HUKILL CHEMICAL CORPORATION

PART B APPLICATION

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Note: P.S. Book is the separate Plan Sheet book with D size drawings.

HUKILL CHEMICAL CORPORATION

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(Rev. 11/93)

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SECTION A
PART A

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0245-EPA-QT

For EPA Regional Use Only

Date Received
Month Day Year

EPA

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the Instructions before starting)

For State Use Only

I. ID Number(s)

A. EPA ID Number: OHD001926740

B. Secondary ID Number *(if applicable)*:

II. Name of Facility

HUKILL CHEMICAL CORPORATION

III. Facility Location *(Physical address not P.O. Box or Route Number)*

A. Street: 7013 KRICK ROAD

Street *(continued)*:

City or Town: BEDFORD

State: OH

ZIP Code: 44146-

County Code *(if known)*:

County Name: CUYAHOGA

B. Land Type *(enter code)*: P

C. Geographic Location

LATITUDE *(degrees, minutes, & seconds)*: 41 22 22 N

LONGITUDE *(degrees, minutes, & seconds)*: 81 31 45 W

D. Facility Existence Date

Month Day Year: 11 15 1968

IV. Facility Mailing Address

Street or P.O. Box: 7013 KRICK ROAD

City or Town: BEDFORD

State: OH

ZIP Code: 44146-

V. Facility Contact *(Person to be contacted regarding waste activities at facility)*

Name *(last)*: HUKILL

(first): ROBERT

Job Title: PRESIDENT

Phone Number *(area code and number)*: 216-232-9400

VI. Facility Contact Address *(See instructions)*

Contact Address Location: X

Mailing:

B. Street or P.O. Box:

City or Town:

State:

ZIP Code:

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0245-EPA-GT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
OHD001926740	

VII. Operator Information (see instructions)

Name of Operator			
HUKILL CHEMICAL CORPORATION			
Street or P.O. Box			
7013 KRICK ROAD			
City or Town	State	ZIP Code	
BEDFORD	OH	44146-	
Phone Number (area code and number)	B. Operator Type	C. Change of Operator Indicator	Date Changed (Month Day Year)
216-232-9400	P	Yes [ ] No [X]	

VIII. Facility Owner (see instructions)

A. Name of Facility's Legal Owner			
HUKILL CHEMICAL CORPORATION			
Street or P.O. Box			
7013 KRICK ROAD			
City or Town	State	ZIP Code	
BEDFORD	OH	44146-	
Phone Number (area code and number)	B. Owner Type	C. Change of Owner Indicator	Date Changed (Month Day Year)
216-232-9400	P	Yes [ ] No [X]	

IX. SIC Codes (4-digit, in order of significance)

Primary		Secondary	
7389	(description) Solvent Recycling		(description)
Secondary		**Secondary**	
5169	(description) Chemical Distribution		(description)

X. Other Environmental Permits (see instructions)

A. Permit Type (enter code)	B. Permit Number	C. Description
E	131803017 2T04	9 Air Permit
E	31F0036	Ohio EPA Permit

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EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
0	H	D	0	0	1	9	2	6	7	4	0												

XI. Nature of Business (provide a brief description)

We are distributors of industrial acids, alkalies and solvents. We are also a "Resource Recovery Facility" actively engaged in recycling solvent streams back to industry as distilled solvents and supplemental fuel for cement kilns.

XII. Process - Codes and Design Capacities

A. PROCESS CODE - *Enter the code from the list of process codes below that best describes each process to be used at the facility. Twelve lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in Item XIII.*

B. PROCESS DESIGN CAPACITY - *For each code entered in column A, enter the capacity of the process.*

1. AMOUNT - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process unit.*

2. UNIT OF MEASURE - *For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.*

C. PROCESS TOTAL NUMBER OF UNITS - *Enter the total number of units used with the corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	DISPOSAL:	
D79	INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY
D80	LANDFILL	ACRE-FEET OR HECTARE-METER
D81	LAND APPLICATION	ACRES OR HECTARES
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	STORAGE:	
S01	CONTAINER (barrel, drum, etc.)	GALLONS OR LITERS
S02	TANK	GALLONS OR LITERS
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	TREATMENT:	
T01	TANK	GALLONS PER DAY OR LITERS PER DAY
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS PER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR
T04	OTHER TREATMENT (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundment or incinerators. Describe the processes in the space provided in Item XIII.)	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
GALLONS PER HOUR	E
GALLONS PER DAY	U
LITERS	L
LITERS PER HOUR	H
LITERS PER DAY	V
SHORT TONS PER HOUR	D
METRIC TONS PER HOUR	W
SHORT TONS PER DAY	N
METRIC TONS PER DAY	S
POUNDS PER HOUR	J
KILOGRAMS PER HOUR	R
CUBIC YARDS	Y
CUBIC METERS	C
ACRES	B
ACRE-FEET	A
HECTARES	Q
HECTARE-METER	F
BTU's PER HOUR	K

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)
O	H	D	0	0	1	9	2	6	7	4	0	

XII. Process Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line Number	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY
X 1	S 0 2	600	G	0 0 2	
X 2	T 0 3	20	E	0 0 1	
1	S 0 1	180,180	G	0 0 4	
2	S 0 2	549,000	G	0 3 9	
3	S 0 2	84,000*	G	0 0 6	
4		*Undergoing Closure			
5		not currently active			
6					
7					
8					
9					
10					
11					
12					

NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in Item XIII.

XIII. Additional Treatment Processes (follow instructions from Item XII)

Line Number (enter numbers in sequence with Item XII)	A. PROCESS CODE	B. TREATMENT PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. TREATMENT PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
	T 0 4				
	T 0 4				
	T 0 4				
	T 0 4				

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes

A. EPA HAZARDOUS WASTE NUMBER - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that processes that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of Item XIV-D(1).*
3. *Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESS (1) PROCESS CODES (enter)	D. PROCESS (2) PROCESS DESCRIPTION (if a code is not entered in D(1))
X 1	K 0 5 4	900	P	T 0 3 D 8 0	
X 2	D 0 0 2	400	P	T 0 3 D 8 0	
X 3	D 0 0 1	100	P	T 0 3 D 8 0	
X 4	D 0 0 2				Included With Above

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EPA I.D. Number (enter from page 1)	Secondary I.D. Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 0 1	20,000.	T	S 0 1 S 0 2	
2	F 0 0 1				Included with above.
3	F 0 0 2				Included with above.
4	F 0 0 3				Included with above.
5	F 0 0 4				Included with above.
6	F 0 0 5				Included with above.
7	D 0 0 2				Included with above.
8	D 0 0 4				Included with above.
9	D 0 0 5				Included with above.
10	D 0 0 6				Included with above.
11	D 0 0 7				Included with above.
12	D 0 0 8				Included with above.
13	D 0 0 9				Included with above.
14	D 0 1 0				Included with above.
15	D 0 1 1				Included with above.
16	D 0 1 2				Included with above.
17	D 0 1 3				Included with above.
18	D 0 1 4				Included with above.
19	D 0 1 5				Included with above.
20	D 0 1 6				Included with above.
21	D 0 1 7				Included with above.
22	D 0 1 8				Included with above.
23	D 0 1 9				Included with above.
24	D 0 2 0				Included with above.
25	D 0 2 1				Included with above.
26	D 0 2 2				Included with above.
27	D 0 2 3				Included with above.
28	D 0 2 4				Included with above.
29	D 0 2 5				Included with above.
30	D 0 2 6				Included with above.
31	D 0 2 7				Included with above.
32	D 0 2 8				Included with above.
33	D 0 2 9				Included with above.

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GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 3 0				Included with above.
2	D 0 3 1				Included with above.
3	D 0 3 2				Included with above.
4	D 0 3 3				Included with above.
5	D 0 3 4				Included with above.
6	D 0 3 5				Included with above.
7	D 0 3 6				Included with above.
8	D 0 3 7				Included with above.
9	D 0 3 8				Included with above.
10	D 0 3 9				Included with above.
11	D 0 4 0				Included with above.
12	D 0 4 1				Included with above.
13	D 0 4 2				Included with above.
14	D 0 4 3				Included with above.
15	D 0 0 2	3,120	T	S 0 1 S 0 2	
16	D 0 0 4				Included with above.
17	D 0 0 5				Included with above.
18	D 0 0 6				Included with above.
19	D 0 0 7				Included with above.
20	D 0 0 8				Included with above.
21	D 0 0 9				Included with above.
22	D 0 1 0				Included with above.
23	D 0 1 1				Included with above.
24	D 0 1 2				Included with above.
25	D 0 1 3				Included with above.
26	D 0 1 4				Included with above.
27	D 0 1 5				Included with above.
28	D 0 1 6				Included with above.
29	D 0 1 7				Included with above.
30	D 0 1 8				Included with above.
31	D 0 1 9				Included with above.
32	D 0 2 0				Included with above.
33	D 0 2 1				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)											Secondary I.D. Number (enter from page 1)
O	H	D	0	0	1	9	2	6	7	4	0

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D022				Included with above.
2	D023				Included with above.
3	D024				Included with above.
4	D025				Included with above.
5	D026				Included with above.
6	D027				Included with above.
7	D028				Included with above.
8	D029				Included with above.
9	D030				Included with above.
10	D031				Included with above.
11	D032				Included with above.
12	D033				Included with above.
13	D034				Included with above.
14	D035				Included with above.
15	D036				Included with above.
16	D037				Included with above.
17	D038				Included with above.
18	D039				Included with above.
19	D040				Included with above.
20	D041				Included with above.
21	D042				Included with above.
22	D043				Included with above.
23	F001	20,000	T	S01 S02	
24	D001				Included with above.
25	F002				Included with above.
26	F003				Included with above.
27	F004				Included with above.
28	F005				Included with above.
29	D002				Included with above.
30	D004				Included with above.
31	D005				Included with above.
32	D006				Included with above.
33	D007				Included with above.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary I.D. Number (enter from page 1)
O H D O O 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 0 8				Included with above.
2	D 0 0 9				Included with above.
3	D 0 1 0				Included with above.
4	D 0 1 1				Included with above.
5	D 0 1 2				Included with above.
6	D 0 1 3				Included with above.
7	D 0 1 4				Included with above.
8	D 0 1 5				Included with above.
9	D 0 1 6				Included with above.
10	D 0 1 7				Included with above.
11	D 0 1 8				Included with above.
12	D 0 1 9				Included with above.
13	D 0 2 0				Included with above.
14	D 0 2 1				Included with above.
15	D 0 2 2				Included with above.
16	D 0 2 3				Included with above.
17	D 0 2 4				Included with above.
18	D 0 2 5				Included with above.
19	D 0 2 6				Included with above.
20	D 0 2 7				Included with above.
21	D 0 2 8				Included with above.
22	D 0 2 9				Included with above.
23	D 0 3 0				Included with above.
24	D 0 3 1				Included with above.
25	D 0 3 2				Included with above.
26	D 0 3 3				Included with above.
27	D 0 3 4				Included with above.
28	D 0 3 5				Included with above.
29	D 0 3 6				Included with above.
30	D 0 3 7				Included with above.
31	D 0 3 8				Included with above.
32	D 0 3 9				Included with above.
33	D 0 4 0				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D O O 1 9 2 6 7 4 O	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 4 1				Included with above.
2	D 0 4 2				Included with above.
3	D 0 4 3				Included with above.
4	F 0 0 2	20,000	T	S 0 1 S 0 2	
5	D 0 0 1				Included with above.
6	F 0 0 1				Included with above.
7	F 0 0 3				Included with above.
8	F 0 0 4				Included with above.
9	F 0 0 5				Included with above.
10	D 0 0 2				Included with above.
11	D 0 0 4				Included with above.
12	D 0 0 5				Included with above.
13	D 0 0 6				Included with above.
14	D 0 0 7				Included with above.
15	D 0 0 8				Included with above.
16	D 0 0 9				Included with above.
17	D 0 1 0				Included with above.
18	D 0 1 1				Included with above.
19	D 0 1 2				Included with above.
20	D 0 1 3				Included with above.
21	D 0 1 4				Included with above.
22	D 0 1 5				Included with above.
23	D 0 1 6				Included with above.
24	D 0 1 7				Included with above.
25	D 0 1 8				Included with above.
26	D 0 1 9				Included with above.
27	D 0 2 0				Included with above.
28	D 0 2 1				Included with above.
29	D 0 2 2				Included with above.
30	D 0 2 3				Included with above.
31	D 0 2 4				Included with above.
32	D 0 2 5				Included with above.
33	D 0 2 6				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1): O H D 0 0 1 9 2 6 7 4 0

Secondary I.D. Number (enter from page 1):

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D027				Included with above.
2	D028				Included with above.
3	D029				Included with above.
4	D030				Included with above.
5	D031				Included with above.
6	D032				Included with above.
7	D033				Included with above.
8	D034				Included with above.
9	D035				Included with above.
10	D036				Included with above.
11	D037				Included with above.
12	D038				Included with above.
13	D039				Included with above.
14	D040				Included with above.
15	D041				Included with above.
16	D042				Included with above.
17	D043				Included with above.
18	F003	20,000	T	S01 S02	
19	D001				Included with above.
20	F001				Included with above.
21	F002				Included with above.
22	F004				Included with above.
23	F005				Included with above.
24	D002				Included with above.
25	D004				Included with above.
26	D005				Included with above.
27	D006				Included with above.
28	D007				Included with above.
29	D008				Included with above.
30	D009				Included with above.
31	D010				Included with above.
32	D011				Included with above.
33	D012				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1): O H D 0 0 1 9 2 6 7 4 0

Secondary ID Number (enter from page 1):

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D013				Included with above.
2	D014				Included with above.
3	D015				Included with above.
4	D016				Included with above.
5	D017				Included with above.
6	D018				Included with above.
7	D019				Included with above.
8	D020				Included with above.
9	D021				Included with above.
10	D022				Included with above.
11	D023				Included with above.
12	D024				Included with above.
13	D025				Included with above.
14	D026				Included with above.
15	D027				Included with above.
16	D028				Included with above.
17	D029				Included with above.
18	D030				Included with above.
19	D031				Included with above.
20	D032				Included with above.
21	D033				Included with above.
22	D034				Included with above.
23	D035				Included with above.
24	D036				Included with above.
25	D037				Included with above.
26	D038				Included with above.
27	D039				Included with above.
28	D040				Included with above.
29	D041				Included with above.
30	D042				Included with above.
31	D043				Included with above.
32	F004	20,000	T	S01 S02	
33	D001				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0240-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D O O 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F 0 0 1				Included with above.
2	F 0 0 2				Included with above.
3	F 0 0 3				Included with above.
4	F 0 0 5				Included with above.
5	D 0 0 2				Included with above.
6	D 0 0 4				Included with above.
7	D 0 0 5				Included with above.
8	D 0 0 6				Included with above.
9	D 0 0 7				Included with above.
10	D 0 0 8				Included with above.
11	D 0 0 9				Included with above.
12	D 0 1 0				Included with above.
13	D 0 1 1				Included with above.
14	D 0 1 2				Included with above.
15	D 0 1 3				Included with above.
16	D 0 1 4				Included with above.
17	D 0 1 5				Included with above.
18	D 0 1 6				Included with above.
19	D 0 1 7				Included with above.
20	D 0 1 8				Included with above.
21	D 0 1 9				Included with above.
22	D 0 2 0				Included with above.
23	D 0 2 1				Included with above.
24	D 0 2 2				Included with above.
25	D 0 2 3				Included with above.
26	D 0 2 4				Included with above.
27	D 0 2 5				Included with above.
28	D 0 2 6				Included with above.
29	D 0 2 7				Included with above.
30	D 0 2 8				Included with above.
31	D 0 2 9				Included with above.
32	D 0 3 0				Included with above.
33	D 0 3 1				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0240-EPA-OT

EPA I.D. Number (enter from page 1): 0 H D 0 0 1 9 2 6 7 4 0

Secondary ID Number (enter from page 1):

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 3 2				Included with above.
2	D 0 3 3				Included with above.
3	D 0 3 4				Included with above.
4	D 0 3 5				Included with above.
5	D 0 3 6				Included with above.
6	D 0 3 7				Included with above.
7	D 0 3 8				Included with above.
8	D 0 3 9				Included with above.
9	D 0 4 0				Included with above.
10	D 0 4 1				Included with above.
11	D 0 4 2				Included with above.
12	D 0 4 3				Included with above.
13	F 0 0 5	20,000	T	S 0 1 S 0 2	
14	D 0 0 1				Included with above.
15	F 0 0 1				Included with above.
16	F 0 0 2				Included with above.
17	F 0 0 3				Included with above.
18	F 0 0 4				Included with above.
19	D 0 0 2				Included with above.
20	D 0 0 4				Included with above.
21	D 0 0 5				Included with above.
22	D 0 0 6				Included with above.
23	D 0 0 7				Included with above.
24	D 0 0 8				Included with above.
25	D 0 0 9				Included with above.
26	D 0 1 0				Included with above.
27	D 0 1 1				Included with above.
28	D 0 1 2				Included with above.
29	D 0 1 3				Included with above.
30	D 0 1 4				Included with above.
31	D 0 1 5				Included with above.
32	D 0 1 6				Included with above.
33	D 0 1 7				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
OHD001926740	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D018				Included with above.
2	D019				Included with above.
3	D020				Included with above.
4	D021				Included with above.
5	D022				Included with above.
6	D023				Included with above.
7	D024				Included with above.
8	D025				Included with above.
9	D026				Included with above.
10	D027				Included with above.
11	D028				Included with above.
12	D029				Included with above.
13	D030				Included with above.
14	D031				Included with above.
15	D032				Included with above.
16	D033				Included with above.
17	D034				Included with above.
18	D035				Included with above.
19	D036				Included with above.
20	D037				Included with above.
21	D038				Included with above.
22	D039				Included with above.
23	D040				Included with above.
24	D041				Included with above.
25	D042				Included with above.
26	D043				Included with above.
27	K086	320	T	S01 S02	
28	D001				Included with above.
29	F001				Included with above.
30	F002				Included with above.
31	F003				Included with above.
32	F004				Included with above.
33	F005				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
11	D 0 0 2				Included with above.
12	D 0 0 4				Included with above.
13	D 0 0 5				Included with above.
14	D 0 0 6				Included with above.
15	D 0 0 7				Included with above.
16	D 0 0 8				Included with above.
17	D 0 0 9				Included with above.
18	D 0 1 0				Included with above.
19	D 0 1 1				Included with above.
20	D 0 1 2				Included with above.
21	D 0 1 3				Included with above.
22	D 0 1 4				Included with above.
23	D 0 1 5				Included with above.
24	D 0 1 6				Included with above.
25	D 0 1 7				Included with above.
26	D 0 1 8				Included with above.
27	D 0 1 9				Included with above.
28	D 0 2 0				Included with above.
29	D 0 2 1				Included with above.
30	D 0 2 2				Included with above.
31	D 0 2 3				Included with above.
32	D 0 2 4				Included with above.
33	D 0 2 5				Included with above.
34	D 0 2 6				Included with above.
35	D 0 2 7				Included with above.
36	D 0 2 8				Included with above.
37	D 0 2 9				Included with above.
38	D 0 3 0				Included with above.
39	D 0 3 1				Included with above.
40	D 0 3 2				Included with above.
41	D 0 3 3				Included with above.
42	D 0 3 4				Included with above.
43	D 0 3 5				Included with above.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
0 H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D036				Included with above.
2	D037				Included with above.
3	D038				Included with above.
4	D039				Included with above.
5	D040				Included with above.
6	D041				Included with above.
7	D042				Included with above.
8	D043				Included with above.
9	K087	3,600	T	S01 S02	
10	K141				Included with above.
11	K142				Included with above.
12	D001				Included with above.
13	F001				Included with above.
14	F002				Included with above.
15	F003				Included with above.
16	F004				Included with above.
17	F005				Included with above.
18	D002				Included with above.
19	D004				Included with above.
20	D005				Included with above.
21	D006				Included with above.
22	D007				Included with above.
23	D008				Included with above.
24	D009				Included with above.
25	D010				Included with above.
26	D011				Included with above.
27	D012				Included with above.
28	D013				Included with above.
29	D014				Included with above.
30	D015				Included with above.
31	D016				Included with above.
32	D017				Included with above.
33	D018				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1): OHD001926740

Secondary I.D. Number (enter from page 1):

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D019				Included with above.
2	D020				Included with above.
3	D021				Included with above.
4	D022				Included with above.
5	D023				Included with above.
6	D024				Included with above.
7	D025				Included with above.
8	D026				Included with above.
9	D027				Included with above.
10	D028				Included with above.
11	D029				Included with above.
12	D030				Included with above.
13	D031				Included with above.
14	D032				Included with above.
15	D033				Included with above.
16	D034				Included with above.
17	D035				Included with above.
18	D036				Included with above.
19	D037				Included with above.
20	D038				Included with above.
21	D039				Included with above.
22	D040				Included with above.
23	D041				Included with above.
24	D042				Included with above.
25	D043				Included with above.
26	K141	3,600	T	S01 S02	
27	K087				Included with above.
28	K142				Included with above.
29	D001				Included with above.
30	F001				Included with above.
31	F002				Included with above.
32	F003				Included with above.
33	F004				Included with above.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
OHD001926740	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F005				Included with above.
2	D002				Included with above.
3	D004				Included with above.
4	D005				Included with above.
5	D006				Included with above.
6	D007				Included with above.
7	D008				Included with above.
8	D009				Included with above.
9	D010				Included with above.
10	D011				Included with above.
11	D012				Included with above.
12	D013				Included with above.
13	D014				Included with above.
14	D015				Included with above.
15	D016				Included with above.
16	D017				Included with above.
17	D018				Included with above.
18	D019				Included with above.
19	D020				Included with above.
20	D021				Included with above.
21	D022				Included with above.
22	D023				Included with above.
23	D024				Included with above.
24	D025				Included with above.
25	D026				Included with above.
26	D027				Included with above.
27	D028				Included with above.
28	D029				Included with above.
29	D030				Included with above.
30	D031				Included with above.
31	D032				Included with above.
32	D033				Included with above.
33	D034				Included with above.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-91
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary I.D. Number (enter from page 1)
OHD00192740	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D035				Included with above.
2	D036				Included with above.
3	D037				Included with above.
4	D038				Included with above.
5	D039				Included with above.
6	D040				Included with above.
7	D041				Included with above.
8	D042				Included with above.
9	D043				Included with above.
10	K142	3,600	T	S01 S02	
11	K087				Included with above.
12	K141				Included with above.
13	D001				Included with above.
14	F001				Included with above.
15	F002				Included with above.
16	F003				Included with above.
17	F004				Included with above.
18	F005				Included with above.
19	D002				Included with above.
20	D004				Included with above.
21	D005				Included with above.
22	D006				Included with above.
23	D007				Included with above.
24	D008				Included with above.
25	D009				Included with above.
26	D010				Included with above.
27	D011				Included with above.
28	D012				Included with above.
29	D013				Included with above.
30	D014				Included with above.
31	D015				Included with above.
32	D016				Included with above.
33	D017				Included with above.

