the waste, the relationship between the constituents in the hazardous waste generated onsite and the processes that generated the waste, and the industry-wide variations in the types and quantity of hazardous waste generated.

This questionnaire asks for detailed information on EACH hazardous waste generated onsite at this facility during 1986:

- Quantity generated (including the quantity that was generated in 1985).
- Onsite and offsite management of the hazardous waste.
- Physical/chemical form, chemical characteristics, and constituents of the hazardous waste.
- Waste minimization practices for the hazardous waste.

The information requested must be answered for EACH hazardous waste generated onsite during 1986. This questionnaire is designed with five sets of answer spaces. These answer spaces appear in the gray columns opposite the questions. If your facility generated more than five different hazardous wastes onsite during 1986, call the Survey Helpline and we will provide additional answer spaces in one or more answer booklets specially designed and labeled for your facility. DO NOT PHOTOCOPY THIS QUESTIONNAIRE TO CREATE MORE ANSWER SPACES.

If you wish to clarify or explain any answers you give, use the two lined pages labeled "FACILITY NOTES" at the end of this questionnaire. Beside each question that you wish to clarify or explain, write "see note." Then turn to the note pages, enter the question number, the hazardous waste number, and write your comments beside the numbers. If a single note applies to more than one question, write the numbers of all the questions the note applies to.

If you need more answer spaces or have any questions about this survey or this questionnaire, call the Survey Helpline (1-800-635-8850).

For this survey, report all waste in the following categories as hazardous waste:

- Any waste considered hazardous waste under RCRA. This includes hazardous wastewater pretreated prior to discharge under a National Pollutant Discharge Elimination System (NPDES) permit or prior to discharge to a publicly owned treatment works (POTW); hazardous waste generated in a production process or waste treatment process; and hazardous waste that is a characteristic waste, even though it may lose its hazardous waste characteristic through mixing with other wastewater or by treatment.
- Any waste considered hazardous by your state.
- Wastes containing polychlorinated biphenyls (PCBs).
- Wastes containing asbestos.
- Wastes containing dioxins/furans.
- Radioactive waste mixed with hazardous waste.

Complete Questions 1 through 46 for EACH hazardous waste or wastewater that was generated onsite at this facility during 1986. Refer to the box on page 1 of this booklet for the types of wastes that should be reported in this survey. Hazardous waste treatment residuals generated onsite and hazardous wastes that were generated onsite during the closure of surface impoundments or waste piles must also be reported. Report separately hazardous wastes that have the same RCRA waste code but were generated from different sources. To minimize errors in recording your answers in the multiple answer columns, answer the questions for only one hazardous waste at a time. A space has been provided at the top of each answer column for you to enter the name of the hazardous waste so that the information for each hazardous waste is recorded in the correct column. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces or if you have any questions.

Question	Hazardous Waste No. 1 21	Hazardous Waste No. 2 22
1. What RCRA waste code or codes best describe this hazardous waste? *See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. If you generate a waste that is considered hazardous by regulations in your state and a waste code is not provided, call the Survey Helpline (1-800-635-8850).*	a. D011 b. c. d. e.	a. D012 b. D013 c. D016 d. e.
Use the list of Waste Description Codes on the inside front cover of this questionnaire to answer Questions 2 and 3. If a code requires you to specify, do so in the space provided. **2. What Waste Description Code best describes this hazardous waste?**	B18 Photo waste (specify)	B70 Paticide/Herbicide (specify)
3. What other Waste Description Codes describe this hazardous waste? *(If no other Waste Description Codes describe this waste, enter "NA.")*	a. NA (specify) b. (specify) c. (specify)	a. NA (specify) b. (specify) c. (specify)

Hazardous Waste No. A 23	Hazardous Waste No. A 24	Hazardous Waste No. B 25
a. F002	a. U239	a.
b. F003	b.	b.
c. F005	c.	c.
d. U127	d.	d.
e. U228	e.	e.
B59 (specify)	B60 (specify)	(specify)
a. B61 (specify)	a. NA (specify)	a. (specify)
b. (specify)	b. (specify)	b. (specify)
c. (specify)	c. (specify)	c. (specify)