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Form Approved. OMB No. 2050-0034 Expires 12-31-91
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EPA I.D. Number (enter from page 1)	Secondary I.D. Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
01	D018				Included with above.
02	D019				Included with above.
03	D020				Included with above.
04	D021				Included with above.
05	D022				Included with above.
06	D023				Included with above.
07	D024				Included with above.
08	D025				Included with above.
09	D026				Included with above.
10	D027				Included with above.
11	D028				Included with above.
12	D029				Included with above.
13	D030				Included with above.
14	D031				Included with above.
15	D032				Included with above.
16	D033				Included with above.
17	D034				Included with above.
18	D035				Included with above.
19	D036				Included with above.
20	D037				Included with above.
21	D038				Included with above.
22	D039				Included with above.
23	D040				Included with above.
24	D041				Included with above.
25	D042				Included with above.
26	D043				Included with above.
27	D004	150	T	S01 S02	
28	D005	150	T	S01 S02	
29	D006	150	T	S01 S02	
30	D007	150	T	S01 S02	
31	D008	150	T	S01 S02	
32	D009	150	T	S01 S02	
33	D010	150	T	S01 S02	

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EPA I.D. Number (enter from page 1)	Secondary I.D. Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
11	D 0 1 1	150	T	S 0 1 S 0 2	
12	D 0 1 2	150	T	S 0 1 S 0 2	
13	D 0 1 3	150	T	S 0 1 S 0 2	
14	D 0 1 4	150	T	S 0 1 S 0 2	
15	D 0 1 5	150	T	S 0 1 S 0 2	
16	D 0 1 6	150	T	S 0 1 S 0 2	
17	D 0 1 7	150	T	S 0 1 S 0 2	
18	D 0 1 8	150	T	S 0 1 S 0 2	
19	D 0 1 9	150	T	S 0 1 S 0 2	
20	D 0 2 0	150	T	S 0 1 S 0 2	
21	D 0 2 1	150	T	S 0 1 S 0 2	
22	D 0 2 2	150	T	S 0 1 S 0 2	
23	D 0 2 3	150	T	S 0 1 S 0 2	
24	D 0 2 4	150	T	S 0 1 S 0 2	
25	D 0 2 5	150	T	S 0 1 S 0 2	
26	D 0 2 6	150	T	S 0 1 S 0 2	
27	D 0 2 7	150	T	S 0 1 S 0 2	
28	D 0 2 8	150	T	S 0 1 S 0 2	
29	D 0 2 9	150	T	S 0 1 S 0 2	
30	D 0 3 0	150	T	S 0 1 S 0 2	
31	D 0 3 1	150	T	S 0 1 S 0 2	
32	D 0 3 2	150	T	S 0 1 S 0 2	
33	D 0 3 3	150	T	S 0 1 S 0 2	
34	D 0 3 4	150	T	S 0 1 S 0 2	
35	D 0 3 5	150	T	S 0 1 S 0 2	
36	D 0 3 6	150	T	S 0 1 S 0 2	
37	D 0 3 7	150	T	S 0 1 S 0 2	
38	D 0 3 8	150	T	S 0 1 S 0 2	
39	D 0 3 9	150	T	S 0 1 S 0 2	
40	D 0 4 0	150	T	S 0 1 S 0 2	
41	D 0 4 1	150	T	S 0 1 S 0 2	
42	D 0 4 2	150	T	S 0 1 S 0 2	
43	D 0 4 3	150	T	S 0 1 S 0 2	

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GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1): O H D 0 0 1 9 2 6 7 4 0

Secondary I.D. Number (enter from page 1):

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U002	800	T	S01 S02	
2	U019	160	T	S01 S02	
3	U031	160	T	S01 S02	
4	U037	160	T	S01 S02	
5	U052	160	T	S01 S02	
6	U080	160	T	S01 S02	
7	U112	160	T	S01 S02	
8	U121	160	T	S01 S02	
9	U140	160	T	S01 S02	
10	U154	160	T	S01 S02	
11	U159	160	T	S01 S02	
12	U161	160	T	S01 S02	
13	U213	160	T	S01 S02	
14	U220	160	T	S01 S02	
15	U226	160	T	S01 S02	
16	U239	160	T	S01 S02	
17	U004	160	T	S01 S02	
18	U055	160	T	S01 S02	
19	U057	160	T	S01 S02	
20	U056	160	T	S01 S02	
21	U069	160	T	S01 S02	
22	U107	160	T	S01 S02	
23	U070	160	T	S01 S02	
24	U071	160	T	S01 S02	
25	U072	160	T	S01 S02	
26	U122	160	T	S01 S02	
27	U134	160	T	S01 S02	
28	U140	160	T	S01 S02	
29	U328	160	T	S01 S02	
30	U323	160	T	S01 S02	
31	U228	160	T	S01 S02	
32	U117	160	T	S01 S02	
33	U169	160	T	S01 S02	

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EPA I.D. Number (enter from page 1)											Secondary ID Number (enter from page 1)											
O	H	D	0	0	1	9	2	6	7	4	0											

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)									D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U	1	9	6	160	T	S	0	1	S	0	2				
2	U	1	7	1	160	T	S	0	1	S	0	2				
3	U	3	5	9	160	T	S	0	1	S	0	2				
4																
5																
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EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
O H D 0 0 1 9 2 6 7 4 0	

XIV. Description of Hazardous Waste (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 6.

Line Number	Additional Process Codes (enter)
	N O N E

XV. Map

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature	Date Signed
Robert L Hukill	12/27/91

Name and Official Title *(type or print)*
Robert L. Hukill, President

Operator Signature	Date Signed

Name and Official Title *(type or print)*

XIX. Comments

See Section B of Part B for description and location of maps

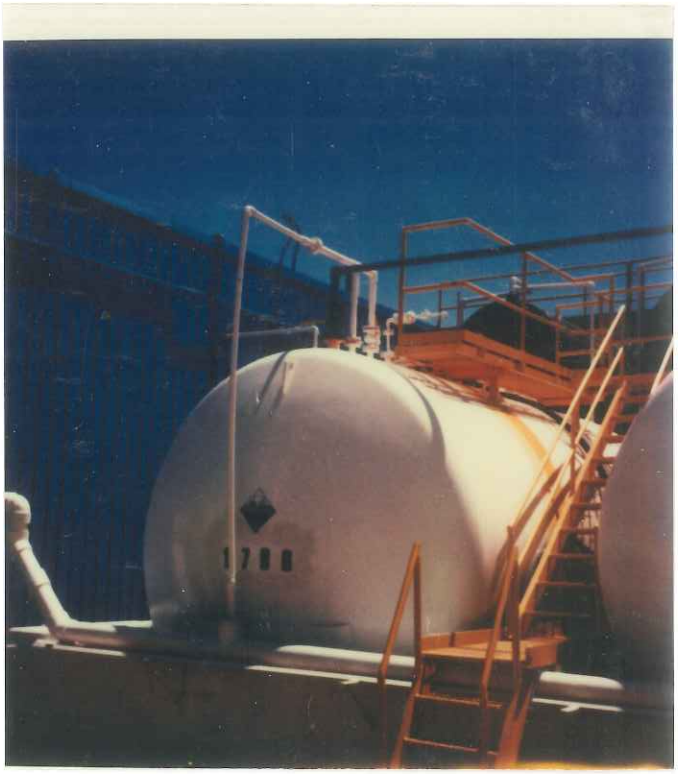
See Section D of Part B for process descriptions

See Plan Sheets 2 and 2A in Plan Sheet book of Part B for facility drawings (XVI)

See Plan Sheet 2B for previous location of H. W. storage tanks

Note: Mail completed form to the appropriate EPA Regional or State Office. (refer to instructions for more information)

Bottoms Feed
H W Storage Tanks



Spent Acid Storage Tank

H W Bottoms Storage Tank
and High Level Alarm Panel

East Pad H W Storage Tank
Dike Area

H W Drum Storage Area

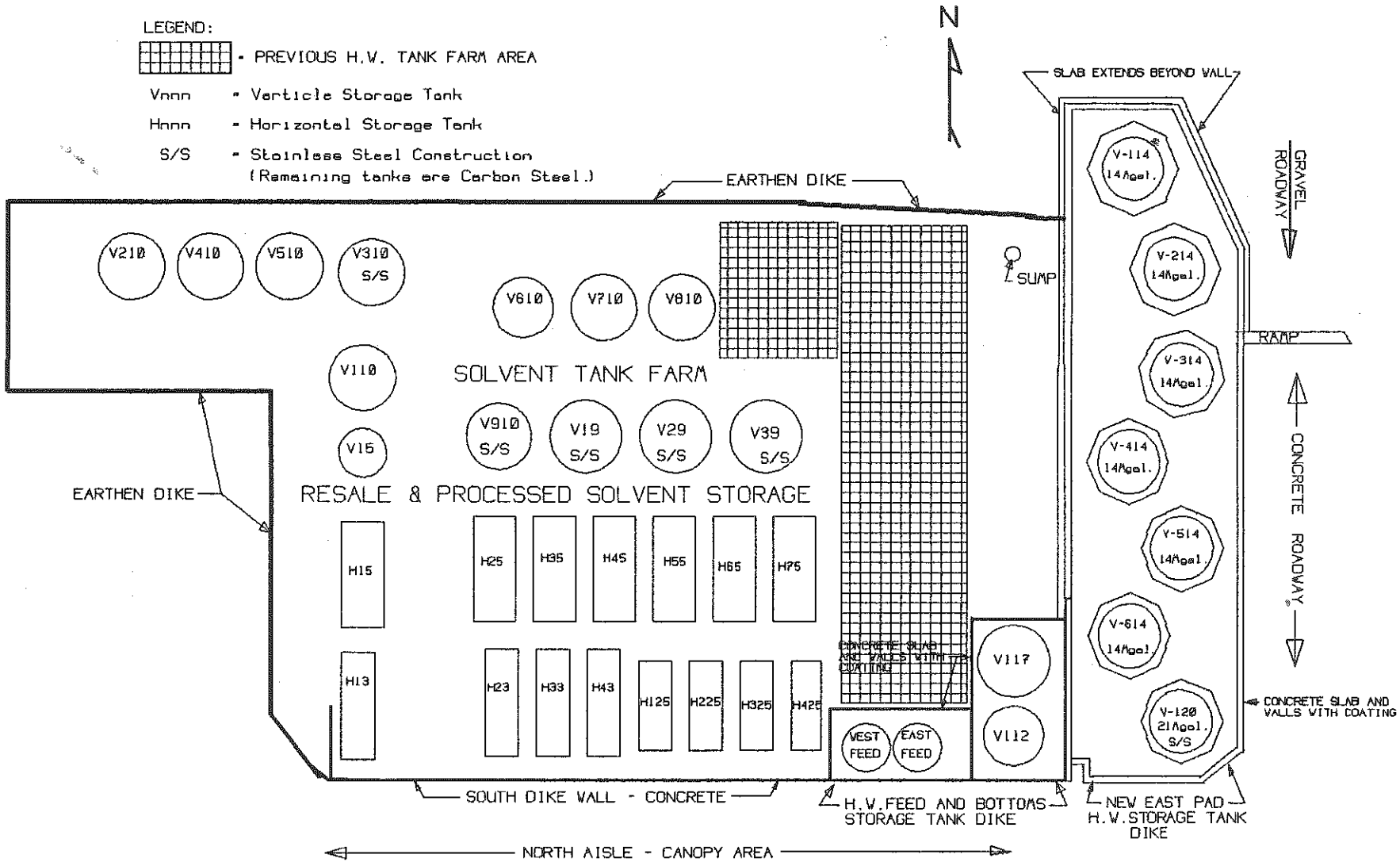
New East Pad H. W. Tank Dike View from
South West

Hukill Chemical Corporation

Revision 5. 1/92

LEGEND:

- PREVIOUS H.W. TANK FARM AREA
- Vnnn - Verticle Storage Tank
- Hnnn - Horizontal Storage Tank
- S/S - Stainless Steel Construction (Remaining tanks are Carbon Steel.)



LOCATION OF PREVIOUS SPENT SOLVENT STORAGE TANK AREA
(PROPOSED CLOSURE PLAN SUBMITTED BY EDER ASSOCIATES.)

Section A

PLAN SHEET 2B

HUKILL CHEMICAL CORPORATION
\PART8-5\PLANS2B.DWG Rev. 1/28/92

SECTION B
Facility

PART B

SECTION B

FACILITY DESCRIPTION

This section provides a general description of the hazardous waste management facility as required by OAC 3745-50-44 (40 CFR 270.14 (b)). This description is intended to acquaint the permit application reviewer/permit writer with an overview of the facility. More complete details can be found in other parts of this permit application.

Hukill Chemical Corporation has determined that in order to meet the requirements of their chemical distribution and solvent recycling markets, additional hazardous waste storage and processing equipment will be required. The details of these requirements will be stated throughout the Part B and referred to as planned additions to the present facilities. The additional hazardous waste storage requirements will be reflected in the revised Part A included in this revision. Hukill Chemical Corporation desires to have these planned additions included in the approval of their Part B so that as the market requires, they can respond in a timely manner without the necessity of having to apply for a major revision to their approved Part B Permit.

B-1 General Description

Hukill Chemical Corporation is located in a southeastern suburb of Cleveland, Ohio. The street address is:

Hukill Chemical Corporation
7013 Krick Road
Bedford, Ohio 44146

The mailing address is the same as the street address. This facility is primarily a chemical distribution center and solvent recovery facility. The solvent recovery facility accepts dirty, industrial solvents from industry and, using two thin film evaporators and a fractionating distillation tower, recovers valuable solvent for return to the customer or sale to other customers.

Hukill Chemical Corporation plans to add two thin-film evaporators and two or three fractional distillation units to this facility.

Although the recovery of valuable components of hazardous waste are exempted from regulation as treatment processes, listed hazardous wastes must be manifested from a generator to a permitted facility. This requires that Hukill Chemical Corporation obtain a hazardous waste container and tank storage facility permit to continue operation.

The existing hazardous waste units requiring a permit are as follows: Note that all existing diked storage tanks are constructed of carbon steel or stainless steel.

1. The New East Pad 7-tank dike contains six 14,500 and one 21,000 gallon vertical storage tanks for spent solvent and off -specification organic chemical wastes. This dike is located east of and adjacent to the processed solvents storage tank dike.

2. The Feed/Bottoms storage tank dike contains two 6,000 gallon, cone bottom, distillation feed tanks and one 16,000 gallon, cone bottom, distillation bottoms storage tank. The materials stored in these tanks are also organic chemical hazardous wastes.

3. The East Warehouse is used to store containerized spent solvent and organic chemical hazardous wastes in drums and portable tanks. The total facility permitted capacity for storage of containerized hazardous wastes is currently 55,000 gallons, equivalent to 1,000 fifty-five gallon drums.

4. The No-Free-Liquids outside storage area is east of the East Warehouse on the East Pad Containment Area. This area is used for storing drums or portable containers of organic chemical hazardous wastes which have no free liquids. This area is rarely used but may be necessary for efficient management of containerized hazardous wastes.

5. A 12,000 gallon horizontal storage tank used for storing spent acid is located in the north section of the acid plant dike on the west side of the Acid Plant, near the west side of the facility.

6. THE HAZARDOUS WASTE FUELS DIKE (F-1) IS LOCATED ON THE EAST SIDE OF THE EAST WAREHOUSE. THE OHIO EPA IS REVISING ITS POLICY ON HAZARDOUS WASTE FUELS BLENDING TANKS TO CONSIDER THEM PERMITTED TANKS. TWO OF HCC'S 90-DAY GENERATOR TANKS IN THIS DIKE SOMETIMES RECEIVE OFF-SITE HAZARDOUS WASTE AND WILL NOW BE CONSIDERED PERMITTED TANKS. THESE ARE TWO AGITATED CONE BOTTOM TANKS, V-110M AND V-210M, WITH CAPACITIES OF 9,500 AND 10,000 GALLONS. THE PLANNED F-2 DIKE WILL CONTAIN FOUR TANKS WHICH WILL ALSO RECEIVE OFF-SITE HAZARDOUS WASTE IN ADDITION TO GENERATED HAZARDOUS WASTE AND REQUIRE PERMITTING. THEY ARE DESCRIBED IN THE DISCUSSION OF THE F-2 DIKE, BELOW.

Hukill Chemical Corporation (HCC) is requesting additional storage capacity for both bulk and containerized hazardous wastes. HCC requires the additional storage capacity to better serve its market and provide the specialized recovery and storage of their recyclable materials.

HCC does not expect to have all the tank storage capacity full at any one time. They do need to have dedicated storage tanks for customer waste streams in order to reduce the chance of cross-contamination. The additional permitted containerized storage area will allow segregation and collection of solvents and organic chemicals so that they can be economically recovered and recycled.

New regulations regarding characteristic wastes affect customers that need to properly handle spent corrosive materials. HCC wishes to provide this service in a well designed facility to assure compliance. We feel that the addition of the planned corrosive hazardous waste container processing building will meet that market need.

The planned additional hazardous waste units requiring a permit are as follows:

1. The R-1 storage tank dike will be located on the northwest corner of the property and adjacent to the planned rail siding. These tanks will be used for storing and transloading spent solvents and off-specification organic chemicals. This planned dike will contain three 25,000 gallon, flat bottom, and one 15,000 gallon, cone or dish bottom, vertical tanks.