Question	Hazardous Waste No. ~~1~~ 21	Hazardous Waste No. ~~2~~ 22
Use the list of Waste Source Codes on the inside back cover of this questionnaire to answer Questions 4 and 5. If a code requires you to specify, do so in the space provided.		
4. What Waste Source Code best describes the process(es) at this facility that generate this hazardous waste?	S 4 8 Photo waste (specify)	S 4 9 (specify)
5. What other Waste Source Codes describe the process(es) at this facility that generate this hazardous waste? *(If no other Waste Source Codes describe the processes that generate this waste, enter "NA.")*	a. S N A (specify) b. S (specify) c. S (specify)	a. S 5 0 (specify) b. S (specify) c. S (specify)
6. What four-digit SIC code(s) describes the operations at this facility that generate this hazardous waste? *(List up to three SIC codes. See Appendix B of the Instructions booklet for a list of SIC codes.)*	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1	a. 9 7 1 1 b. 8 9 2 2 c. 9 6 6 1
7. Describe the process(es) that generate this hazardous waste, including a description of any products produced by the process(es).	R+D	R+D

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
S 0 4 (specify)	S 4 9 (specify)	S (specify)
a. S 0 6 (specify)	a. S N A (specify)	a. S (specify)
b. S 4 9 (specify)	b. S (specify)	b. S (specify)
c. S (specify)	c. S (specify)	c. S (specify)
a. 9 7 1 1	a. 9 7 1 1	a.
b. 8 9 2 2	b. 8 9 2 2	b.
c. 9 6 6 1	c. 9 6 6 1	c.
R+D	R+D	

Question	Hazardous Waste No. 1 21	Hazardous Waste No. 2 22
8. Was this hazardous waste generated from the closure of a surface impoundment or waste pile? *(Circle one)*		
Yes	01	01
No	(02)	(02)
9. What quantity of this hazardous waste was generated onsite DURING 1985? *(Enter the quantity and circle a unit of measure. If this hazardous waste was not generated onsite during 1985, enter zero.)*		
a. Quantity	0	0
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
10. What quantity of this hazardous waste was generated onsite DURING 1986? *(Enter the quantity and circle a unit of measure)*		
a. Quantity	4	1
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02

Hazardous Waste No. 3 23	Hazardous Waste No. 4 24	Hazardous Waste No. 5 25
01 / (02)	01 / (02)	01 / (02)
1	0	
01 / 02	01 / 02	01 / 02
19	14	
(01) / 02	(01) / 02	01 / 02

HAZARDOUS WASTE MANAGEMENT

Question	Hazardous Waste No. 1 21	Hazardous Waste No. 2 22
11. What was the general sequence of management operations this hazardous waste went through ONSITE during 1986? *(Enter process codes from Appendix A of the Instructions booklet to describe the general or typical sequence of management operations for this hazardous waste. Include in your answer any exempt processes this hazardous waste went through.)*	1st 1 S T 2nd 3rd 4th 5th 6th 7th 8th 9th 10th	1st 1 S T 2nd 3rd 4th 5th 6th 7th 8th 9th 10th
12. Was this waste discharged to a POTW WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 (02)	01 (02)
13. Was this waste discharged to a POTW following treatment during 1986? *(Circle one)* Yes No	01 (02)	01 (02)
14. Was this waste discharged under a NPDES permit WITHOUT prior treatment during 1986? *(Circle one)* Yes No	01 (02)	01 (02)
15. Was this waste discharged under a NPDES permit following treatment during 1986? *(Circle one)* Yes No	01 (02)	01 (02)

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
1st 1 S T	1st 1 S T	1st
2nd	2nd	2nd
3rd	3rd	3rd
4th	4th	4th
5th	5th	5th
6th	6th	6th
7th	7th	7th
8th	8th	8th
9th	9th	9th
10th	10th	10th
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02
01 02	01 02	01 02

NOTE: *The quantities entered for Questions 16 through 18 may be different from the quantity of hazardous waste that was generated onsite during 1986 due to alteration by treatment processes.*

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
16. Of the quantity of this hazardous waste that was generated onsite during 1986 and that STILL REMAINS HAZARDOUS, how much was or will be disposed of ONSITE? *(If this hazardous waste was solidified prior to disposal, enter the quantity prior to solidification. Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Quantity disposed of onsite in a surface impoundment, landfill, or land treatment area		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Quantity disposed of onsite in an underground injection well		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Million gallons	02	02
17. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be managed ONSITE in the following methods? *(Enter the quantities and circle a unit of measure; if none, enter zero.)*		
a. Treated onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
b. Stored onsite in a surface impoundment		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
c. Stored or treated onsite in a waste pile		
i. Quantity	0	0
ii. Unit of measure *(Circle one)*		
Tons	01	01
Cubic yards	02	02