2. The B-4 storage tank dike will be located to the west and adjacent to the existing new east pad 7-tank dike. These tanks will be used for storage of spent solvents and off-specification organic chemicals. This planned dike will contain nine vertical tanks. Two 25,000 gallon, flat bottom, and seven 15,000 gallon, cone or dish bottom, tanks.

3. The F-2 storage tank dike will be located east of and adjacent to the existing ~~FUEL/BLEND/STORAGE~~ tank dike (F-1). It will contain eight tanks, ~~ONLY TWO~~ FOUR of which will be 15,000 gallon permitted cone or dish bottom tanks. These ~~TWO~~ FOUR tanks will be used for storage of GENERATED HAZARDOUS WASTE, spent solvents and off-specification organic chemicals. THE OTHER FOUR TANKS WILL BE 90-DAY GENERATOR TANKS. THESE FOUR 90-DAY GENERATOR TANKS WILL BE CONE OR DISH BOTTOM TANKS. THEY WILL HAVE CAPACITIES OF 20,000 GALLONS.

4. The East Warehouse storage tank dike will be located inside and adjacent to the south wall of the existing East Warehouse. This dike will contain five small tanks. The largest with a capacity of 4,000 gallons will be a 90 day generator tank and not permitted. The other four permitted tanks will be two 1,000 gallon rectangular, slant bottom, vertical tanks and two 750 gallon, cone bottom tanks. These four tanks will be used as accumulating tanks for processing spent solvents and off-specification organic chemicals.

5. The H.W. Solvent Container Processing area dike will be located in the southeast corner of the planned H.W. Solvent Container Processing Building. This dike will contain five small tanks. The three largest tanks will be 3,500 gallon, agitated, cone or dish bottom tanks used for processing and will not be permitted. The other two tanks will be 1,000 gallon rectangular, slant bottom tanks used to store spent solvents and off-specification organic chemicals. These two tanks will require permitting.

6. The new East Pad 7-tank dike has been designed for five 25,000 gallon and two 21,000 gallon, flat bottom, vertical tanks. We plan to replace the existing 14,500 gallon vertical tanks, as they become unserviceable, with the larger tanks.

7. The planned H.W. Solvent Container Processing Building will be used to improve the handling and storage of containerized organic wastes. This added area will add 27,500 gallons, the equivalent of five hundred drums, to the containerized organic chemical storage permitted capacity.

8. The corrosive processing area tank dike will be located adjacent to the west wall of and inside the planned Corrosive H.W. Container Processing Building. This dike will contain three small tanks of 4,000 gallons capacity. They will be vertical, dish bottom tanks equipped with agitators and vented to the vent scrubber, which is also in the dike. These tanks will be used for elementary neutralization of corrosive hazardous wastes. Because some of these wastes may contain small amounts of other wastes which may add the characteristic of toxicity to the D002 characteristic wastes, these tanks may require permitting.

9. The planned Corrosive H.W. Container Processing Building will be used to store and process containerized wastes in drums or portable tanks. The containerized hazardous wastes stored here will be spent acidic and caustic materials with the characteristic of corrosivity. This planned area will require additional permitting for 27,500 gallons of containerized hazardous wastes, equivalent to five hundred drums.

Although the majority of materials recycled by Hukill fall into the category of hazardous wastes, Hukill Chemical Corporation does accept some wastes listed in OAC 3745-51-20 TO -24 (Part 261) of the characteristic hazardous waste regulations. More detailed information regarding the characteristics of wastes accepted at Hukill can be found in Waste Characteristics (Section C).

The contact and responsible party for the hazardous waste management activities at Hukill Chemical Corporation is Robert L. Hukill, President. Telephone number: (216) 232-9400.

B-2 Topographic Map

PLAN SHEET 1 IS AN AREA TOPOGRAPHICAL MAP SHOWING A DISTANCE OF 1,000 FEET AROUND THE FACILITY AT A SCALE OF 1 INCH EQUALS 200 FEET. Plan Sheet 2 is a facility map showing the facility boundaries, buildings, waste storage areas, and other details. Plan Sheet 3 is a topographic map showing 5-ft. contour intervals of elevation. This map shows THE FLOW OF surface waters. The scale of the maps is 1 inch equals 30 feet. This was discussed with the Region V Headquarters Chicago EPA and they indicated this was considered acceptable.

Plan Sheet 1A shows the planned facility with the addition of buildings and dikes. Plan Sheet 1A also shows the planned flow of surface waters. Note that the flow of surface waters is generally the same as for Plan Sheet 3, but the surface waters will be conducted ~~through~~ TO a new site rainwater management system which will ~~divert~~ CONDUCT rainwater from the operating areas to a containment and treatment system.

~~The rainwater from the roof and non-operating areas will be diverted, as shown on Plan Sheet 1A, to flow through a spill emergency containment valve to the existing stream which has been enclosed as it passed through the HCC facility.~~

Plan Sheet 1A also contains the required wind rose for this area.

The locations of the storm and sanitary sewers are shown on Plan Sheet 1A. HCC does not use any process sewers in its recycling processes.

The existing facility buildings, flammable drum storage area and canopy area are equipped with either a wet or dry fire sprinkler system. The water for this system is supplied by a 250,000 gallon fire water tank located on the east side of the facility. This tank is kept full and supplied by the city water system. This is an automatic system and is monitored by an outside monitoring service.

Planned additions for flammable waste storage tanks will incorporate fire foam monitor systems. The exact location of the foam monitoring systems will be determined and shown in the drawings supplied to the director when the new tank system assessments are submitted to the director of the OEPA for review and approval.

Details of the facility fire protection ~~and the location of portable fire extinguishers~~ are provided in Section G, "Contingency Plan", of this application.

Additional fire protection is provided by the city fire department which is familiar with our facility and with whom we review our facility fire emergency needs on at least an annual basis.

B-2a <u>Land Uses</u>

Plan Sheet 5, found in THE APPENDIX TO Section ~~D~~ B, shows surrounding land use areas FOR A DISTANCE OF 1,000 FEET AROUND THE FACILITY. ~~The scale of this map is 1 inch equals 200 feet. All adjacent land is zoned industrial.~~

The surrounding land use for the planned facility will remain the same as shown on Plan Sheet 5.

B-2b Hazardous Waste Management Facility Boundary

The hazardous waste management facility consists of two container storage areas. The inside container storage area is for containers with free liquids. The outside storage area is for containers without free liquids. The facility also consists of three diked hazardous waste solvent tank storage areas. One with six 14,000 and a 21,000 gallon storage tank. One has a 16,000 gallon bottoms storage tank and two 6,000 gallon feed storage tanks. The third area has one 12,000 gallon spent acid storage tank. A FOURTH DIKE, F-1, CONTAINS TWO PERMITTED TANKS WHICH WERE PREVIOUSLY CONSIDERED 90-DAY GENERATOR TANKS. THESE TWO TANKS, V-110M AND V-210M, ARE 10,000 AND 9,500 GALLON TANKS. Plan Sheet 4 shows the location of the 100 year flood plain. None of the Hukill facility is located within this flood plain area.

As outlined in Section D and described above under "B-1 General Description", Hukill Chemical Corporation plans to add three hazardous waste spent solvent storage tank systems outdoors, two smaller systems inside and one hazardous waste corrosive storage tank system inside. They also plan to add both corrosive and solvent container storage areas.

B-2c Access Control

The facility is surrounded by a fence which controls access to process areas. Visitors must sign in and out. Access control is discussed in further detail in Section F-1a.

B-2d Injection and Withdrawal Wells

The site has no injection or withdrawal wells. Monitoring wells have been developed to monitor groundwater quality FOR THE SITE INVESTIGATION STUDY. Well Logs for these wells are found in Exhibits B-1 through B-4 and B-8 through B-13. No other wells are located on site or off site within 1000 feet of the facility.

The location of the monitoring wells is shown on Plan Sheet 2A. This is provided by Eder Associates who developed HCC'S site study and closure plan in response to the site remediation requirement. NOTE THAT THE CURRENT WELLS WERE PROVIDED FOR THE SITE INVESTIGATION. THERE IS NO CURRENT REQUIREMENT FOR HCC TO OPERATE ANY MONITOR WELLS.

Depending on the outcome of the corrective actions for the site remediation, which is currently being evaluated by the Ohio Environmental Protection Agency and the United States Environmental Protection Agency, Hukill Chemical Corporation may install wells for the purpose of removing ground water from certain areas of the facility. The locations of the two proposed Pump-and-Treat wells are also shown on Plan Sheet 2A.

B-2e Buildings, Treatment, Storage and Disposal Areas; Other Structures

Plan Sheet 2 shows the building and structures on the property as well the Hazardous waste storage areas.

PLAN SHEET 2B, FOUND IN THE APPENDIX OF SECTION A, SHOWS THE APPROXIMATE AREA FORMERLY OCCUPIED BY THE HAZARDOUS WASTE STORAGE TANKS WHICH WERE RELOCATED TO THE NEW EAST PAD H.W. STORAGE TANK DIKE. A CLOSURE PLAN FOR THIS AREA WAS PREPARED BY EDER ASSOCIATES AND SUBMITTED TO THE OHIO EPA.

B-2f Recreation Areas

Not applicable.

B-2g Runoff Control System

Plan sheet 3 indicates surface drainage for the Hukill Chemical facility. The site is basically very flat and level until the east and north boundary lines. At these points the property falls off fast down to a tributary to Tinkers Creek which has recently been enclosed. HCC plans to bring the east side of the facility up to grade and add a rail siding along the east boundary of the property as shown on Plan Sheet 1A. The surface drainage arrows indicate all the property north of the driveway flows at a 1% grade for stormwater control only. This land is undeveloped and vacant.

On the eastern edge of the property, with exception of the drum storage pad and the truck pad which is curbed and drains into catch basins, the balance of the property is undeveloped.

A review of the parking lots from west to east indicates that the storm water run-off from the parking lot and front yard on the west drive flows into the middle drive and ØØ1//ØØ1 RAINWATER CONTAINMENT System. Run-off from the ramped shipping dock flows into an interceptor type catch basin which has the capability of holding three drums of liquid prior to discharging them to the ØØ1//ØØ1 RAINWATER CONTAINMENT System. This is a preventive measure in that if a fork lift damages a drum, the material is not lost and the BULK OF THE MATERIAL CAN BE RECOVERED BEFORE IT REACHES THE CONTAINMENT SYSTEM.

The parking lot SURFACE WATER near the EAST driveway enters THE RAINWATER CONTAINMENT System at manhole 601. The entire remainder of the eastern driveway is controlled in that the truck unloading area, drum pad, and containment basin all drain into the ØØ1//ØØ1 RAINWATER/Spill Containment Tank which has the capability of holding a 15,000 gallon spill. The area to the rear of the facility between the drive is also controlled with surface catch basins going into an interceptor

behind the shipping dock which can hold a three drum spill without permitting it to enter the ~~SIREAM~~ CONTAINMENT SYSTEM. This is also an interceptor type design.

The only other surface water is that rainwater which enters through the roof drains which goes directly to ~~OUTFALL/001~~ THE RAINWATER CONTAINMENT System ~~AND/TO/THE//STREAM~~. Thus, ~~OUTFALL 001~~ THE RAINWATER CONTAINMENT SYSTEM is a no-drain, no-flow stormwater ~~OUTFALL~~ SYSTEM. The stormwater collected within the dike area of the tank farm is pumped into a storage tank, sampled, analyzed and logged by the chemist for his approval. The chemist will then determine whether the water can be processed on site or must go to an approved TSDF or to the treatment system and then the Sanitary Sewer.

The run-off control systems are described above and shown on the Plan Sheet 1A. The containment system for run-off diverts run-off from the outdoor operating areas of the facility to the 15,000 gallon containment tank. This tank is equipped with two 300 gallons per minute pumps which send the run-off to one of four 25,000 gallon storage tanks. The water in these tanks is sampled and tested for contaminants as each tank is filled and isolated.

B-3 Location Information

B-3a Seismic Standard

Because this is an existing rather than a new facility, the seismic standard does not apply. In addition, this facility is not located in an active fault zone.

B-3b Flood Plain Standard

The Hukill Chemical Corporation's facility is not located in a 100 year flood plain.

B-4 Traffic Patterns

The major traffic flow from the plant travels on Krick Road to Northfield Road, South to Alexander Road, East to freeway marginal roads, and South to I-271. From this point, it is easy to go anywhere north or south and to connecting points east and west.

B-4a Traffic Control

Traffic control patterns within the property and plant are shown on: Exhibits B-5 through B-7.

- Vehicular Traffic.....Exhibit B-5
- Truck Traffic.....Exhibit B-7
- Forklift Traffic.....Exhibit B-6

Vehicular traffic, employee and visitor vehicles, are restricted to the parking areas as shown. There are an estimated 30 to 40 of these vehicles on site during the day and only 5 to 10 during the off shifts. Contractors working on the facility are advised of the regulations and where they are permitted to park.

Truck traffic is estimated at 10 van trailers and 4 bulk transports a day at the loading dock area and 6 bulk transports a day at the east pad area.

Forklift traffic is 5 to 10 fork trucks on site with some of those recharging or in maintenance use.

Exhibits B-5A, B-6A and B-7A provide a schematic of the traffic flow for the planned facility. The planned facility traffic volume is not expected to be much more than noted above for the current operations.

B-4b Load Bearing Capacity

To date, all Hukill access roads have demonstrated integrity to all loads the facility traffic has created. We feel this demonstration information is adequate to satisfy the load bearing capacity information. Essentially, we feel that because there have not been problems with the road in the past, it must be capable of bearing the weights of the trucks. Recent soil borings and analysis have verified this, REFER TO EXHIBITS B-14A TO -14D. EXHIBIT B-15 IS THE STRUCTURAL ENGINEER'S SKETCH FOR THE CONCRETE PAD DESIGN INSTALLED IN THE EAST PAD AREA FROM 1988 TO THE PRESENT.

The construction of Krick Road meets the American Association of State Highway and Transportation Officials' (AASHTO) Specifications HS-20, designed for heavy truck traffic.

The planned facility will use the existing roadways except for the new east entrance, which will have a new concrete apron and direct the traffic to a new east entrance gate, which is slightly further east. As part of the Rainwater Management System, all three entrances will be provided with ramped concrete aprons.

B-4c Traffic Control Signals

Not applicable.

B-5 Facility Operating Records

A written operating record is maintained at Hukill Chemical Corporation as required by OAC 3745-54-73 (40 CFR - 264.73). This record will be maintained until the closure of the facility.

B-5a Location

The operating record is located in the front office in a four drawer file. A more detailed set of analytical information is located in the lab in a four drawer file. The manifest numbers can be used to cross reference these two files.

B-5b Operating Record

The following information is recorded as it becomes available and is maintained in the operating record until closure of the facility.

B-5b.1 Customer File

A copy of a description and the quantity of each hazardous waste received is maintained in an individual customer file which contains a copy of the signed manifests and the analysis report form from the lab. These can be cross referenced to Job Orders by Job Order Number for dates of processing and disposition.

B-5b.2 Hazardous Waste Inventory

An inventory of all Hazardous waste is maintained. Bulk storage tanks are inspected and inventoried each day. A daily inventory log is maintained which identifies the type of waste and physical state. Container storage inventory is maintained which identifies the customer code, the amount and types of containers, the manifest number, type of waste and physical state.

B-5.3 Lab Reports

Records and results of waste analyses are maintained in the customer files in the operating record both in the front office and the lab. This information is on the Lab Sample Analysis Report. All the results of the Gas Chromatograph are kept.

B-5.4 Summary Reports

The summary reports and details of all incidents that require implementing the contingency plan are maintained in the front office file.

B-5.5 Inspection Records

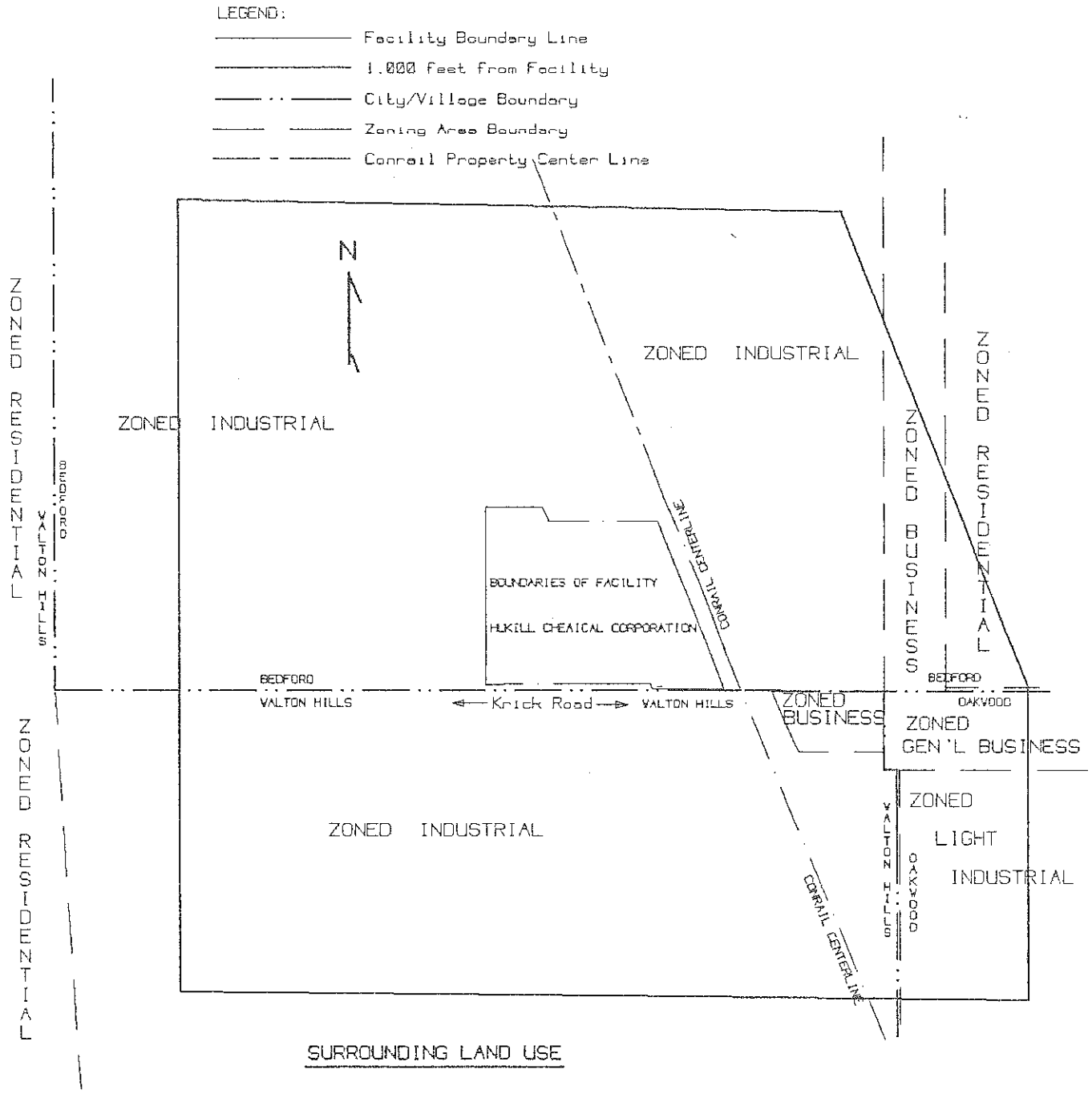
The records and results of the daily and weekly inspections are kept in the front office file. These records are kept for three years.

B-5.6 Closure Records

All closure cost estimates are filed in the front office file.

B-5.7 Personnel Training Records

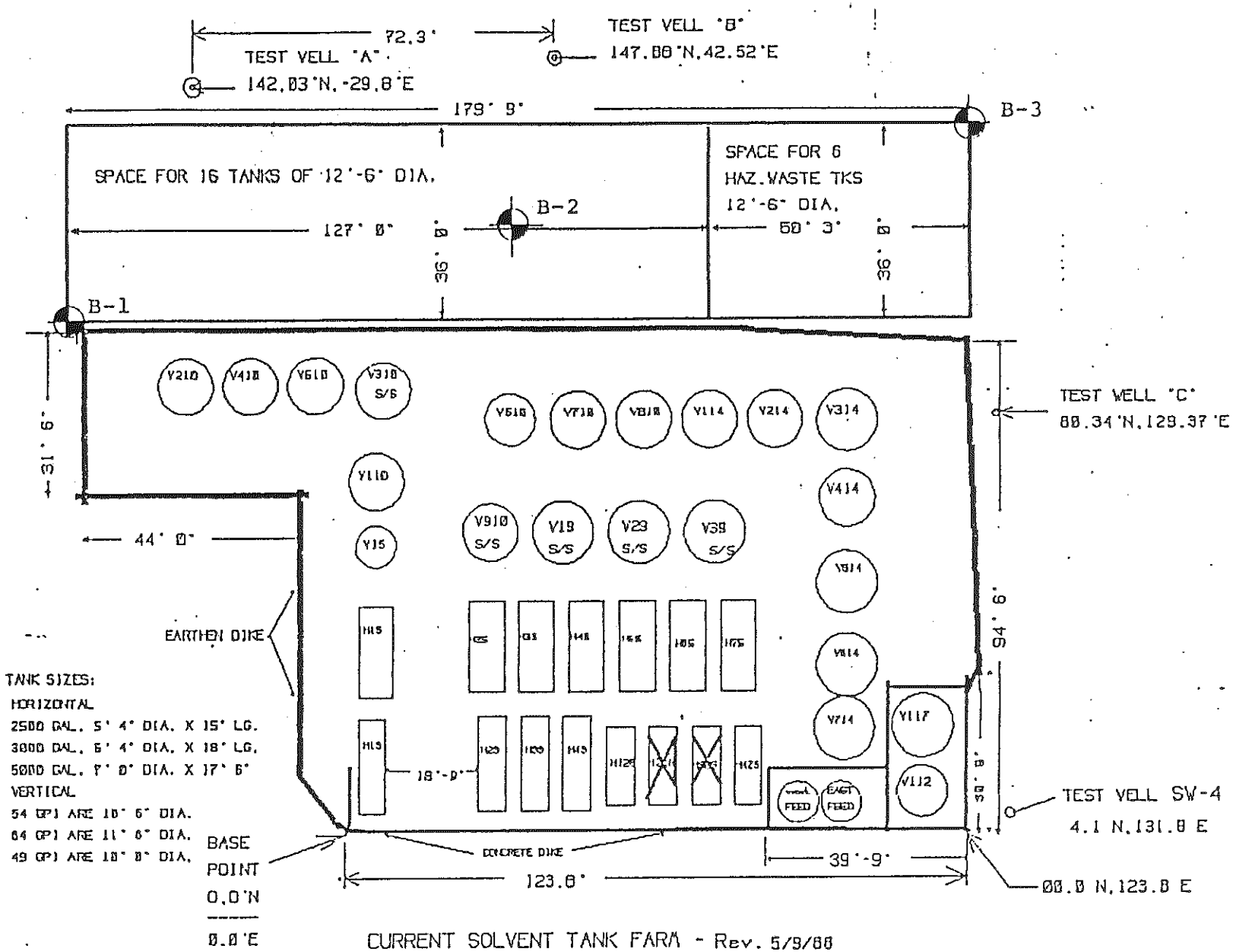
All personnel training records are kept in the front office operating record file.



SURROUNDING LAND USE

PLAN SHEET 5

HUKILL CHEMICAL CORPORATION
\SITEDWGS\LANDUSE.DWG Rev. 12/27/91
Scale: 1" = 500'



CURRENT SOLVENT TANK FARM - Rev. 5/9/88

LAYOUTB.DWG PHASE _____

HUKILL CHEMICAL CORPORATION

LABORATORY LOG OF BORING NO. B-1

OWNER Hukill Chemical Corp. **PROJECT** Tank Farm Expansion

LOCATION Bedford, Ohio

DRILLING METHOD Hollow stem auger

SURFACE ELEV.

DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-SPOON PENETRATION blows / 6 in.	UNCONFINED COMPRESSIVE STRENGTH (TSF)	UNIT DRY WT. lbs. / cu. ft.	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT
				FILL: CLAY & GRAVEL						
	1	SS		Very stiff brown lean CLAY (CL)	7- 9-10				17	
5	2	ST			Rec. 2.0	3.6	114		20	
	3	SS		Hard brown lean CLAY with sand (CL)	7-14-20				14	
10	4	SS		Hard brown sandy lean CLAY with gravel (CL)	14-18-20				14	
15	5	SS		Very soft to soft gray SHALE, moderately weathered	27-40				11	

Boring stopped at 14.5 ft.
No water encountered.
Dry on completion.

ADH-2

BORING DATE May 20, 1988

EDP/TRIGGS CONSULTANTS, INC.

Exhibit B-14B

LABORATORY LOG OF BORING NO. B-2

OWNER Hukill Chemical Corp. **PROJECT** Tank Farm Expansion

LOCATION Bedford, Ohio

DRILLING METHOD Hollow stem auger

SURFACE ELEV.

DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-SPOON PENETRATION blows / 6 in.	UNCONFINED COMPRESSIVE STRENGTH (TSF)	UNIT DRY WT. lbs. / cu. ft.	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT
				GRAVEL						
	1	SS		FILL: Very stiff brown lean CLAY with sand	6- 9-14				18	
5	2	SS		FILL: Stiff brown and black lean CLAY with sand and organics	3- 4- 5				25	
	3	ST		Stiff brown lean CLAY with roots, trace organics (CL)	Rec. 1.1'	2.3	114		20	
	4	SS			8-14-23				14	
10				Hard brown and gray lean CLAY with sand						
	5	SS		Very soft to soft brown and gray SHALE	25-30				13	
15										

Boring stopped at 14.5 ft.
No water encountered.
Dry on completion.

ADM-2 (

BORING DATE May 20, 1988

EDP/TRIGGS CONSULTANTS, INC.

LABORATORY LOG OF BORING NO. B-3

OWNER Hukill Chemical Corp. **PROJECT** Tank Farm Expansion

LOCATION Bedford, Ohio

DRILLING METHOD Hollow stem auger

SURFACE ELEV.

DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-SPOON PENETRATION blows / 6 in.	UNCONFINED COMPRESSIVE STRENGTH (T/sq.ft)	UNIT DRY WT. lbs./cu.ft.	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT
				FILL: GRAVEL, SLAG, and broken ASPHALT						
	1	SS		TOPSOIL with vegetation	4- 4- 7				26	
5				Stiff brown and gray lean CLAY (CL)						
	2	SS			5- 6- 8				17	
				Stiff brown lean CLAY with sand (CL)						
10	3	SS		Very soft to soft brown and gray SHALE, severely to very severely weathered	16-19-23				14	
15	4	SS			20-40					

Boring stopped at 14.5 ft.
No water encountered.
Dry on completion.

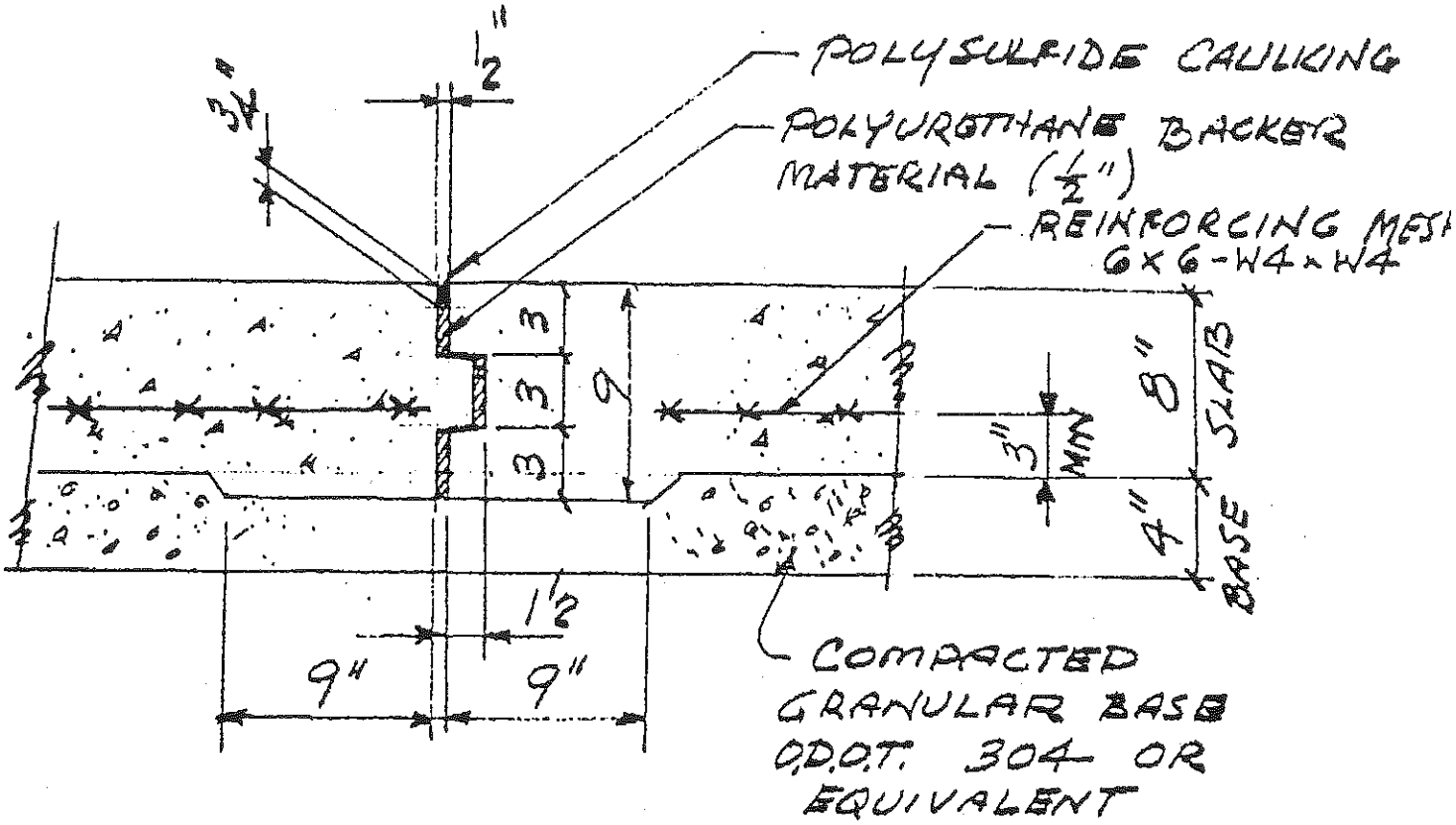
ADM-2 (8...

BORING DATE May 20, 1988

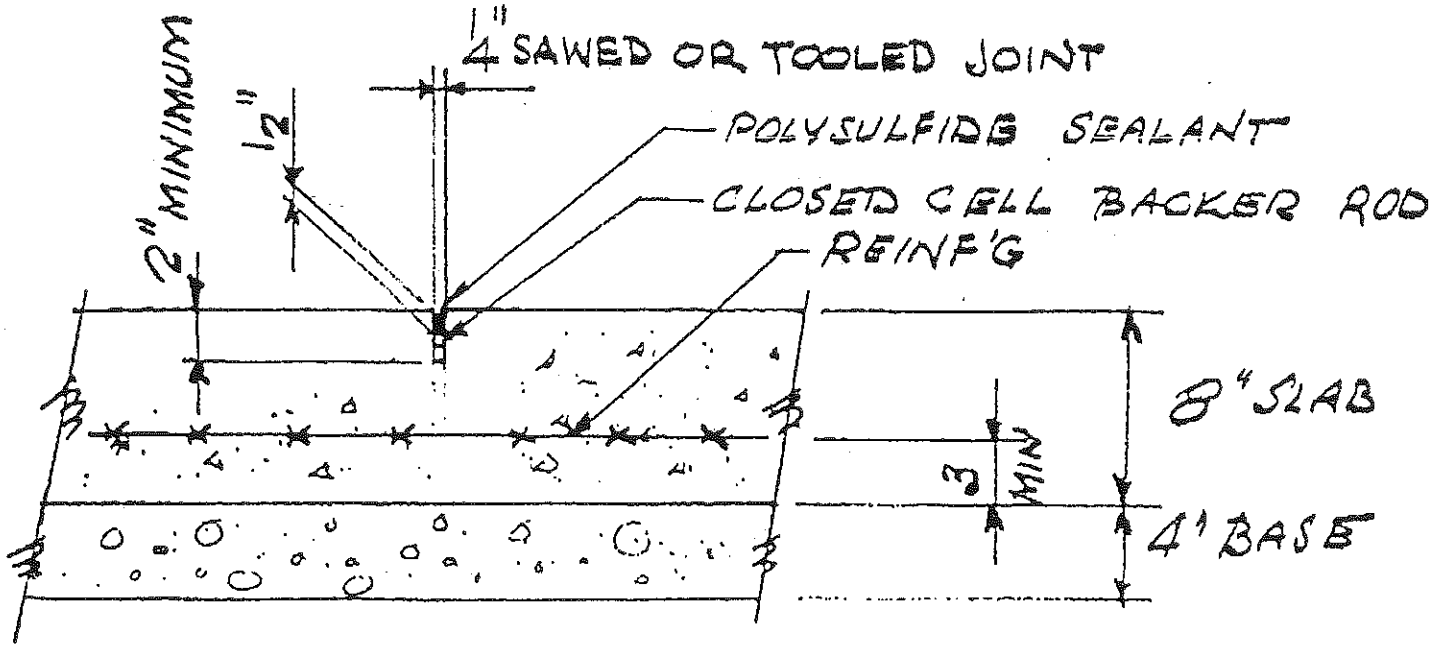
EDP/TRIGGS CONSULTANTS, INC.

Revision 8, 10/93

BY SMH DATE 10/5/88 SUBJECT HUKILL PAVEMENT DETAIL RECOMMENDATIONS SHEET NO. 1 OF
CHKD. BY DATE JOB NO. 1270



EXPANSION JOINT DETAIL 1 1/2" = 1'-0



CONTRACTION JOINT DETAIL 1 1/2" = 1'-0

SECTION C

Waste Analysis Pla

SECTION C

WASTE ANALYSIS PLAN

Hazardous Waste Characteristics

Overview - Solvent Wastes

Hukill Chemical Corporation (HCC) is a recycling and waste management facility for hazardous waste containing solvents and hydrocarbons. HCC receives recyclable solvents in 55 gallon drums, tote-bins or in bulk via tank trucks. Order sizes range typically from 500 to 7,000 gallons and are received from more than 450 customers on an annual basis.

Hazardous Wastes brought to HCC for reclaiming will usually contain industrial solvents and undesirable material such as paint pigments, ink pigments, greases, oils, resins, polymers, or color bodies, depending on the industry. In all cases, there is a short period of time where material is stored prior to processing.

Hazardous waste processing on the East side, solvent processing side, of the plant at HCC is directed toward the production of two basic products. One product is a distilled solvent which is returned to customers or sold for use as a solvent in cleaning, washing, formulating, etc. The other product is H W Fuels Blend that is sent to approved cement kilns and used as supplemental fuel for energy recovery.

Equipment used in processing hazardous materials into distilled solvents includes feed tanks, pumps, continuous and batch type distillation units and clean product storage tanks. Equipment used in processing H W Fuels Blends is storage tanks, homogenizers, mixers, shredders, grinders, pumps, mixing tanks, strainers, filters, etc.

The hazardous wastes generated by processing are water containing less than 7% solvent and distillation bottoms, which are further processed into specification H W Fuels Blends. The water is shipped off-site for treatment and disposal at an EPA approved water treatment facility. Solids that cannot be blended into liquid fuels are repackaged for use as solid supplemental fuels for energy recovery.

Other organic based hazardous waste materials are also managed on this side of the plant. Examples are consolidation of solids, contaminated rags, contaminated safety clothing, etc. for shipment to a TSDF for energy recovery or disposal.

Overview - Corrosive Wastes

Hukill Chemical Corporation provides a hydrofluoric/sulfuric acid mixture used in the glass industry. As a service to our customers, HCC receives this spent mixture and places it into a permitted storage tank. From this storage tank, the spent mixture is processed by adding the required amounts of hydrofluoric and sulfuric acids to bring the mixture back up to

original strength. This process allows some of the spent acid to be recycled.

The equipment used in processing this hazardous waste acid is the spent acid storage tank, a blend tank, virgin acid storage tanks and pumps. The spent and recycled acids are transported in bulk tank trucks.

HCC plans to provide a neutralization service for their acid and caustic distribution customers. Spent acids and caustics will be transported from the generator in 55 gallon drums, tote-bins and bulk trucks.

These hazardous wastes will have the characteristics of corrosivity and in some cases, toxicity. HCC has planned the construction of a Corrosive Waste Storage Building which will provide for storage of tote-bins and drums under roof in containment areas. The bulk liquids will be stored in three 4,000 gallon permitted storage tanks in a diked area under roof in the same building. These storage tanks will contain agitators and be equipped with a cooling system. They will also be used as neutralization tanks.

The equipment for the processing of spent corrosives will be the three neutralization tanks as mentioned above and further discussed in Section D, transfer pumps, a vapor vent scrubber system and fork-lift trucks for moving the containers to the staging area for pumping out to the tanks.

C-1 Chemical and Physical Analyses

Table C-1, found on the following page, provides the logic flow for determining the mandatory and supplemental chemical and physical testing that HCC does on incoming hazardous wastes to; 1.) provide the information required to safely store and manage the waste, (2.) assure that the waste matches the identity of the waste specified on the manifest and the Waste Data Sheet, and (3.) provide information to economically process the material. The tests listed in the Supplemental, lower section of the table, are those which may be employed depending on results of the mandatory testing, customer information and processing requirements.

HCC must test the off-site hazardous wastes for those chemical and physical properties which must be known to safely store and manage the wastes prior to placing them into storage.

Spent Solvents

Most of the spent solvents we recycle fall under the definition of hazardous wastes as determined by the generators, i.e., our customers. Because of this and the quantities of materials we deal with, Hukill Chemical Corporation is classified officially

TESTING OF INCOMING HAZARDOUS WASTES FOR STORAGE & MANAGEMENT

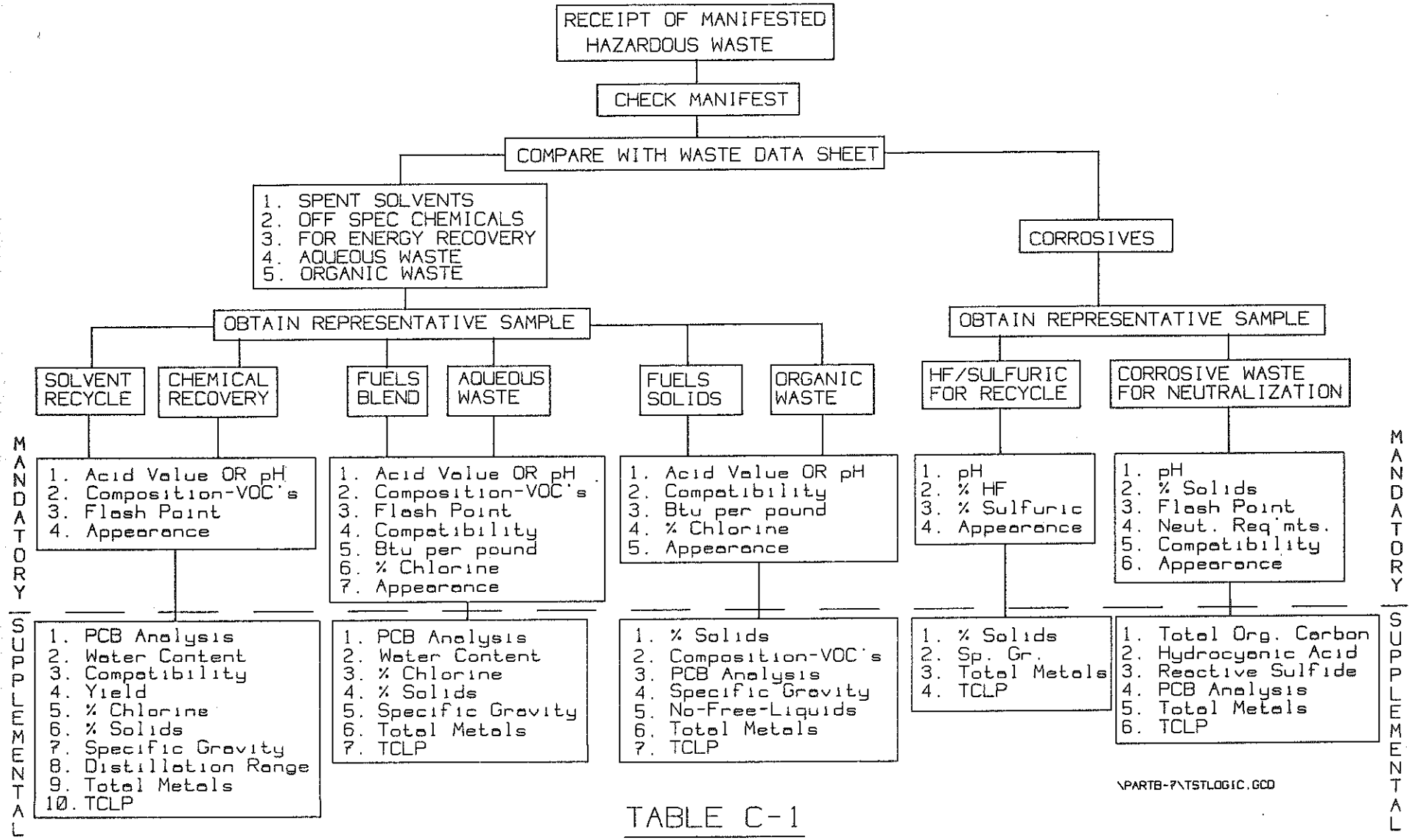


TABLE C-1

Mandatory and Supplemental Tests for Hazardous Wastes

as a hazardous waste storage facility. The general types of spent solvents which HCC handles are (using the EPA hazardous waste codes) as follows:

F001 Spent halogenated solvents and still bottoms from the recovery of these solvents.