Hazardous Waste No. 3 23	Hazardous Waste No. 4 24	Hazardous Waste No. 5 25
0	0	
01	01	01
02	02	02
0	0	
01	01	01
02	02	02
0	0	
01	01	01
02	02	02
0	0	
01	01	01
02	02	02
0	0	
01	01	01
02	02	02
0	0	
01	01	01
02	02	02

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
18. Of the quantity of this hazardous waste that was generated onsite during 1986, how much was or will be shipped offsite for management? *(Enter the quantity and circle a unit of measure; if none, enter zero and skip to the note on page 16 prior to Question 20 for this hazardous waste.)*		
a. Quantity	4	1
b. Unit of measure *(Circle one)*		
Tons	(01)	(01)
Gallons	02	02
19. To what offsite facilities was this hazardous waste shipped for management during 1986? What hazardous waste management operations were performed on this hazardous waste? *For each offsite facility to which this hazardous waste was shipped, enter the facility name, EPA identification number, and Offsite Management Codes (from the inside back cover of this questionnaire) to describe the general or typical sequence of the operations performed on this hazardous waste. DO NOT INCLUDE in your answer transporters, transfer stations, or waste brokers. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.*		
Facility No. 1		
a. Name		Trade Waste Incineration
b. EPA ID Number		
c. Offsite Management Codes	1st. M	1st. M 0 1
	2nd. M	2nd. M
	3rd. M	3rd. M
	4th. M	4th. M
	5th. M	5th. M

(continued)

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
19	14	
01	01	01
02	02	02
Oil + Solvent Processing	Oil + Solvent Processing	
CON980591184	CON980591184	
1st. M 01	1st. M 01	1st. M
2nd. M 03	2nd. M 03	2nd. M
3rd. M 02	3rd. M 02	3rd. M
4th. M 05	4th. M 05	4th. M
5th. M	5th. M	5th. M

(continued)

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
19. (continued)		
Facility No. 2		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M
Facility No. 3		
a. Name		
b. EPA ID Number		
c. Offsite Management Codes	1st. M 2nd. M 3rd. M 4th. M 5th. M	1st. M 2nd. M 3rd. M 4th. M 5th. M

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M
1st. M	1st. M	1st. M
2nd. M	2nd. M	2nd. M
3rd. M	3rd. M	3rd. M
4th. M	4th. M	4th. M
5th. M	5th. M	5th. M

PHYSICAL/CHEMICAL FORM, CHEMICAL CHARACTERISTICS, AND CONSTITUENTS

NOTE: *The basis for your answers to Questions 20 and 21 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter values for the parameters listed, enter one of the following codes:*

"P" — Present, value of parameter unknown.

"DK" — Do not know.

In some cases, the parameters listed will not apply to every waste. For example, cyanide and pH are typically measured for wastewaters but not for waste solvents; while Btu and flash point are primarily measured for organic wastes. If the parameter does not apply, enter "NA," for not applicable.

For variable waste streams, enter the typical value in the answer space and provide an explanation and range in the "Facility Notes."

For each parameter listed, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Question	Hazardous Waste No. 21	Basis for Data	Hazardous Waste No. 22	Basis for Data
20. What is the physical/chemical form of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. Total solids content	DK %	2	P %	1
b. Total suspended solids	DK %	2	P %	1
c. Ash content	DK %	2	P %	1
d. Water content	DK %	2	P %	1
e. Total organic carbon—TOC	DK %	2	P %	1
f. Oil and grease	DK %	2	P %	1
g. Specific gravity (The specific gravity of water is 1.0)	DK .	2	P .	1

Hazardous Waste No. 23	Basis for Data
P %	1
P %	1
P %	1
P %	1
P %	1
P %	1
P .	1

Hazardous Waste No. 24	Basis for Data
P %	1
P %	1
P %	1
P %	1
P %	1
P %	1
P .	1

Hazardous Waste No. 25	Basis for Data
%	
%	
%	
%	
%	
%	
.	