F002 Spent halogenated solvents and the still bottoms from the recovery of these solvents.

F003 Spent non-halogenated solvents and the still bottoms from the recovery of these solvents.

F004 Spent non-halogenated solvents and the still bottoms from the recovery of these solvents.

F005 Spent non-halogenated solvents and the still bottoms from the recovery of these solvents.

D001 General ignitable waste solvents, (flash point less than 140 degrees Fahrenheit) which are not listed as a hazardous waste in OAC Chapter 3745-51 (sub-part D of CFR 40, Part 261).

D002 Spent acids and bases with the characteristic of corrosivity as described in OAC 3745-51-22 (40 CFR Part 261.22).

Hazardous Wastes from Specific Sources (K Codes)

HCC handles hazardous wastes from specific sources (K Code Wastes) such as K086. Some of the wastes received by HCC may be primarily spent solvents, F Code wastes, which may have been mixed or derived from K Code wastes and the manifest may contain the K Code(s).

Some of the hazardous wastes may be primarily K Code wastes which HCC can safely store and manage and provide a processing service, recovery, neutralization or fuels blending.

Off-Specification Chemicals (U Codes)

HCC also handles solvents which a customer must discard or have processed because they are off-specification or have been blended accidentally with other chemicals. Some of these chemicals which have been processed are listed below with the corresponding hazardous waste numbers:*

U002	Acetone	U140	Isobutyl Alcohol
U112	Ethyl Acetate	U154	Methyl Alcohol
U080	Methylene Chloride	U159	Methyl Ethyl Ketone
U213	Tetrahydrofuran	U161	Methyl Isobutyl Ketone
U220	Toluene	U239	Xylene

* A complete listing of hazardous wastes of this type can be found on page 6 of this document (Part A Application).

Toxicity Characteristic Wastes (D Codes)

Some of the organic hazardous wastes received by HCC may not be listed wastes but have only the characteristic of toxicity. These hazardous wastes would be managed, after initial testing, for fuel blending or chemical recovery.

Hazardous wastes are generated by distillation, fuels blending, and solids processing (water, dirty solvent, distillation bottoms and solid fuels). These hazardous wastes are derived from the received hazardous wastes. The hazardous waste classifications for the generated wastes will be the same as the materials they were derived from. Only the concentrations of solids, solvents, and water will change.

Toxicity. Some of the above wastes will contain small amounts of materials that may cause them to have, in addition to the listed constituents, ignitability or corrosivity for which they are primarily classified, the characteristic of toxicity.

Recycling of Spent Hydrofluoric/Sulfuric Acid Mixture

HCC manufactures a Hydrofluoric/Sulfuric Acid mixture used in the glass industry. This mixture is made from virgin acids and spent acids returned to HCC by the generator/user. However, because less than 75% of this spent acid is recycled, the storage and handling of this spent material is subject to regulation as hazardous waste. OAC 3745-51-01(C)(8) (40 CFR 261.1(c)(8))

Spent acid is either recycled in a blending tank at HCC by mixing it with virgin sulfuric and hydrofluoric acids or sent to an EPA approved water treatment facility for treatment and disposal. Refer to Exhibit C-1 for a typical H F Worksheet.

This spent acid waste is classified as a D002, characteristic waste due to its corrosivity. OAC 3745-51-22 (40 CFR 261.22)

Some of the this waste may contain small amounts of materials that may cause it to have the characteristic of toxicity.

The spent hydrofluoric/sulfuric acid mixture has approximately the following composition:

% Hydrofluoric Acid	35%
% Sulfuric Acid	22%
% Water	42%
Specific Gravity	1.382 @ 60 Deg. F

Neutralization of Spent Acids and Caustics

HCC sells virgin acids and caustics to industry. As a service to their customers, they plan to provide the capability at this facility to do elementary neutralization of spent acids and spent caustics.

The spent acids and caustics will generally have the characteristic of corrosivity (D002) and sometimes the characteristic of toxicity. The wastes will be aqueous wastes with pH less than or equal to 2 or greater than or equal to 12.5 as determined by a pH meter using the Test Method 9040 found in EPA Publication No. SW-846.

The chemicals neutralized in the process will consist primarily of the following: sulfuric acid, hydrochloric acid, nitric acid, phosphoric acid, sodium hydroxide, potassium hydroxide, ammonium hydroxide.

C-1a Containerized Waste

HCC may store containers of solids in the permitted No-Free-Liquids Storage Area on the East Pad Area in compliance with OAC 3745-55-55(C). The description of this storage area is found in Section D under the heading "East Pad Storage Area". Containers placed here will have been sampled and tested as outlined in Table C-1. In order to store containers in this area, HCC will test representative samples of the material in the containers using the Paint Filter Liquids Test, Method 9095. This test is currently found in EPA Publication No. SW-846.

C-1b Waste in Tank Systems

Hazardous wastes stored in tanks on the east side of the plant, generally referred to as the spent solvent storage tanks, may be listed wastes and also have the hazardous characteristics of ignitability and toxicity. If a hazardous waste designated for storage in this area is found to have the characteristic of corrosivity, it will be neutralized prior to storage.

Hazardous wastes stored in tanks on the west side of the plant, referred to as corrosive storage tanks, may have the hazardous characteristics of corrosivity and toxicity. Wastes with the characteristic of ignitability will not be stored in the tanks on this side of the plant.

HCC does not accept wastes with the characteristic of reactivity.

C-2 Waste Analysis Plan

Overview

Before Hukill Chemical Corporation enters a business relationship with a customer to process or reclaim a hazardous waste, a Waste Data Sheet is completed with the generator's information on the hazardous waste and, in most cases, a pre-shipment sample is analyzed.

Note that the information and procedures in this section also

apply to those planned hazardous waste storage and management facilities.

A current copy of HCC's "Waste Data Sheet", Exhibit C-2, found in the appendix to this section, requests generator information and certification. Some of the information requested on the sheet is the following:

1. Description of the waste and the generating process.
2. Expected volume of the waste.
3. Applicable Waste Codes.
4. Chemical composition of the waste.
5. Manifest and transportation information.
6. Physical description of the waste.
7. Fuels recovery information.
8. Whether the waste exhibits any reactive properties.
9. Check list for PCB's, free cyanides, etc., compared to regulatory level.
10. Metals present and if below or above the regulatory level.
11. California List Contaminants and if they are above or below the regulatory level.
12. TCLP organics present and if below or above the regulatory level.
13. Attached supplemental information such as MSDS, Lab Analysis or Waste Profile.
14. Disposition of material - reclaim (toll), fuel, for HCC resale.

Customers are advised on the Waste Data Sheet that unacceptable materials include organic cyanides, lachrymators, mercaptans, PCB's, insecticides, pesticides, herbicides, or other severely toxic, poisonous, explosive, corrosive, reactive or radioactive materials.

Knowledge of the organic and inorganic constituents that may add the characteristic of toxicity to the material or a TCLP analysis report are included in the above questions.

If there is any change in the process generating the waste stream the customer will be requested to complete a new Waste Data Sheet

and provide additional analysis, if available.

The Waste Data Sheet contains a generator certification which is signed by an authorized person representing the customer.

Using a pre-shipment sample as a standard, hazardous wastes shipped to HCC are analyzed using the same procedures as for the pre-shipment sample, not only to confirm the validity of the Hazardous Waste Manifest, but also to check for basic changes in composition. A form for notification of Hazardous Waste Restricted from Land Disposal must accompany the shipment manifest.

All samples will be analyzed for those parameters which provide the information necessary to store and manage waste in accordance with state and federal requirements. If more extensive testing is required than the parameters outlined below, a representative sample will be submitted to a competent analytical laboratory for further analysis. In some cases, analytical results obtained by the generator may be used to help identify the waste. The generator's knowledge or the knowledge of wastes from similar processes will also be used, as required, to help identify the hazardous constituents of the waste.

A written description of the process and copies of the Material Safety Data Sheets (MSDS) for the materials that comprise the waste would constitute knowledge of the waste.

A Total Metals or TCLP analysis will be requested from the generator of a waste stream for which there is not adequate knowledge of its toxicity characteristics. A subsequent Total Metals or TCLP analysis would be requested from the generator if there is a significant change in the waste stream that may affect the levels of toxicity characteristics to the extent that D waste codes should be added or dropped to properly identify the changed waste stream.

Responsibilities for determining manifest and Land Disposal Restriction notification discrepancies, and accepting or rejecting loads of hazardous wastes lie with the President/General Manager, the Plant Manager, the Manifest Control Function, and the Lab Supervisor. The Lab Supervisor has the responsibility, using trained chemical technicians and proper analytical techniques, to determine manifest and Land Disposal Restriction notification discrepancies involving improper description of the material. The Plant Manager, who supervises the work of the Lab Supervisor and technicians, has the authority to accept loads of hazardous waste. If a load must be rejected, a final authorization will normally come from the President/General Manager after a recommendation from the Plant Manager. In his absence, the Plant Manager will authorize rejection. The Manifest Control Function has the responsibility to audit each manifest for completeness prior to final distribution and filing.

C-2a Parameters and Rationale

Information gathered during sampling and analysis is recorded on a Sample Analysis sheet. Refer to Exhibits C-3 and C-4, found in the appendix to this section, for examples of the Sample Analysis sheet. When complete, this sheet is placed in the facility operating record.

The parameters for which each type of hazardous waste may be tested are listed in Table C-1, "Mandatory and Supplemental Tests for Hazardous Wastes". The specific Supplemental tests to be run will be determined based on the type, source, Mandatory test results and knowledge of the waste stream. The rationale for each test is as follows:

a. Acid Point Value (APV) Procedure for Solvent Acidity
The Acid Value analysis will identify the corrosive potential of waste. Even slightly basic or acidic materials which may or may not be compatible with certain metals are noted and provisions made for safe transportation and handling. High acid value in a waste designated for the solvent storage tanks may be cause for rejecting the waste if neutralization of the waste cannot be safely managed prior to storage.

b. pH
A measure of acidity or basicity in an aqueous medium. The test is used to check aqueous wastes and wastes that have the characteristic of Corrosivity (C).

c. Composition (Volatile Organics by G.C.)
This analysis is performed to confirm that the composition of the waste is as manifested and to determine the amount of each volatile organic component in the waste. This test also verifies the toxicity of the waste (T) and if the waste is a listed waste.

d. Flash Point
Flash point is used to verify if the waste has the characteristic of ignitability (I). In the case of waste designated for Corrosives handling side of the plant, the characteristic of Ignitability would be cause for rejecting the waste.

e. Water Content Determination
This analysis is done primarily for determining the processing economics. An indication of the water content is also determined on one of the G.C. columns.

f. Compatibility
Whenever wastes are evaluated for H W Fuels Blend, the waste is evaluated for its compatibility with other wastes. This is done to assure that processing problems will not arise from gelling, precipitation, heat evolution and gas evolution

when the waste streams are mixed. Still bottoms generated from the reclaiming operation are checked for compatibility with a typical H W Fuels Blend upon mixing.

Wastes that are designated to be processed into H W Fuels Blend are checked for compatibility with typical H W Fuels Blend product.

Corrosive wastes that are designated for a neutralization batch are combined in small quantities to observe the reaction and note any gelling, precipitation, extreme heat evolution and gas evolution when the waste streams are mixed.

g. Btu per Pound Value
In order to certify that a material is a suitable fuel, the heat of combustion is determined.

h. Percent Chloride
The Percent Chloride in combustion residue samples is analyzed so that fuel products can be properly blended to assure that the maximum chloride content in H W Fuels Blend products is not exceeded.

i. PCB Analysis
This test is done for hazardous wastes to assure that PCB's are not present above the allowable level (50 ppm). Presence of PCB's above 50 parts per million may be cause for rejecting a load of hazardous waste. PCB analyses will be run as indicated in Table C-2 and on a random basis for other organic and Corrosive wastes.

j. Neutralization Requirements
Samples of Corrosive wastes will be neutralized to determine the amount of acid or base required to neutralize the waste. This is done to determine the neutralization batch requirements.

k. Hydrocyanic Acid
This spot test is done to screen hazardous wastes to assure that hydrogen cyanide will not be evolved in the neutralization process. Presence of a significant amount of hydrocyanic acid may be cause for rejecting a load of hazardous waste.

l. Reactive Sulfide Determination
This spot test is done in cases where sulfides may be present in a waste. Presence of a significant amount of reactive sulfide may be cause for rejecting a load of hazardous waste.

m. Total Metals
This test is used for two purposes. First, it will determine if total metals are below the toxicity characteristic regulatory levels, and thus below the regulatory levels by TCLP analysis. Second, it will alert Production if there are

any metals present above the specifications for H W Fuels Blends set by the cement kilns. A composite of H W Fuels Blends generated by HCC is analyzed for total metals on a quarterly basis to assure that they are properly manifested and meet the Land Disposal Restriction notification requirements.

n. TCLP Analysis
This test can be used to determine if the hazardous waste has the characteristic of toxicity. A TCLP Analysis may be used by a customer in the case where the constituents in a generator's waste are not known.

o. Total Organic Carbon (TOC)
In cases where the sample may contain a significant amount of organics, the TOC is run to determine the economics of processing. In some cases, this may be cause for rejecting a load of Corrosive waste designated for neutralization.

p. Specific Gravity (Sp.Gr.)
The specific gravity is determined as part of the physical properties determination.

q. Distillation Range
This is sometimes used to help determine the economics for recovery of spent solvents by distillation.

r. Percent Solids
A sample of waste is evaporated until free liquid is removed and the % solids is determined by weight difference. This test is done to determine processing economics.

s. Appearance
The technician is required to note the phisical appearance of received hazardous wastes. This provides additional information when discussing the properties of the material with a generator and in comparing a shipment with previous shipments and the preshipment sample.

t. No-Free-Liquids Determination
HCC will use this test whenever it is required to store containers of organic solid hazardous waste in the permitted No-Free-Liquids storage area.

C-2b Test Methods

HCC is implementing a Laboratory Quality Assurance/Quality Control (QA/QC) Program where needed to provide reliable analytical results for its customers, regulatory agencies and HCC's processing operations. The current QA/QC Program is found

in the appendix to this section, Exhibit C-5. This QA/QC Program may be modified in the future to meet regulatory changes, customer requirements and HCC's laboratory requirements.

a. Acid Point Value (APV) Procedure for Solvent Acidity
This procedure determines either the acidity as Acetic Acid or basicity as mg KOH per gram sample as outlined in the Hukill Chemical Corporation Laboratory Manual and found in the appendix of this section, Exhibit C-6. The APV limits and the action to be taken is listed on a separate sheet and found in the appendix, the second page of C-6, of this section.

b. pH
The pH of a sample is determined by either pH paper, using U.S. EPA SW-846 Test Method 9041 or a calibrated pH meter, U.S. EPA SW-846 Test Method 9040. This provides an indication of acidity or alkalinity if the sample has some water present. Otherwise, for organic phases, the acid point value is relied upon.

c. Composition (Volatile Organics by G.C.)
Samples of the liquid phases of wastes are injected into the ports of one of two gas chromatographs (G.C.). One G.C. is set up for anhydrous solvents and another is set up for solvents containing water. The resulting gas chromatograms are compared with those of previous shipments from the customer and with the chromatograms of analytical standards.

d. Flash Point
Flash Point determinations are made using the Setaflash equipment and Method 1020 found in the Third Edition of U.S. EPA'S SW-846.

For Corrosive wastes, if a sample is believed to be damaging to the Seta-Flash equipment, it will first be brought to a pH of 6 to 9 with dilute hydrochloric acid or dilute sodium hydroxide being careful not to heat the sample and drive off any volatile organics. This test is conducted to assure that the corrosive waste does not have the characteristic of ignitability.

e. Water Content Determination
The water content of as-received wastes is determined with the Lab Aquameter using Karl Fisher reagent as outlined in the Hukill Chemical Corporation Laboratory Manual and also found in the appendix to this section, Exhibit C-7. If the sample contains constituents, such as ketones in a concentration that may interfere with the Karl Fisher method, the percent water from the above G. C. method may be used for approximating the water content.

f. Compatibility
This test method has been developed by HCC and requires

mixing small amounts of the incoming waste with a sample from the current H W Fuels Blend and observing the resultant mixture for signs of precipitation, agglomeration or reaction. This basically screens for incompatible solvent mixtures, where the addition of one solvent to a mixture may cause a dissolved solid to recrystalize of "kick out" of the solution. This also provides assurance that the incoming H.W. material will not react with other materials on hand.

The test consists of preparing a small 50/50 volume mixture of the current composited HW fuels blends with the incoming sample. The mixture is then evaluated for the following:

1. viscosity increase, thickening and gelling
2. solids precipitating out of the mixture
3. evolution of heat
4. evolution of gas

In cases where any of the above conditions are observed for organic wastes, the results are logged and the laboratory supervisor is advised. The incoming material is isolated and further investigation is done to determine the cause of the test failure. In the case of organic wastes, where significant heat or gas is evolved in the test, the material is rejected and the customer is advised. HCC does not accept reactive wastes. In the case where the viscocity increased or where solids precipitated, a technical determination is made and management is advised. The decision is then made as to the safety of storing and processing the material. In any case, the basisity or acidity should be rechecked to assure that the material is compatable with the storage tanks and equipment.

In the case of Corrosive wastes, significant gas evolution during a trial lab batch neutralization would be cause for rejecting a shipment designated for neutralization.

g. Btu per Pound Value
ASTM D-808 procedure as outlined in the Hukill Chemical Corporation Laboratory Manual and found in the appendix to this section, Exhibit C-8.

h. Percent Chloride
Modified ASTM D-512-B procedure as outlined in the Hukill Chemical Corporation Laboratory Manual and found in the appendix to this section, second page of Exhibit C-8.

i. PCB Analysis
The procedure for testing waste samples for the presence of Polychlorinated Biphenyls (PCB's) uses a Hewlett - Packard Model 5890A gas chromatograph equipped with an electron capture detector. Standards are run for determining the amount of PCB in a sample. The reading of 25 ppm or higher

for a sample requires a recheck.

If the results of the recheck are still near, or above, the 25 ppm of PCB content range, a sample of the material may be sent to an outside lab with a GC/Mass spectrophotometer. The customer is advised at this point. The material is isolated or returned to the customer pending the outcome of the laboratory's results. If the PCB level is found to be 50 ppm or higher, the material is returned to the customer or the customer has HCC make arrangements for proper disposal.

j. Neutralization Requirements
A representative portion of the sample will be neutralized to a pH of 6 to 9 using 1.0 normal hydrochloric acid or 0.5 normal sodium hydroxide to determine the amount of acid or base required to neutralize the waste and eliminate the characteristic of corrosivity.

k. Hydrocyanic Acid
This is a spot test using chloramine-T and pyridine-barbituric acid, or other equivalent methods, for the determination of cyanide in aqueous phase samples and water soluble solid phase samples. Reactive wastes will not be handled at this facility.

l. Reactive Sulfide Determination
This is a spot test using an indicator strip or other appropriate method for determination of sulfide in aqueous phase samples and water soluble solid phase samples.

m. Total Metals
This will normally be done using a microwave digestion procedure designed to be equivalent to Methods 3005 to 3050, U.S. EPA Publication No. SW-846, followed by analysis by Inductively Coupled Plasma - Atomic Emissions Spectrocopy, Method 6010, U.S. EPA Publication SW-846.

n. TCLP Analysis
Method 1311 Toxicity Characteristic Leaching Procedure (TCLP) found in 40 CFR Part 261, Appendix II, or equivalent, followed by Method 6010, U.S. EPA Publication No. SW-846, for Total Metals.

o. Total Organic Carbon (TOC)
If the sample is suspected to contain a significant amount of organics, a total organic carbon analysis using Method 9060, U.S. EPA Publication No. SW-846, will be done.

p. Specific Gravity (Sp.Gr.)
This test is conducted using a hydrometer calibrated for the appropriate specific gravity range. The test is usually conducted with the sample at room temperature.

q. Distillation Range
This a modified ASTM procedure used to determine the distillation range. This test is not included in the appendix since it is used for determining the economics of processing and not necessary for meeting regulatory requirements.

r. Percent Solids
This is Percent Solids determination as outlined in Hukill Chemical Corporation Laboratory Manual and involves evaporating the solvents from an as-received sample. This procedure is also found in the appendix to this section, Exhibit C-9.

s. Appearance
This is a written description of the color, odor, relative viscosity, texture, etc. as observed by the laboratory technician.

t. No-Free-Liquids Determination
No free liquids - take a representative sample of every third drum from the same source and run a "paint filter liquids test" using Method 9095, U.S. EPA Publication No. SW-846. If any drum fails, sample and test all the drums from that source. Mark those that fail "Contains Free Liquid" and segregate them.

HCC is required to inspect hazardous waste movements according to OAC 3745-54-13 (Section 264.13). We have extensive records of testing of products supplied by existing customers and testing of similar products OAC 3745-54-13(A)(2) (40 CFR Part 264.13 (a)(2)). We analyze products from every customer on a regular basis. OAC 3745-54-(A)(2)(3)(4)(40 CFR Part 264.13(a)(2)(3)(4)). We inspect each hazardous waste movement as required under OAC 3745-54-13 (A)(4) (40 CFR Part 264.13(a) (4)). These inspections have been a part of our normal business for over 35 years.

C-2c Sampling Methods

Container Sampling

1. Each container received at the facility is identified with the following code:
   a. HCC internal customer number.
   b. Hazardous waste manifest number or HCC manifest indexing number.
   c. The number of drums from a specific waste stream in the shipment.
   d. Optionally, an abbreviation of the major component or other description.
   e. Internal job/work order number (if for reclaiming).
   f. Date the hazardous waste is placed into storage.

2. The sampler then segregates the drums into groups with

similar processing requirements.

3. A composite sample is made for each group by sampling a representative number of drums in that group as outlined in Table C-2.

4. In lieu of a Coliwasa - samples of containerized wastes are sampled using a 4 oz. bottle-narrow mouthed, (i.e., 1/2" dia), glass bottle attached to a rigid wire. By feeding the bottle down through the drum such that air is displaced from the bottle at a steady rate, a representative sample of the waste material in the drum is obtained. We have found this method of sampling to be accurate and much more desirable, from a spill and housekeeping aspect, than the cumbersome Coliwasa method.

Occasionally, when drums are known to contain significant "heels" of solid pigments, resins, dirt, etc., a drum pump will be used to extract material at the liquid/solid interface. Other methods may be used as necessary to obtain representative samples.

Proper sampling and safety procedures will be followed at all times. Required personal protective equipment will be worn.

Group composite samples are labeled with the manifest number or the HCC manifest indexing number. All samples will be identified with the company of origin, date sampled, number of drums and any other identification required for processing.

Bulk Liquid Sampling Methods

The minimum number of samples on a composite waste is two (top and bottom) per compartment. Tote bins (portable containers) are sampled using the bulk liquid sampling methods. There really is no set maximum number of samples, but, 3-4 per compartment are possible. Bottles are labeled via the method previously described.

Samples are obtained via bottles which are dipped into the top of each compartment via a wire or string. Bottoms of compartments are sampled by draining material out of the compartment's bottom valve. Sample bottles are glass or plastic and must be compatible with the material being sampled.

Sample Analysis Form

A sample analysis form will be used to control all sampling at HCC. A copy of each sample analysis is placed in the Operating Record.

Sample Storage

All retain samples of received or shipped wastes are stored at the Hukill Chemical Corporation for a minimum of three months. Analysis of these wastes are stored five years. All samples are

stored in an explosion proof area with fire protection.

C-2d. FREQUENCY OF ANALYSIS

One of the sampling frequencies shown in Table C-2, "Sampling Protocol for Received Hazardous Wastes", will be followed depending on the type of container, previous analytical history for customer's waste, pre-shipment sample analysis, restricted waste notification, salesperson's comments and any other information pertaining to the consistency and accuracy of the pre-shipment information. Table C-2 is found on the following page.

PCB analysis will be done on samples as indicated in Table C-1 and Table C-2. If PCB's are found in any material at a level of 25 ppm or more, the process operator in charge of the area operations for the shift will be advised that the material is to be segregated and identified. The pertinent information will be communicated to the Plant Manager and Lab Supervisor.

C-2e Additional Requirements for Wastes Generated Off-Site

HCC follows the procedures and statistical methods used to determine a representative sample of incoming wastes as outlined in Table C-2.

C-2f Requirements for Ignitable, Reactive or Incompatible Wastes

The organic hazardous wastes are all considered to be ignitable. As discussed in Section D, the spent solvent area is constructed and operated to handle flammable materials.

HCC does not handle reactive wastes and incoming materials are, as described above, screened for compatibility.

C-3 Waste Analysis Requirements Pertaining to Land Disposal Restrictions

C-3a Waste Characterization

A copy of HCC's current "Notification of Hazardous Waste Restricted From Land Disposal" form, Exhibit C-10, is included in the appendix to this section. This form is to be completed by the generator and sent with each shipment of hazardous waste. This form provides a statement from the generator regarding the characteristics of the hazardous waste stream. Preshipment sample analysis and incoming waste analysis done by HCC and any customer analysis reports on the waste stream provide further assurance that the waste is properly characterized.

Exhibit C-11, found in the appendix to this section, is an example of a completed Waste Data Sheet from a customer describing a hazardous waste received by HCC.

SAMPLING PROTOCOL FOR RECEIVED HAZARDOUS WASTE

All hazardous waste received at Hukill Chemical Corporation's facility will be sampled using the following protocol.

Use the proper sampling methods, described in Section C-2c, to obtain a Representative Sample.

Mark containers with the sample number. Complete all information on each individual sample identification.

Refer to Table C-1, "Mandatory and Supplemental Tests for Hazardous Wastes". Check for when PCB analyses are required. If initial analysis indicates that PCB's are present, recheck. If recheck shows PCB's are over 25 ppm, advise Lab Supervisor. Tag and Isolate the shipment.

Retain one half of each sample until tests are completed and waste is approved, then make a composite of these samples for a Retain. Place Retain sample in storage and hold for at least 3 months.

WASTE RECEIVED IN	ESTABLISHED CUSTOMER	NEW CUSTOMER
Bulk Transport - Liquid	Sample Top and Bottom of Each Compartment. Composite. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.	Sample Top and Bottom of Each Compartment. Composite. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.
5 to 80 Containers - Liquid	Sample 2 Containers or 10%, Whichever is Greater. Composite. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.	Sample 5 Containers or 10%, Whichever is Greater. Composite. Run PCB Analysis on Composite. If PCB's are Below 25 ppm, Run Mandatory Tests and Appropriate Supplemental Testing for Processing.
2 to 5 Containers - Liquid	Sample 2 Containers. Composite. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.	Sample ALL Containers. Composite. Run PCB analysis on composite. If PCB's are Below 25 ppm, Complete Remaining Mandatory Tests and Appropriate Supplemental Testing for Processing.
5 To 80 Containers - Solids	Sample 5 Containers or 10%, Whichever is Greater. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.	Sample 5 Containers or 10%, Whichever is Greater. Composite. Run PCB Analysis on Composite. If PCB's are Below 25 ppm, Complete Remaining Mandatory Tests and Appropriate Supplemental Testing for Processing.
1 to 5 Containers - Solids	Sample ALL Containers. Composite. Run Mandatory Tests and Appropriate Supplemental Testing for Processing.	Sample ALL Containers. Composite. Run PCB analysis on composite. If PCB's are Below 25 ppm, Complete Remaining Mandatory Tests and Appropriate Supplemental Testing for Processing.

Exhibit C-12, found in the appendix to this section, is an example of a completed Land Disposal Restriciton notification for a shipment of hazardous waste off-site by HCC.

The completed land disposal restriction notification and any customer analysis or supporting data provided for the description of the waste stream is retained on site for five years.

Note that the above forms may be revised, from those examples in the appendix to this section, to respond to changes in regulations or to improve the quality of information on the waste streams received by HCC.

HCC accepts F001 - F005 solvent wastes. As outlined in Table C-1, HCC tests the incoming spent solvents for volatile organics.

Corrosive and aqueous wastes are tested for pH, a mandatory test, as shown in Table C-1.

HCC's Waste Data Sheet notes that HCC does not accept Dioxins.

C-3b Notification and Certification Requirements

C-3b(1) Retention of Generator Notices and Certifications

As stated under C-3a, the notices and certifications submitted by the initial generator of the waste are reviewed and stored for a minimum of five years. A Land Disposal Restriction (LDR) notification and manifest must be received by HCC prior to accepting an LDR waste.

C-3b(2) Notification and Certification for Wastes to be Further Managed

H W Fuels Blend, a hazardous waste generated by HCC, is a product obtained by processing and blending hazardous wastes. The specification material is made from still bottoms from reclaiming hazardous waste, un-distilled hazardous waste, hazardous waste solids and distilled solvent mixtures (non-hazardous material with little or no resale value). In order to meet the H W Fuels Blend specification, blending, mixing/homogenizing and filtration operations are conducted. The product specifications and processing methods are subject to change in order to maintain the product's end user, usually cement kilns, requirements.

Typical situations where blending of wastes is necessary in the processing of H W Fuels Blends are:

1. Mixing of a viscous waste with recovered solvent in order to lower viscosity.

2. Mixing of waste with a BTU value that is in excess of the H W Fuels Blend product BTU specification with a waste that has a BTU

value above minimum but below TSDF specifications. The result is a H W Fuels Blend with a proper BTU value.

3. Blending high chloride waste with low chloride waste to meet H W Fuels Blend specifications.

4. Blending and dispersing high solids waste to increase viscosity and/or add fuel value.

Exhibit C-13 shows the current H W Fuels Blend specifications. Exhibit C-14 shows a completed Sample Analysis sheet for an inbound H W Fuels Blend stream.

The H W Fuels Blends are considered to be F wastes since they contain a mixture of still bottoms from F wastes in the solvent recovery process. Most of the solid hazardous wastes sent out for energy recovery contain materials derived from F wastes and/or classified by the generator, HCC's customers, as F wastes. HCC determines total metals on composites of their H W Fuels Blends on a quarterly basis to assure that they are within quality specifications and that the generated waste is properly classified to comply with Land Disposal Restriction (LDR) regulations.

An LDR notification form is completed by HCC for all shipments of H W Fuels Blend to an off-site facility. This notification, our form titled "Notification of Hazardous Waste Restricted from Land Disposal", will be attached to the manifest for each load of H W Fuels Blend. A copy of the current form of this notification is included in the appendix to this section, Exhibit C-10. In some cases, HCC is required to complete an LDR notification form provided by the fuels marketer and/or burner in lieu of the HCC form. A Waste Profile Sheet is also provided by HCC at the marketer and/or burner's request.

Identification of restricted wastes will be based on our records of previous materials from the same customer waste stream, our own lab analysis and HCC's tracking system. The customer's statement and pertinent customer waste analysis, records, MSDS and knowledge are also used for identification or restricted wastes. This information will be used to prepare the notification by us to the treatment facility as specified in OAC 3745-59-07(A)(1) (40 CFR Part 268.7, (a), (1)).

The hazardous waste tracking system is used to follow each waste by manifest line item and container through the processing operations to provide the appropriate waste code identification to a H W Fuels Blend.

If information from the generator's analysis and knowledge of the constituents or information from similar processes is not available, a sample will be further analyzed by HCC's Lab or sent to an outside testing facility. Representative samples must be obtained and properly identified, prior to acceptance of the

waste by HCC. Total Metals analysis may be used to identify if the D waste code metals are present at or above the treatment standards. Toxicity Characteristic Leaching Procedure (TCLP), as outlined in OAC 3745-59-07 Appendix (40 CFR, Appendix I to Part 268), may be used to determine the mobility of both organic and inorganic contaminants. The resulting waste extract will then be analyzed to determine whether any restricted wastes, as listed in OAC 3745-59-41 Appendix (40 CFR Part 268.41, Subpart D, Table CCWE), are present.

If restricted wastes are present, they must not exceed the levels listed in the above mentioned Table CCWE or the applicable Land Disposal Restrictions without being identified on the notification. The LDR notification contains our U.S. EPA Hazardous Waste Number and must contain the manifest number associated with the shipment of waste. The notification contains a certification which must be signed by an authorized representative of the Hukill Chemical Corporation.

If a solid hazardous waste cannot be incorporated into a H W Fuels Blend, it will be sent to an approved solids fuel recovery or thermal destruction facility as hazardous waste.

Aqueous hazardous wastes generated by HCC are shipped off-site to a permitted TSDF. The Land Disposal Restriction notification is completed using the above described information and attached to the manifest for each shipment.

C-3c <u>Additional Requirements Pertaining to Storage of Restricted Wastes</u>

HCC accumulates quantities of hazardous wastes which are restricted from land disposal solely for the purpose of proper and economical processing and recovery and/or preparation of H W Fuels Blends or preparation of shipments for fuels substitution or, in the case of corrosive wastes, neutralization.

C-3c(1) <u>Restricted Wastes Stored in Containers</u>

When received into storage at HCC, each container is properly marked to identify its contents and the date that the period of accumulation began.

C-3c(2) <u>Restricted Wastes Stored in Tanks</u>

Hazardous waste received and stored in a tank has a description of its contents, quantity received and the date that each period of accumulation began placed in the operating records. The "Sample Analysis" form, Exhibits C-3, C-4, and the "Job Cost Sheet", Exhibit C-15, included in the appendix to this section, provide this receiving and storage information.

numbers and/or internal job order number. All sample labels will also contain company of origin, date sampled, and sample identification.

C-2c(2). Bulk Liquid Sampling Methods

The minimum number of samples on a composite waste is two (top and bottom) per compartment. Tote bins (portable containers) are sampled using the bulk liquid sampling methods. There really is no set maximum number of samples, but, 3-4 per compartment are possible. Bottles are labeled via the method previously described.

In all reclaiming cases, a composite sample is possible and frequently (approximately 80% of the time) taken after containerized solvents for recycling are pumped into the process feed tanks, using the above procedure.

Samples are obtained via bottles which are dipped into the top of each compartment via a wire or string. Bottoms of compartments are sampled by draining material out of the compartment's bottom valve and sampling again in a glass OR PLASTIC bottle, COMPATIBLE WITH THE MATERIAL BEING SAMPLED.

C-2c(3). Sample Analysis Form

A sample analysis form will be used to control all sampling at Hukill Chemical. A copy of each sample analysis is placed in the Operating Record.

C-2c(4)D. Sample Storage

All retain samples of received or shipped wastes are stored at the Hukill Chemical Corporation for a minimum of ~~one/year~~ THREE MONTHS. Analysis of these wastes are currently stored indefinitely. All samples are stored in an explosion proof area with fire protection.

C-2d. ~~Hazardous/Waste/Sampling/Frequency~~ FREQUENCY OF ANALYSIS

One of the following sampling frequencies should be followed depending on the type of container, previous analytical history for customer's waste, pre-shipment sample analysis, restricted waste notification, salesperson's comments and any other information pertaining to the consistency and accuracy of the pre-shipment information. Each procedure provides for screening the waste for PCB's. If PCB's are found in any material at a level of 25 ppm or more, please advise the process operator in charge of the area operations for the shift and advise him/her that the material is to be segregated and identified. Then leave word for the Plant Manager and Lab Supervisor along with the pertinent information.

C-2d(1)(a). Receipt of Transports with Bulk Liquid Waste

1. Established Customer Sample the top and bottom of each compartment. Do not process further until a composite of the two samples is determined to have less than 25 ppm PCB's and is consistent with the shipment and pre-shipment information.

2. New Customer Sample the top and bottom of each compartment. Do not process further until each sample is determined to have less than 25 ppm PCB's and is consistent with the shipment and pre-shipment information.

C-2d(1)(b). Receipt of 5 to 80 Containers of Liquid Waste to an Empty Storage Tank

1. Established Customer Unload to an empty storage tank. Agitate the contents of the storage tank with nitrogen or mechanical agitation for 5 minutes. Then sample from the top and bottom of the tank. Do not process further until the composite sample is determined to have less than 25 ppm PCB's and is consistent with the shipment and pre-shipment information.

   IN CASE AN EMPTY STORAGE TANK IS NOT AVAILABLE, A MINIMUM OF 2 CONTAINERS OR 10 PERCENT OF THE CONTAINERS, WHICHEVER IS GREATER, WILL BE RANDOMLY SELECTED, MARKED AND SAMPLED ACCORDING TO THE PRESCRIBED SAMPLING METHOD. A COMPOSITE WILL BE MADE FROM EQUAL PORTIONS BUT LESS THAN HALF OF EACH SAMPLE. THE COMPOSITE WILL BE ANALYZED FOR PCB'S. INDIVIDUAL SAMPLES WILL BE RETAINED UNTIL THE COMPOSITE IS FOUND TO CONTAIN LESS THAN 25 PPM PCB'S. DO NOT PROCESS FURTHER UNTIL THE COMPOSITE SAMPLE IS ANALYZED AS REQUIRED AND DETERMINED TO BE CONSISTENT WITH THE SHIPMENT AND PRE-SHIPMENT INFORMATION.

2. New Customer Randomly select 5 containers and mark them. Then sample each of the 5 containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Analyze the composite for PCB'S. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then transfer the containers to an empty storage tank. Agitate the contents of the storage tank with nitrogen or mechanical agitation for 5 minutes. Then sample from the top and bottom of the tank. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C-2d(1)(c). Receipt of 5 to 80 Containers of Solid Waste

1. Both established and New Customers Randomly select 5 containers and mark them. Then sample each of the 5 containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Then analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C-2d(1)(d). Receipt of 2 to 5 Containers Liquid Waste

1. Established Customer Randomly select 2 containers and mark them. Then sample and make a composite of equal portions, but less than half of each sample. Analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Do not process further until the sample is found to have less than 25 ppm PCB's. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

2. New Customer Mark all containers and sample each. Make a composite of equal portions, but less than half the volume of each sample and analyze it for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C-2d(1)(e). Receipt of 1 to 5 Containers of Solid Waste.

1. Both Established and New Customers Mark all of the containers. Then sample each of the containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C-2d(2). Hazardous Waste Analysis Schedule

The following is the analysis schedule for the wastes stored and processed at Hukill Chemical Corporation.