Question	Hazardous Waste No. ~~1~~ 21	Basis for Data	Hazardous Waste No. ~~2~~ 22	Basis for Data
21. What are the characteristics of this hazardous waste? *For each parameter listed, enter the typical value and indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. pH	P	2	P	1
b. Flash point (°F)	DK	2	P	1
c. Btu (higher heating value, per pound)	DK	2	P	1
d. Total organic halogen (%)	DK	2	P	1
e. Cyanide (ppm)	DK	2	P	1
f. Fluoride (ppm)	DK	2	P	1
g. Sulfide (ppm)	DK	2	P	1
h. 5-day biological oxygen demand—BOD (ppm)	DK	2	P	1
i. Chemical oxygen demand—COD (ppm)	DK	2	P	1
22. Is this hazardous waste a liquid by the paint filter test? *(Circle one)*				
Yes	(01)		(01)	
No	02		02	
Don't know	03		03	
23. Does this hazardous waste contain any constituents in concentrations that exceed the California List land disposal limits? *(Circle one)*				
Yes	(01)		01	
No	02		02	
Don't know	03		(03)	

Hazardous Waste No. 3 23		Basis for Data	Hazardous Waste No. 4 24		Basis for Data	Hazardous Waste No. 5 25		Basis for Data
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
	P	1		P	1			
01			01			01		
02			02			02		
03			03			03		
01			01			01		
02			02			02		
03			03			03		

Question	Hazardous Waste No. ~~4~~ 21	Hazardous Waste No. ~~2~~ 22
24. Are there any metal constituents present in this hazardous waste? *(Circle one)*		
Yes *(Go to next question)*	01	01
No *(Circle 02 and skip to the note on page 24 prior to Question 26 for this hazardous waste)*	02 *(Skip to Q.26)*	02 *(Skip to Q.26)*

NOTE: *The basis for your answer to Question 25 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter concentration range codes (from the box on page 22) for the metal constituents listed, enter one of the following codes:*

"P" — Present, concentration of constituent unknown.

"DK" — Do not know if constituent is present.

If a constituent is not present in a waste, enter "NP."

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each metal constituent listed, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Hazardous Waste No. 8 23	Hazardous Waste No. 4 24	Hazardous Waste No. 5 25
01	01	01
02 *(Skip to Q.26)*	02 *(Skip to Q.26)*	02 *(Skip to Q.26)*

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%
02 — ≥ 75% < 90%
03 — ≥ 50% < 75%
04 — ≥ 25% < 50%
05 — ≥ 10% < 25%
06 — ≥ 1% < 10%
07 — ≥ 0.1% < 1%
08 — ≥ 500 ppm < 0.1%
09 — ≥ 100 ppm < 500 ppm
10 — ≥ 10 ppm < 100 ppm
11 — ≥ 1 ppm < 10 ppm
12 — ≥ 0.1 ppm < 1 ppm
13 — ≥ 1 ppb < 0.1 ppm
14 — < 1 ppb

Question	Hazardous Waste No. 21	Basis for Data	Hazardous Waste No. 22	Basis for Data
25. What is the concentration range of the metal constituents listed below in this hazardous waste? *Indicate the concentration range of each constituent by entering the numerical code corresponding to the appropriate range provided in the above box. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.*				
a. Antimony	D K	2	D K	1
b. Arsenic	D K	2	D K	1
c. Barium	D K	2	D K	1
d. Beryllium	D K	2	D K	1
e. Cadmium	D K	2	D K	1
f. Chromium (total)	D K	2	D K	1
g. Chromium (hexavalent)	D K	2	D K	1
h. Copper	D K	2	D K	1
i. Lead	D K	2	D K	1
j. Mercury	D K	2	D K	1
k. Nickel	D K	2	D K	1
l. Selenium	D K	2	D K	1
m. Silver	P	1	D K	1
n. Thallium	D K	2	D K	1
o. Vanadium	D K	2	D K	1
	D K	2	D K	1

Hazardous Waste No. 23		Hazardous Waste No. 24		Hazardous Waste No. 25	
	Basis for Data		Basis for Data		Basis for Data
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				
DK	1				

NOTE: *The basis for your answer to Question 26 may be either waste testing or general knowledge of the waste. You must provide all available information, but YOU DO NOT HAVE TO CONDUCT ADDITIONAL TESTING TO RESPOND TO THIS SURVEY. If you do not have the information available to enter a concentration range code for each hazardous constituent you list, enter "P," for present, concentration of constituent unknown.*

For variable waste streams, enter the code for the typical concentration in the answer space and provide an explanation and concentration range in the "Facility Notes."

For each hazardous constituent you list, indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate.

Question	Hazardous Waste No. 21			Hazardous Waste No. 22		
	Constituent Code	Concentration Range Code	Basis for Data	Constituent Code	Concentration Range Code	Basis for Data
26. Which hazardous constituents (40 CFR §261, Appendix VIII) of this hazardous waste are of the greatest concern either due to their toxicity or concentration? What is the concentration range of these hazardous constituents? *Enter up to 10 codes from Appendix D of the Instructions booklet for the hazardous constituents with the highest concentration. Indicate the concentration range of the constituents by entering the numerical code corresponding to the appropriate range provided in the box on page 25. Indicate the basis for the data you provide by entering a "1" for analysis based on testing or a "2" for an estimate. If no Appendix VIII hazardous constituents are present in this waste, enter "NA" in the answer space for Constituent No. 1.*						
Constituent No. 1	Y			Y		
Constituent No. 2	Y			Y		
Constituent No. 3	Y			Y		
Constituent No. 4	Y			Y		
Constituent No. 5	Y			Y		
Constituent No. 6	Y			Y		
Constituent No. 7	Y			Y		
Constituent No. 8	Y			Y		
Constituent No. 9	Y			Y		
Constituent No. 10	Y			Y		

CONSTITUENT CONCENTRATION RANGE CODES:

01 — ≥ 90%
02 — ≥ 75% < 90%
03 — ≥ 50% < 75%
04 — ≥ 25% < 50%
05 — ≥ 10% < 25%
06 — ≥ 1% < 10%
07 — ≥ 0.1% < 1%
08 — ≥ 500 ppm < 0.1%
09 — ≥ 100 ppm < 500 ppm
10 — ≥ 10 ppm < 100 ppm
11 — ≥ 1 ppm < 10 ppm
12 — ≥ 0.1 ppm < 1 ppm
13 — ≥ 1 ppb < 0.1 ppm
14 — < 1 ppb

Hazardous Waste No. 3 23

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste No. 4 24

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

Hazardous Waste No. 5 25

Constituent Code	Concentration Range Code	Basis for Data
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		
Y		

TESTING PROCEDURES

Question	Hazardous Waste No. 1 21	Hazardous Waste No. 2 22
27. Is this hazardous waste a characteristic waste? *(Circle one)* Characteristic wastes are RCRA "D" wastes that exhibit ignitable, corrosive, reactive, or toxic characteristics.		
Yes *(Go to next question)*	(01)	(01)
No *(Circle 02 and skip to Question 31 on page 34 for this hazardous waste)*	02 *(Skip to Q.31)*	02 *(Skip to Q.31)*
28. How did you determine that this waste was hazardous? *(Circle all that apply)*		
Waste testing	(01)	01
Mass balance shows that bulk concentrations (mass of pollutants per mass of waste) of hazardous constituents are above regulatory threshold levels	02	(02)
Mass balance performed in conjunction with a leaching model shows that extraction concentrations (as shown under the extraction procedure toxicity characteristic leaching protocol) of hazardous constituents are above regulatory threshold levels	03	03
Demonstration that hazardous constituents are present in raw materials or by-products of the process	04	04
Other *(specify)*	05	05
	(specify)	*(specify)*

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01	01	01
02 (Skip to Q.31)	02 (Skip to Q.31)	02 (Skip to Q.31)
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
(specify)	(specify)	(specify)

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
29. What types of test does this facility conduct (either onsite or offsite) on this hazardous waste? *(Circle all that apply)*		
No testing is done on this hazardous waste *(Circle 01 and skip to Question 31 on page 34 for this hazardous waste)*	01 *(Skip to Q.31)*	(01) *(Skip to Q.31)*
EP toxicity test	(02)	02
Corrosivity	(03)	03
Reactivity	04	04
Ignitibility	05	05
Total constituent analysis	06	06
Toxicity characteristic leaching procedure (TCLP)	07	07
Other *(specify)*	08	08
	(specify)	*(specify)*

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01 (Skip to Q.31)	01 (Skip to Q.31)	01 (Skip to Q.31)
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
(specify)	(specify)	(specify)