C-2d(2)(a). Pre-shipment/Salesman's samples-Mandatory Tests - Any Hazardous Waste

1. Flash point.
2. Yield (volatiles) - bottoms, organic layer, aqueous layer.
3. Distillate product acid pt. value (APV).
4. Solvent component analysis - G.C.
5. Heat of combustion and % Chloride in combustion residue - dist. bottoms.
6. Heat of combustion and % Chloride in combustion residue - distillate (can be estimated from components)
7. H W Fuels Blend compatibility
8. Visual Description of Viscosity
9. Unusual odor

Frequency - All nine parameters are checked every time on every sample EXCEPT FOR ITEMS 2, 3 AND 4 IN THE CASE OF MATERIAL DESIGNATED FOR ENERGY RECOVERY ONLY.

C-2d(2)(b). Mandatory tests for all Hazardous Waste Inbound Material for H W Fuels Blend

1. Heat of combustion and % Chloride in combustion residues - bulk stream.
2. Solvent component analysis - G.C. (IF APPLICABLE)
3. Visual Description of Viscosity.
4. Visible solid particles.
5. Flash point.
6. H W Fuels Blend compatibility.
7. Odor.
8. pH Determination

9. Specific Gravity.

10. % Solids by Evaporation. (IF REQUIRED FOR PROCESSING)

Frequency - All ten parameters are checked every time on every inbound shipment WITH THE ABOVE-NOTED EXCEPTIONS, see exhibits C-16 through C-19 for actual examples of this analysis. (Section C-3).

C-2d(2)(c). Mandatory Tests for Hazardous Wastes Inbound for Solvent Reclamation.

See exhibits C-2 through C-7 for examples.

1. First time customers - First and second shipments
   a. Repeat section A. Analysis items completely.

2. Repeat reclaiming customers - Minimum check
   a. Visual inspection.
   b. Flash point.
   c. Weight per gallon
   D. Compatability

3. Repeat reclaiming customer - every three months.
   a. Repeat procedure under Section A. analysis completely

(Note: All recovered solvents are given a complete component analysis after processing).

C-2d(2)(d). Mandatory Tests For Distilled Process Water With 1% Solvent Contamination.

1. PH.

2. Solvent component analysis - G.C.

3. Flash point.

Frequency - Weekly check is done on storage tank.

C-2d(2)(e). Mandatory Tests For Hazardous Waste Drums Containing No Free Liquid.

These drums are prepared for storage on the outside No-Free Liquids Container Storage Area. Because these materials would have already been evaluated based on an inbound sample as either an incompatible unprocessed material or an incompatible distillation residue, a detailed analysis is not completed on each drum.

Hukill Chemical is the declared generator of these materials on Waste Product Records given for approval to the disposal facility. As such, we group materials in the seven categories listed below. By knowing the source of the

material to be disposed of and its composition, we assign code numbers to each drum.

C-2d(2)(f). Analyses Required By The Disposal Facilities are:

1. Physical state.

2. Flash point.

3. pH.

4. Chemical composition including identification of restricted wastes as listed in 40 CFR Part 268.41, Subpart D, Table CCWE. Knowledge of constituents and previous analysis by HCC and others from similar process wastes may be used to identify hazardous constituents.

5. No free liquid -Take a representative sample of every third drum from the same source and run a "Paint Filter Liquids Test" using method 9095 as found in the SW-846 manual. If any drum fails, sample and test all the remaining drums from that source. Mark those that fail "Contains Free Liquid" and segregate them.

6. No voids - inspection.

7. Toxicity Characteristic Leaching Procedure with analysis of toxic contaminents for material considered for landfill. Knowledge of constituents and previous analysis by HCC and others from similar process wastes may be used to identify hazardous constituents.

Every drum prepared is inspected by a trained chemical technician and assigned a waste code number. Inspection of the Waste Product Records reveal the wide range of component analysis possible for each waste code.

Annually, two random drums of each type of material will be completely reanalyzed, and a new Waste Product Record submitted.

C-2e. Inspections of Off-Site Generated Wastes

Paragraph (c) of Section C-2d(2), "Mandatory Tests for Hazardous Waste Inbound for Solvent Reclamation" describes the inspection of off-site generated wastes.

Bulk/Sampling/Special/Note

Samples/are/obtained/via/bottles/which/are/dipped/into/the/top/of each/compartment/via/a/wire//or/string///Bottoms/of//compartments are/sampled/by/draining/material/out/of/the/compartment/s//bottom valve/and/sampling/again/in/a/glass/bottle/

C-2f. REQUIREMENTS FOR IGNITABLE, REACTIVE OR INCOMPATIBLE WASTES

THE ORGANIC HAZARDOUS WASTES ARE ALL CONSIDERED TO BE IGNITABLE. AS DISCUSSED IN SECTION D, THE SPENT SOLVENT AREA IS CONSTRUCTED AND OPERATED TO HANDLE FLAMMABLE MATERIALS. HCC DOES NOT HANDLE REACTIVE WASTES AND INCOMING MATERIALS ARE, AS MENTIONED ABOVE, SCREENED FOR COMPATIBILITY.

C-3. Plan Supplement for Land Disposal Restrictions

Hazardous wastes received by Hukill Chemical Corporation must have been declared hazardous by the generator. We must take representative samples and analyze them to verify that they are properly described on the manifest and to determine how they will be processed at our facilities.

If it is decided that the hazardous waste will not be processed for recovery of solvents but sent to a disposal facility, we must further determine if the waste contains any restricted hazardous wastes as described in OAC 3745-59-07 (40 CFR Part 268).

ALL OF THE HAZARDOUS WASTE FUELS BLENDS ARE CONSIDERED TO BE F WASTES SINCE THEY CONTAIN A MIXTURE OF STILL BOTTOMS DERIVED FROM F WASTES IN THE SOLVENT RECOVERY PROCESS. MOST OF THE SOLID WASTES SENT OUT FOR ENERGY RECOVERY CONTAIN MATERIALS DERIVED FROM F WASTES AND/OR CLASSIFIED BY THE GENERATOR, HCC'S CUSTOMERS, AS F WASTES.

EXHIBIT C-25, FOUND IN THE APPENDIX TO THIS SECTION, IS AN EXAMPLE OF A COMPLETED LAND DISPOSAL RESTRICTION NOTIFICATION FOR A SHIPMENT OF HAZARDOUS WASTE OFF-SITE BY HUKILL CHEMICAL CORPORATION.

If the Waste Is A Solid

If it is determined that the solid waste has sufficient fuel value to be incorporated into an H W Fuels Blend, it will be further processed with other materials to meet the H W Fuels Blend specifications. The final H W Fuels Blend analysis sheet should then have the restricted hazardous waste(s) identified. Identification will be based on our records of previous similar materials received from the customer, our own lab analysis, the customer's statement and pertinent customer waste analysis records. This information will be used to prepare the notification by us to the treatment facility as specified in OAC 3745-59-07(A)(1) (40 CFR Part 268.7, (a), (1)). This notification, our form titled "Notification of Hazardous Waste Restricted from Land*fill* DISPOSAL," will be attached to the manifest for each load of H W Fuels Blend. A copy of this notification is included in the Appendix to this section, EXHIBIT C-22. In some cases, HCC is required to complete a Land Disposal Restriction Notification form provided by the fuels marketer

and/or burner in lieu of the HCC form. A Waste Profile sheet is also provided by HCC at the marketer and/or burner's request.

If the solid waste cannot be incorporated into a H W Fuels Blend, it will be sent to an approved Solids Fuel Recovery or Thermal Destruction facility as hazardous waste. If information from the Generator's Analysis and knowledge of the constituents or information from similar processes is not available, a sample must be sent to an outside testing facility. The representative samples must be sent to an outside testing laboratory where the Toxicity Characteristic Leaching Procedure (TCLP), as outlined in OAC 3745-59-07 Appendix (40 CFR, Appendix I to Part 268), will be used to determine the mobility of both organic and inorganic contaminants. The resulting waste extract will then be analyzed to determine whether any restricted wastes, as listed in OAC 3745-59-41 Appendix (40 CFR Part 268.41, Subpart D, Table CCWE), are present. If restricted wastes are present, they must not exceed the levels listed in the above mentioned Table CCWE or the applicable Land Disposal Restrictions without being identified on the notification. The notification contains a certification which must be signed by an authorized representative of the Hukill Chemical Corporation. A copy of this Land Disposal Restriction Notification is contained in the Appendix to this section, EXHIBIT C-22. The notification also contains our EPA hazardous Waste Number and must contain the manifest number associated with the shipment of waste.

<u>If The Waste Is A Liquid</u>

The fuel value of the liquid waste will be determined. Then it will be further processed with other materials to meet the H W Fuels Blend specifications. The final H W Fuels Blend analysis sheet should have the restricted hazardous waste(s) identified. Identification will be based on our records of previous similar materials received from the customer, our own lab analysis, the customer's statement and pertinent customer waste analysis records. This information will be used to prepare the notification by us to the treatment facility as specified in OAC 3745-59-07(A)(1) (40 CFR Part 268.7, (a), (1)). This notification, our form titled "Notification of Hazardous Waste Restricted from Land*fill* DISPOSAL," will be attached to the manifest for each load of H W Fuels Blend. A copy of this notification is included in the Appendix to this section, EXHIBIT C-22. In some cases, HCC is required to complete a Land Disposal Restriction Notification form provided by the fuels marketer and/or burner in lieu of the HCC form. A Waste Profile Sheet is also provided by HCC at the marketer and/or burner's request.

C-13 H W Fuels Blend Analysis and Management

A. Overview

H W Fuels Blend is a product obtained by processing hazardous wastes. The specification material is made from distillation still bottoms from reclaiming hazardous waste, un-distilled hazardous waste, and Hukill owned distilled solvent mixtures (non hazardous waste). In order to meet the H W Fuels Blend specification, blending, mixing / homogenizing and filtration operations are carried out per guidelines and specifications dictated by H W Fuels Blend. The product specifications and processing methods are subject to change in order to maintain the products effectiveness and value.

Exhibit C-15 shows the current H W Fuels Blend specification. Exhibits C-16 through C-19 show typical analysis of inbound H W Fuels Blend streams.

B. BTU - Fuel Value

In order to insure that the production of H W Fuels Blend goes smoothly, all wastes are evaluated for fuel value either as a bulk stream or by its component distillate and bottoms streams. Because Hukill Chemical Corporation cannot ship any H W Fuels Blend having less than 5,000 BTU per lb., it is important that we manage wastes in such a way as to insure that low BTU wastes are mixed properly. (Remember that all hazardous wastes undergo component analysis as well as acidity / basicity checks).

C. Compatibility

Our basic concerns in waste compatibility involve the mixing of wastes. (Reclaim materials are always distilled from feed tanks which were previously emptied). Whenever hazardous wastes are evaluated for reclaiming or for H W Fuels Blend, the waste and waste still bottoms are always checked for compatibility with our H W Fuels Blend . Our concern is not primarily for reactivity, but for precipitation or agglomeration of solids in our H W Fuels Blend tanks due to mismatches of dissolved solids in incompatible solvent bases. (Example: still bottoms for MEK based polyester resin mixed into normal H W Fuels Blend containing Toluene / Xylene which are not solvents for resin). Any chemically reactive materials will have been flagged via generator analysis, our component analysis or acidity / basicity results.
As a laboratory test, recent H W Fuels Blend samples are composited and used as a standard to mix with any given sample for evaluation. The standard H W Fuels Blend sample and the given sample for evaluation are mixed 50/50 volumetrically and evaluated for:

1. Viscosity increases, thickening, gelling.
2. Solid Precipitation.
3. Heat Evolution.
4. Gas Evolution.

In cases where the mixing compatibility test yields a negative result, per the four criteria listed above, it is the responsibility of the chemists and process engineer to determine the severity of the negative result(s) and make a decision on whether or not to accept the waste. In cases where significant heat and or gas evolution is noted, the material will be rejected. When the results involve viscosity increases or solids precipitation, the extent to which the viscosity increases or the volume percentage of solid precipitation occurs is taken into account. In cases where the waste in question is a still bottom from the recovery of a desirable solvent, it is possible to segregate the waste into drums or bulk for proper disposal at an approved facility.

D. Blending of Wastes

Typical situations where blending of wastes is necessary in the processing of H W Fuels Blend are:

1. Mixing of a viscous waste with recovered Hukill solvent in order to lower viscosity.

2. Mixing of waste with a BTU value that is in excess of the minimum H W Fuels Blend product BTU specification with a waste that has a BTU value lower than the minimum product specification. The result is a H W Fuels Blend with a proper BTU value.

3. Again upgrading a low BTU waste with a Hukill owned reclaimed solvent in order to produce a H W Fuels Blend with the proper BTU specification.

4. Blending high chloride waste with low chloride waste to meet hazardous waste fuel blend specifications.

E. Directing of Hazardous Waste Flow

All H W Fuels Blend materials, either still bottoms, dirty solvent, or recovered distillates are checked from the representative inbound sample to see if the waste, as shipped in, matches not only the manifest (flash point, compatibility, component analysis) but also for the heat of combustion and viscosity.

The Plant Manager or Chemist may recommend exclusion of an entire load of material or any distillation product (Distillate or Distillate bottoms) of the load from H W Fuels Blend. Examples of exclusion on rejections would be:

1. BTU value below a minimum acceptable level.

2. BTU value below pre-shipment sample value.

3. Viscosity significantly higher - non pumpable.

4. Waste not compatible with H W Fuels Blend.

5. Evidence of free water phase in material.

6. PCB'S present at or above 25 PPM.

Again please find sample analyses of incoming potential H W Fuels Blend streams. (Exhibit C-16 through C-19).

C-4 Waste Analysis Plan - Corrosive Wastes

General Overview - Corrosive Waste Analysis

The planned Corrosive Waste Storage and Processing Area at Hukill Chemical Corporation will receive corrosive wastes that have been declared hazardous wastes by the Generator.

The responsibilities for determining manifest discrepancies and accepting or rejecting loads of hazardous wastes lie with the President/General Manager, the Plant Manager, the Traffic Manager and the Plant Chemist. The Plant Chemist has responsibility, using trained chemical technicians and proper analytical techniques, to determine manifest discrepancies involving improper description of the material. The Plant Manager, who supervises the work of the Plant Chemist and technicians, has the authority to accept loads of hazardous wastes. If a load must be rejected, a final authorization will normally come from the President/General Manager after a recommendation from the Plant Manager. In his absence, the Plant Manager will authorize rejection. The Traffic Manager has the responsibility to audit each manifest for completeness prior to final distribution and filing.

HCC accumulates quantities of hazardous wastes which are restricted from land disposal solely for the purpose of proper and economical processing and recovery and/or preparation of HW fuels blend or preparation of shipments for fuels substitution or, as often is the case for corrosives, elementary neutralization.

When received into storage at HCC, each container is properly marked to identify its contents and the date that the period of accunulation began.

Hazardous waste received and stored in tanks has a description of its contents, quantity received and the date that each period of accumulation began placed in the operating records. The "Sample Analysis" form and the "Job Cost Sheet," included in the Appendix

to this section, EXHIBITS C-2 AND C-1, RESPECTIVELY, provide this TYPE OF receiving and storage information.

Hukill Chemical Corporation has an established policy which requires each customer to describe his waste as completely as possible and to send a pre-shipment sample to our lab for evaluation. Customers are told that unacceptable materials include: cyanides, lachrymators, mercaptans, PCB's, insecticides, pesticides, herbicides or other severly toxic, poisonous, explosives, reactive or radioactive materials. As required under OAC 3745-54-13 (40 CFR 264.13), the analysis of the corrosive wastes will be repeated for subsequent shipments as necessary to ensure that they are accurate and up-to-date.

C-4a Corrosive Waste Analysis

This section describes the Waste Analysis Plan for sampling, testing, and evaluating the wastes stored at Hukill Chemical Corporation facility to assure that sufficient information is available for their safe handling. The information is in accordance with the requirements of OAC 3745-54-14(A) (40 CFR 270.14 (B)) and OAC 3745-54-13 (40 CFR 264.13).

The information gathered during sampling and analysis is recorded on a Sample Analysis Sheet. When complete, this sheet is placed in the Facility Operating Record.

Before Hukill Chemical Corporation enters into a business relationship with a customer to process a corrosive waste, a pre-shipment sample will be analyzed using the methods described in the following paragraphs. A Laboratory Evaluation Request Form must accompany the pre-shipment sample.

Highlighting this request's information, it is asked:

1. Origin of waste
2. Potential volume
3. How material will be transported
4. Listing of materials which will not be accepted for processing

Using a pre-shipment sample as a standard, hazardous corrosive wastes shipped to Hukill Chemical Corporation are analyzed using the same procedure as the pre-shipment sample. This is done not only to confirm the validity of the Hazardous Waste Manifest, but also to check for basic changes in composition. A form for Notification of Hazardous Waste Restricted from Land Disposal must accompany the shipment manifest.

A proof copy of the HCC's "Waste Data Sheet", EXHIBIT C-20, is included in the Appendix of this section. The HCC representative will have the customer complete one of these forms for each waste stream to be received by HCC prior to the first shipment. This form, along with any waste stream analysis provided by the

customer, should properly describe the waste stream and any characteristics, including those constituents which cause the waste to have the characteristic of toxicity, and the process(s) which generated the waste stream. This form will be signed by an authorized person representing the customer. If there is any change in the process generating the waste stream, the customer will be requested to complete a new form and provide additional analysis, if available.

A copy of HCC's Hazardous Waste Stream Information Update is included in the Appendix of this section, EXHIBIT C-21. This form will be completed by the customer on at least an annual basis. The form, along with any analytical information, will be used to update the information for the customer's waste stream(s).

A copy of HCC's "Notification of Hazardous Waste Restricted From Land Disposal" form is included in the Appendix of this section, EXHIBIT C-22. This form is to be completed by the generator and sent with each shipment of hazardous waste.

Note that the above forms may be revised, from those examples in the Appendix of this section, to respond to changes in regulations or to improve the quality of information on the waste streams received by HCC.

All samples of corrosive waste will be analyzed for those parameters which provide the information necessary to store and process the waste in accordance with state and federal requirements. If more extensive testing is required than the parameters outlined below, a representative sample will be submitted to an outside testing laboratory for further analysis.

C-4b Hazardous Waste Analysis and Test Methods

(The Test Method numbers indicated below refer to the Third Edition of U.S. EPA'S SW-846).

(A). Appearance

This is a written description of the color, odor, relative viscosity, texture and any other distinguishing features observed by the analyst.

Frequency: Each sample.

B. pH as received

A pH of the sample will be taken with "narrow range" pH paper using Method 9041. If this method is inconclusive, a pH meter measurement will be made using Method 9040. This is done to verify that the waste has the characteristic or corrosivity.

Frequency: Each sample.

C. Percent Solids Determination

This is the "percent solids" determination as outlined in the Hukill Chemical Corporation Laboratory Manual and requires the evaporation of liquids from a representative portion of an as-received sample. REFER TO EXHIBIT C-10 IN THE APPENDIX TO THIS SECTION.

Frequency: Each sample.

D. Flash Point

A flash point determination will be made using the Seta-Flash equipment and following the method outlined sample is believed to be damaging to the Seta-Flash equipment, it will first be brought to a pH of 6 to 9 with dilute hydrochloric acid or dilute sodium hydroxide being careful not to heat the sample and drive off any volatile organics. This test is conducted to assure that the corrosive waste does not have the characteristic of ignitability.

Frequency: Each sample.

E. Neutralization Requirements

A representative portion of the sample will be neutralized to a pH of 6 to 9 using 1.0 normal hydrochloric acid or 0.5 normal sodium hydroxide to determine the amount of acid or base required to neutralize the waste and eliminate the characteristic of corrosivity.

Frequency: Each sample.

F. Total Organic Carbon

If the sample is suspected to contain a significant amount of organics, a total organic carbon analysis using Method 9060 will be done.

Frequency: As required.

G. Hydrocyanic Acid Evolution

If the sample is suspected to contain cyanides, the 7.3.3 Test Method to determine hydrogen cyanide released from wastes will be done. If the sample is found to contain cyanides, the Generator will be contacted to make arrangements to provide the proper means of treatment and disposal. Reactive wastes will not be handled at this facility.