Question	Hazardous Waste No. 4 21	Hazardous Waste No. 2 22
30. Describe the testing procedures for this hazardous waste. *Complete Question 30 for EACH type of test that you indicated in Question 29 that you conduct on this hazardous waste. If you conduct more than two types of tests on this hazardous waste, call the Survey Helpline (1-800-635-8850) for additional answer spaces.*		
Test Type 1		
1a. Type of test conducted *(Circle one)*		
EP toxicity test	(01)	01
Corrosivity	02	02
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07	07
	(specify)	*(specify)*
1b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02	02
	(specify)	*(specify)*
Annually or more often *(specify the number of times per year)*	03	03
	(specify)	*(specify)*
Continuously *(Circle 04 and skip to Question 1e for this hazardous waste)*	(04) *(Skip to Q.1e)*	04 *(Skip to Q.1e)*
1c. Typical number of samples per test	☐☐	☐☐
1d. For each sample taken, typical number of replicates analyzed	☐☐	☐☐
1e. Location of testing *(Circle one)*		
Onsite at this facility	(01)	01
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

(continued)

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
(specify)	(specify)	(specify)
01	01	01
02	02	02
(specify)	(specify)	(specify)
03	03	03
(specify)	(specify)	(specify)
04 (Skip to Q.1e)	04 (Skip to Q.1e)	04 (Skip to Q.1e)
01	01	01
02	02	02
03	03	03

(continued)

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
30. (continued)		
Test Type 2		
2a. Type of test conducted *(Circle one)*		
EP toxicity test	01	01
Corrosivity	(02)	02
Reactivity	03	03
Ignitibility	04	04
Total constituent analysis	05	05
TCLP	06	06
Other *(specify)*	07	07
	(specify)	*(specify)*
2b. Frequency of testing *(Circle one)*		
Only when the waste was first generated	01	01
Less than once per year *(specify how frequently)*	02	02
	(specify)	*(specify)*
Annually or more often *(specify the number of times per year)*	03	03
	(specify)	*(specify)*
Continuously *(Circle 04 and skip to Question 2e for this hazardous waste)*	(04) *(Skip to Q.2e)*	04 *(Skip to Q.2e)*
2c. Typical number of samples per test	☐☐	☐☐
2d. For each sample taken, typical number of replicates analyzed	☐☐	☐☐
2e. Location of testing *(Circle one)*		
Onsite at this facility	(01)	01
Offsite at a facility under the same ownership	02	02
Offsite at a facility NOT under the same ownership	03	03

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
(specify)	(specify)	(specify)
01	01	01
02	02	02
(specify)	(specify)	(specify)
03	03	03
(specify)	(specify)	(specify)
04 (Skip to Q.2e)	04 (Skip to Q.2e)	04 (Skip to Q.2e)
01	01	01
02	02	02
03	03	03

HAZARDOUS WASTE MINIMIZATION

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
31. Was this hazardous waste generated by a one-time discharge or process or from a clean out or closure process? *(Circle one)* *See the Waste Source Codes on the inside back cover of this questionnaire for a list of one-time processes and clean out or closure processes.*		
Yes *(Circle 01 and skip to Question 47 on on page 42 for this hazardous waste)*	01 *(Skip to Q.47)*	(01) *(Skip to Q.47)*
No *(Go to next question)*	(02)	02
32. For the process(es) that generated this hazardous waste, what was the percentage change in PRODUCT PRODUCTION from 1985 to 1986? *(Use 1985 as the base year in your calculation. If more than one process was operated to generate this hazardous waste, enter the combined change in production for ALL of the processes that generated this hazardous waste.)*		
a. Percentage change in product production	[ ][ ][ ] %	[ ][ ][ ] %
b. Unit of measure *(Circle one)*		
Percentage increase	01	01
Percentage decrease	02	02
33. Were any of the following waste minimization practices implemented PRIOR TO 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	(05)	05
Waste stream segregation	(06)	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 39 on page 38 for this hazardous waste)*	09 *(Skip to Q.39)*	09 *(Skip to Q.39)*
Other *(specify)*	10	10
	_____ *(specify)*	_____ *(specify)*

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01 (Skip to Q.47)	01 (Skip to Q.47)	01 (Skip to Q.47)
02	02	02
☐☐☐ %	☐☐☐ %	☐☐☐ %
01	01	01
02	02	02
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
09 (Skip to Q.39)	09 (Skip to Q.39)	09 (Skip to Q.39)
10	10	10
(specify)	(specify)	(specify)

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
34. Describe the waste minimization practices that were implemented PRIOR TO 1986 for this hazardous waste.	Our administrative procedures have allowed audits for better housekeeping/segregation practices	
35. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	(01)	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	03
36. What effect did the waste minimization practices implemented PRIOR TO 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	01	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	(03)	03
37. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*	NA	
38. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented PRIOR TO 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*	NA	

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
Our administrative practices have allowed audits for better housekeeping/segregation practices.		
01 02 03	01 02 03	01 02 03
01 02 03	01 02 03	01 02 03
NA		
NA		

Question	Hazardous Waste No. # 21	Hazardous Waste No. # 22
39. Were any of the following waste minimization practices implemented DURING 1986 for the process(es) that generate this hazardous waste? *(Circle all that apply)*		
Equipment or technology modification/substitution	01	01
Process or procedure modification/substitution (including closed-loop recycling)	02	02
Reformulation or redesign of product	03	03
Modification/substitution of input or raw material	04	04
Better housekeeping, better operating practices	05	05
Waste stream segregation	06	06
Onsite recycling or recovery for reuse	07	07
Offsite recycling or recovery for reuse	08	08
None *(Circle 09 and skip to Question 45 for this hazardous waste)*	09 *(Skip to Q.45)*	09 *(Skip to Q.45)*
Other *(specify)*	10 Labwide reevaluation of WM *(specify)*	10 *(specify)*
40. Describe the waste minimization practices that were implemented for this hazardous waste DURING 1986 including the effect these practices had on the volume generated and toxicity of this hazardous waste. Indicate if changes in product production account for changes in waste volume.	Initiated a Lab-wide review of waste production processes for new waste minimization practices to institute.	
41. What effect did the waste minimization practices implemented DURING 1986 have on the quantity generated of this hazardous waste? *(Circle one)*		
Increase in the quantity generated	01	01
Decrease in the quantity generated	02	02
No effect on the quantity generated	03	03

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07
08	08	08
09 (Skip to Q.45)	09 (Skip to Q.45)	09 (Skip to Q.45)
(10) Labwide reevaluation of WM (specify)	10 (specify)	10 (specify)
Initiated a Lab-wide review of waste production processes for new waste minimization practices to institute.		
(01)	01	01
02	02	02
03	03	03

Question	Hazardous Waste No. 21	Hazardous Waste No. 22
42. What effect did the waste minimization practices implemented DURING 1986 have on the toxicity of this hazardous waste? *(Circle one)*		
Increase in the concentration of hazardous constituents	(01)	01
Decrease in the concentration of hazardous constituents	02	02
No effect on the concentration of hazardous constituents	03	03
43. What hazardous constituents were eliminated from this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were eliminated from this hazardous waste, enter "NA.")*	NA	
44. What hazardous constituents were added to this hazardous waste as a result of waste minimization practices implemented DURING 1986? *(If no hazardous constituents were added to this hazardous waste, enter "NA.")*	NA	
45. What quantity of this hazardous waste went to recycling/recovery for reuse processes ONSITE during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity	0	
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02
46. What quantity of this hazardous waste was SHIPPED OFFSITE for recycling/recovery for reuse during 1986? *(Enter the quantity and circle a unit of measure; if none, enter zero.)*		
a. Quantity	0	
b. Unit of measure *(Circle one)*		
Tons	01	01
Gallons	02	02

NOTE: *If your facility generated more than five different hazardous wastes during 1986, call the Survey Helpline (1-800-635-8850) to receive additional Questionnaire(s) GB and complete Questions 1 through 46 for EACH hazardous waste.*

Hazardous Waste No. 23	Hazardous Waste No. 24	Hazardous Waste No. 25
(01)	01	01
02	02	02
03	03	03
NA		
NA		
0		
01	01	01
02	02	02
19		
(01)	01	01
02	02	02

47. a. **What is the name, title, and telephone number of the person who completed this questionnaire?**

Name:

Title:

Telephone:

Area Code

(Go to Question b)

b. **Is your MAILING ADDRESS the same as the address given in the label on the cover of this questionnaire?** *(Circle one)*

"MAILING ADDRESS" refers to the address at which you can be reached for potential future survey-related contacts.

01 Yes *(Skip to note at bottom of page)*

02 No *(Go to Question c)*

c. **At what MAILING ADDRESS can you be contacted for future survey-related information?**

Mailing address:

City:

State:

ZIP:

(Go to note at bottom of page)

NOTE: *You have now completed this questionnaire. If you have also completed all the other questionnaires you must complete, MAKE A PHOTOCOPY OF THEM FOR YOUR RECORDS and send the originals to the following address using the enclosed postage paid return envelope:*

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, NC 27711

If you have not completed all the necessary questionnaires, go to the next questionnaire. If you have any questions about this or the other questionnaires used in this survey, call the Survey Helpline (1-800-635-8850).

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

QUESTIONNAIRE GB	HAZARDOUS WASTE CHARACTERIZATION

☐

EPA Use Only

1. ☐
2. ☐
3. ☐
4. ☐
5. ☐
6. ☐
7. ☐
8. ☐
9. ☐
10. ☐
11. ☐
12. ☐
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16. ☐
17. ☐
18. ☐
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31. ☐
32. ☐
33. ☐
34. ☐
35. ☐
36. ☐
37. ☐
38. ☐
39. ☐
40. ☐
41. ☐
42. ☐
43. ☐
44. ☐
45. ☐
46. ☐
47. ☐

WASTE SOURCE CODES/OFFSITE MANAGEMENT CODES

The Waste Source Codes describe the processes that generate hazardous waste. The Offsite Management Codes describe the management operations hazardous waste goes through offsite.

WASTE SOURCE CODES

Surface Preparation Processes (Cleaning/Degreasing)

S01 Stripping
S02 Vapor degreasing
S03 Steam cleaning
S04 Dip rinsing
S05 Flush rinsing
S06 Spray rinsing
S07 Fill and gravity draining
S08 Backflush rinsing
S09 Physical scraping/removal
S10 Pickling
S11 Caustic (alkali) cleaning
S12 Other cleaning/degreasing process (specify in the answer space provided)

Other Waste Production Processes

S13 Light ends condensation
S14 Heavy ends/still bottoms removal
S15 Reaction/synthesis media processing
S16 Crystallization
S17 Slag removal
S18 Tank bottoms removal
S19 Molding/forming
S20 By-product processing
S21 Polymerization
S22 Electroplating
S23 Electrolysis of aqueous solutions
S24 High temperature metal refining
S25 Fermentation and other biological processes
S26 Pyrolysis (thermal decomposition without enough oxygen for combustion, such as "cracking")
S27 Solvent extraction (organic and/or inorganic)
S28 Distillation and fractionation
S29 Size reduction (e.g., screening, milling, shredding)
S30 Materials handling
S31 Halogenation
S32 Hydrogenation
S33 Nitration
S34 Oxidation (other than combustion)
S35 Calcination
S36 Esterification
S37 Sulfonation
S38 Inorganic aqueous reactions
S39 Gas adsorption
S40 Filtration/centrifuging
S41 Combustion processes
S42 Extrusion/wet spinning
S43 Surface coating (e.g., painting, electroless plating, phosphating)
S44 Product rinsing
S45 Decantation/sedimentation
S46 Air and steam stripping
S47 Laboratory wastes
S48 Other waste production process (specify in the answer space provided)

One-Time Processes

S49 Discarding of off-spec material
S50 Discarding of out-of-date products or chemicals
S51 Cleanup of spill residues
S52 Discarding of contaminated cleanup equipment
S53 Accidental spills or discharges
S54 Other remedial action/cleanup (specify in the space provided)
S55 Other one-time process (specify in the answer space provided)

Clean Out or Closure Processes

S56 Clean out of surface impoundments
S57 Closure of surface impoundments
S58 Clean out of waste piles
S59 Closure of waste piles
S60 Clean out of process equipment
S61 Closure of process equipment
S62 Other clean out or closure process (specify in the answer space provided)

Pollution Control or Waste Treatment Processes

S63 Flue gas desulfurization
S64 Caustic scrubbing
S65 Electrostatic precipitation
S66 Condensate from VOC removal
S67 Filtering/screening
S68 Dewatering
S69 Regenerating
S70 Quench cooling
S71 Centrifugation
S72 Incineration
S73 Wastewater treatment
S74 Distillation
S75 Flotation or skimming
S76 Decantation or settling/clarification
S77 Other pollution control or waste treatment process (specify in the answer space provided)

Other Processes

S78 Other process (specify in the answer space provided)

OFFSITE MANAGEMENT CODES

M01 Incineration
M02 Reused as fuel
M03 Fuel blending
M04 Solidification/stabilization
M05 Solvent or liquid organic recovery for reuse
M06 Metals recovery for reuse
M07 Wastewater treatment in tank
M08 Wastewater treatment in surface impoundment
M09 Wastewater treatment in unknown equipment type
M10 Other treatment/recovery
M11 Storage/treatment in waste pile
M12 Storage/disposal in surface impoundment
M13 Landfill
M14 Land treatment
M15 Underground injection
M16 Discharge to POTW
M17 Discharge under NPDES permit
M18 Other
M19 Unknown