Frequency: As required.

H. Reactive Sulfide Determination

If the sample is suspected to contain reactive sulfides, the 7.3.4 Test Method to determine hydrogen sulfide released from wastes will be done. If the sample is found to release hydrogen sulfide, the Generator will be contacted to make arrangements to provide the proper means of treatment and disposal. Reactive wastes will not be handled at this facility.
Frequency: As required.

I. Compatibility

When the Neutralization Process Plan requires two or more wastes to be mixed, a representative sample of each will be mixed in the laboratory under controlled conditions. The reaction pressure, temperature and gas evolution will be observed and recorded to determine if the mixture is compatible for the Neutralization Process.

Frequency: Each time wastes are planned to be combined.

J. PCB Analysis:

The procedure for testing waste samples for the presence of polychlorinated biphenyls (PCB'S) uses the dedicated Hewlett-Packard Model 5890A Gas Chromatograph equipped with an Electron Capture Detector.

Frequency: As required.

C-4C Sampling Methods

A. Container Sampling (Drum)

1. Each container received at the facility is stenciled with the following code:

   A. Hukill Internal Customer Number

   B. Hazardous Waste Manifest Number

   C. The number of drums in the shipment

   D. Optionally, an abbreviation of the major component

   E. Internal job/work order number (If for reclaiming)

2. The sampler then segregates the drums into groups with similar contents.

3. A composite sample is made for each group by sampling a representative number of drums in that group as per procedure C-2D.

4. In lieu of a Coliwasa - samples of containerized wastes are sampled using a 4 oz. bottle-narrow mouthed, (i.e., 1/2" dia), glass bottle attached to a rigid wire approximately 24" long. By feeding the bottle down through the drum such that air is displaced from the bottle at a steady rate, a representative sample of the waste material in the drum is obtained. We have found this method of sampling to be accurate and much more desirable from a spill, and housekeeping aspect than the cumbersome Coliwasa Method. Occasionally when drums are known to contain significant "heels" of solid pigments, resins, dirt, etc. A drum pump will be used to extract material at the liquid/solid interface. This method provides us with a representative sample which, when analyzed, allows us to store the waste in accordance with regulations.

Proper sampling and safety procedures will be followed at all times. Safety glasses with side shields and protective gloves are worn.

Group composite samples are labeled with manifest numbers and/or internal job order number. All sample labels will also contain company of origin, date sampled, and sample identification.

B. Bulk Liquid Sampling Methods

The minimum number of samples on a composite waste is two (top and bottom) per compartment. Tote bins (portable containers) are sampled using the bulk liquid sampling methods DESCRIBED EARLIER IN THIS SECTION, C-2c(2), "BULK LIQUID SAMPLING METHODS". There really is no set maximum number of samples, but, 3-4 per compartment are possible. Bottles are labeled via the method previously described.

C. Sample Analysis Form

A Sample Analysis Form will be used to control all sampling at Hukill Chemical. A copy of each sample analysis is placed in the Operating Record.

D. Sample Storage

All retain samples of received or shipped wastes are stored at the Hukill Chemical Corporation for a minimum of one year. Analysis of these wastes are currently stored indefinitely. All samples are stored in an explosion proof area with fire protection.

C-4D Hazardous Waste Sampling Frequency

One of the following sampling frequencies should be followed depending on the type of container, previous Analytical History for customer's waste, pre-shipment sample analysis, Restricted Waste Notification, salesperson's comments and any other information pertaining to the consistency and accuracy of the pre-shipment information. Each procedure for new customers provides for screening the waste for PCB's. If PCB's are found in any material at a level of 25 ppm or more, please advise the Process Operator in charge of the area operations for the shift and advise him/her that the material is to be segregated and identified. Then leave word for the Plant Manager and Lab Supervisor along with the pertinent information.

A. Receipt of Transports with Bulk Liquid Waste

1. Established Customer Sample the top and bottom of each compartment. Do not process further until a composite of the two samples is determined to be consistent with the shipment and pre-shipment information.

2. New Customer Sample the top and bottom of each compartment. Do not process further until a composite sample is determined to have less than 25 ppm PCB's and is consistent with the shipment and pre-shipment information.

B. Receipt of 5 to 80 Containers of Liquid Waste to an Empty Storage Tank

1. Established Customer Unload to an empty storage tank. Agitate the contents of the storage tank with nitrogen or mechanical agitation for 5 minutes. Then sample from the top and bottom of the tank. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

2. New Customer Randomly select 5 containers and mark them. Then sample each of the 5 containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have

PCB's below 25 ppm. Then transfer the containers to an empty storage tank. Agitate the contents of the storage tank with nitrogen or mechanical agitation for 5 minutes. Then sample from the top and bottom of the tank. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C. Receipt of 5 to 80 Containers of Solid Waste

1. Established Customers Randomly select 5 containers and mark them. Then sample each of the 5 containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample.

   Retain the individual samples until the composite is checked. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

2. New Customers Randomly select 5 containers and mark them. Then sample each of the 5 containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Then analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

D. Receipt of 1 to 5 Containers of Liquid Waste

1. Established Customer Randomly select 2 containers and mark them. Then sample and make a composite of equal portions, but less than half of each sample. Retain individual samples until the composite is checked. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

2. New Customer Mark all containers and sample each. Make a composite of equal portions, but less than half the volume of each sample and analyze it for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

E. Receipt of 1 to 5 Containers of Solid Waste.

1. Both Established and New Customers Mark all of the containers. Then sample each of the containers according to the prescribed sampling method and make a composite of equal portions, but less than half of each sample. Analyze the composite for PCB's. Retain individual samples until the composite is checked and found to have PCB's below 25 ppm. Then complete the required analysis on a composite of the remaining container samples. Do not process further until the sample is determined to be consistent with the shipment and pre-shipment information.

C-4E Land Disposal Restrictions

C-2c(2). Bulk Liquid Sampling Methods

Hazardous wastes received by the Hukill Chemical Corporation must have been declared hazardous by the Generator. The Notification of Hazardous Waste Restricted from Land Disposal in compliance with OAC 3745-59-07 (40 CFR 268.7) must accompany the manifest for the hazardous waste received at the Hukill Chemical Corporation. An example of the current HCC Land Ban form is included in the Appendix to this section, EXHIBIT C-22.

Corrosive wastes or neutralized wastes that still contain characteristics of toxicity will have the Land Disposal Restriction Notifications prepared based on Hukill's laboratory tests and the notifications accompanying the shipment of the corrosive wastes prior to neutralization. There may be some instances where knowledge of or test results are not adequate for the Land Disposal Restriction Notification. In these cases, a representative sample of the hazardous waste to be shipped by Hukill to an Off-Site Treatment and Disposal Facility will be sent to an outside testing laboratory for the Toxicity Characteristic Leaching Procedure Analysis.

HF WORKSHEET

DATE: _____

SAMPLE I.D.: _____

		#1	#2
Plastic bottle + 30 ml. of H_2O	A	gms.	gms.
Plastic bottle + 25 drops of sample	B	gms.	gms.
Sample weight: B - A		gms	gms.

Add 100 mls. of H_2O to the bottle, tighten cap & place it in boiling H_2O for 1 hour. After cooling down sample, add 10 mls. of Sodium Citrate & 10 drops of Phenolphthalein indicator to it & titrate it with 0.5 N NaOH until faint pink color appears & stays for at least 30 seconds. Note reading below.

	#1	#2
mls. of 0.5 N NaOH used:	mls.	mls.

Pour the solution into a 500 ml. volumetric flask & add H_2O up to the line. Mix well & pipette 5 mls. into a 100 ml. volumetric flask. Add 10 mls. of (F-) Buffer solution & add H_2O to the line. Mix well. Transfer 50 mls. of this to a plastic beaker using plastic graduated cylinder. "0" the meter after dipping the electrode in the solution. With continuous stirring, add 5 mls. of Fluoride Std. Stock Soln. (1000 ppm fluoride) to the sample. Wait 1 minute & take S.I.M. reading. Check (F-) sheet, use correction factor, (you will have to interpolate), & note values below.

(F-) read in ppm.	Reading:	@ 25 C	x 1000	Reading:	@ 25 C	x 1000
#1 / #2						

CALCULATIONS:

spent acid holding tank wt./gal.= _____

$$\% \text{ of HF} = \left(\frac{\text{ppm (F-)} \times 1.053}{\text{sample weight}}\right) - 1.67$$

#1 $\% \text{ of HF} = \left(\frac{\quad \times 1.053}{\quad}\right) - 1.67 =$ % HF

#2 $\% \text{ of HF} = \left(\frac{\quad \times 1.053}{\quad}\right) - 1.67 =$ % HF

$$\% \text{ of } H_2SO_4 = \left(\frac{.5 \times \text{mls. of NaOH}}{\text{sample weight}}\right) - \left(\left[\frac{\% \text{ of HF}}{2}\right] + .833\right) \times 4.904$$

#1 $\% \text{ of } H_2SO_4 = \left(\frac{.5 \times \quad}{\quad}\right) - \left(\left[\frac{\quad}{2}\right] + .833\right) \times 4.904 =$ $\% H_2SO_4$

#2 $\% \text{ of } H_2SO_4 = \left(\frac{.5 \times \quad}{\quad}\right) - \left(\left[\frac{\quad}{2}\right] + .833\right) \times 4.904 =$ $\% H_2SO_4$

#1 $\% \text{ of } H_2SO_4 \text{ @ 66 C} = \frac{\% H_2SO_4}{0.93} = \frac{\quad}{0.93} =$ $\% H_2SO_4$ @ 66 C

#2 $\% \text{ of } H_2SO_4 \text{ @ 66 C} = \frac{\% H_2SO_4}{0.93} = \frac{\quad}{0.93} =$ $\% H_2SO_4$ @ 66 C

#1 $\% \text{ of } H_2O = 100 - (\% \text{ HF} + \% H_2SO_4 \text{ @ 66 C}) =$ $\% H_2O$

#2 $\% \text{ of } H_2O = 100 - (\% \text{ HF} + \% H_2SO_4 \text{ @ 66 C}) =$ $\% H_2O$

HUKILL

CHEMICAL CORPORATION
7013 Krick Road Bedford, Ohio 44146
(216) 232-9400
OHD 001926740

Waste Data Sheet

Box info to be filled out by Hukill Chemical Corporation

Sales Sample # _____
CUST. CODE _____
PART NUMBER _____
DESCRIPTION _____

Approved by Lab _____ Date _____
Approved by Prod. _____ Date _____
Approved by Environ. _____ Date _____
Approved & Quoted by Sales _____ Date _____

Salesperson# _____ Sales Sample # _____ Customer Code _____ Date Submitted _____ Part # _____ Description _____

IN ORDER TO SAFELY HANDLE YOUR MATERIAL, PLEASE ATTACH ANY NECESSARY
• Material Safety Data Sheets (MSDS) • Laboratory Analysis • Old Waste Profile Sheets
• Additional Hazard Information • Special Handling or Transportation Requirements Which Are Not Detailed Below.

Generator Information:

Name _____
Address _____
City _____ State _____ Zip _____
Telephone ( ) _____
FAX ( ) _____
Technical Contact _____
Scheduler/Ship & Rec. _____
Shipping & Receiving Hours _____

Billing / Purchasing Information:

Billing Name _____
Address _____
City _____ State _____ Zip _____
Telephone ( ) _____
FAX ( ) _____
Accounts Payable _____
Buyer _____

Manifesting & Transportation Information:

U.S. DOT Hazardous Material? (49CFR 171-177) [ ] No [ ] Yes
U.S. DOT Hazardous Substance (49CFR302) [ ] No [ ] Yes
Reportable Quantity? In _____ gallon containers

U.S. DOT Proper Shipping Name (Choose most specific from 49CFR172.101)
[ ] _____
[ ] If a Not Otherwise Specified (N.O.S.) Proper Shipping Name,
List the 2 largest constituents which give the material its DOT hazard class.
(1) _____ (2) _____
DOT Identification Number: UN _____ NA _____
DOT Hazard Class (49CFR173) [ ] Flammable Liquid [ ] Combustible Liquid
[ ] Flammable Solid [ ] Combustible Solid
[ ] ORM-A [ ] ORM-B [ ] ORM-C
[ ] ORM-E [ ] Corrosive [ ] Oxidizer

U.S. EPA ID No. _____
State EPA ID No. _____
[ ] Conditionally exempt small quantity generator per 40 CFR 261.5
U.S. EPA Hazardous Waste? (Check codes below) [ ] No [ ] Yes
EPA Waste Codes For This Waste:(40CFR261.21 - 24 & .31 - .33)
[ ] F001 [ ] F002 [ ] F003 [ ] F004 [ ] F005
[ ] D001 [ ] D002 [ ] D004 [ ] D005 [ ] D006 [ ] D007 [ ] D008
[ ] D009 [ ] D010 [ ] D011 [ ] D018 [ ] D035 [ ] D039 [ ] D040
[ ] U [ ] U [ ] K086 [ ] Others _____

Your 24 hour monitored telephone number for a Chemical Emergency _____

Chemical Composition of Your Waste (Must Total 100%)

	Conc.	Range
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %
_____	_____ %	_____ to _____ %

Waste Stream _____ of _____ streams submitted
What do you call this waste stream at your facility?
_____

Waste Generating Process (check AND describe below):
[ ] Mfg. By-product [ ] Paint Related [ ] Spill Cleanup
[ ] Off-spec Product [ ] Unused Commercial Product
[ ] From Cleaning, Flushing or Washing Parts/equipment
[ ] Spent Solvent [ ] Other

Describe the Waste AND Generating Process:
_____

Volume of Stream:
Quantity _____ Units _____ per _____
Container: [ ] Drum [ ] Tote [ ] Bulk [ ] _____
Container Volume _____

Physical Description of Waste Stream

Physical State at 70°: [ ] Liquid [ ] Sludge
[ ] Solid [ ] Powder [ ] Debris [ ] _____
Viscosity: [ ] Low [ ] Medium [ ] High
Pumpable at 70°F: [ ] Yes [ ] No @ _____ °F
at 20°F: [ ] Yes [ ] No
Phases/Layers: [ ] Single [ ] Bi-layered [ ] Multi
Percentage Volume of each:
Top _____ % Middle _____ %
Bottom _____ % Free Water _____ %
Color: _____ Density: _____
pH: [ ] ≤ 2.0 [ ] ≥ 12.5 _____ Exact
Liquid Flashpoint (°F): [ ] <100° [ ] <140° [ ] >140°
[ ] >200° [ ] None _____ °F Exact
Odor: [ ] None [ ] Mild [ ] Describe _____
Solids: [ ] <1% [ ] >1% Value _____ %
[ ] Settled solids [ ] In Solution
Total Organic Carbon (TOC): [ ] <1% [ ] >1% Value _____ %

Fuels Recovery Information:

BTU Value / lb _____ Ash Content _____ %
Total Chlorine _____ % Total Halogens _____ %
Water in solution _____ % _____ %

Exhibit C-2

SAMPLE ANALYSIS

DATE: August 10, 1990

MANIFEST #: 11607

CUSTOMER NAME: BALLONOFF HOME PRODUCTS

CUSTOMER CODE #: B-26

JOB ORDER #: A-12034

WASTE ID #: OHD004201455

TOTAL RECEIVED: 21

BULK _____ DRUMS XX

DATE RECEIVED: 8-15-90

DATE SAMPLED: 8-16-90

NO OF SAMPLES: 1

STORAGE AREA: B

SIGNED: Nathan Klemm

SAMPLE RESULTS	FLASH POINT	#/GAL.	ODOR	G.C. RUN	WATER CONT.	ANALYSIS
[redacted] COMPOSITE	80°	7.28	Proc Solv	✓	0	B.T.U.'S: 17,376 % Cl_2 1.04%
DRUM #						% SOLIDS: 7.27 A.P.V.: .003
DRUM #						% ACTIVES: 44%
DRUM #						
DRUM #						

SAMPLE DISTILLATION REPORT

LUWA OR TOWER: 50 mls

APPROX. YIELD: 84%

WATER CONTENT: 0

FLASH POINT: <100°

ODOR: Proc Solv

G.C. ANALYSIS: SEE LAB

COMMENTS:

CRUDE: THIN BROWN LIQUID
BOTTOM: THICK " "
DISTILLATE: THIN CLEAR COLORLESS LIQUID

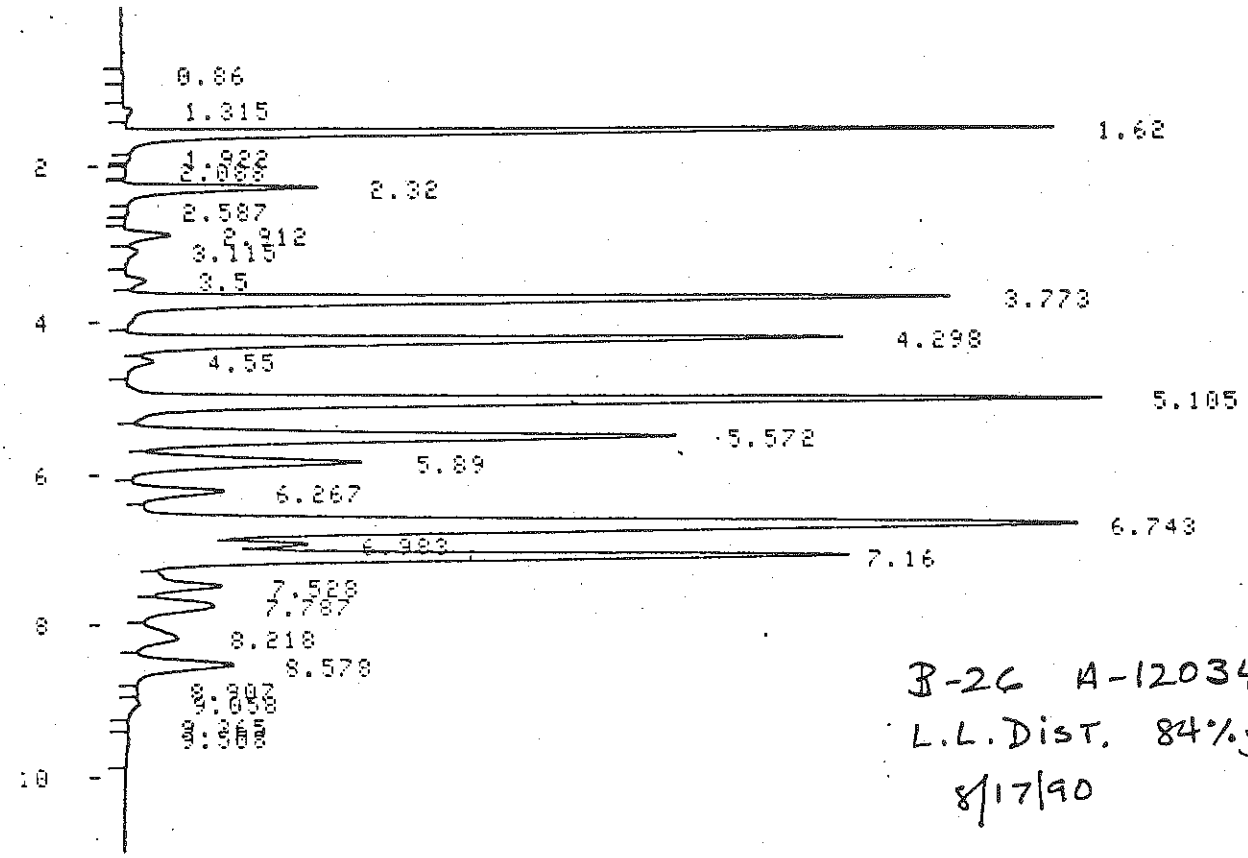
SIGNED: [signature]

White: Lab
HCC-50 REV.8/89

Yellow: Production

Pink: Office

Goldenrod: Inventory



B-26 A-12034
L.L. Dist. 84% yld.
8/17/90

CHROMATOPAC C-R3A FILE 6
SAMPLE NO 0 METHOD 461
REPORT NO 7427

PKNO	TIME	AREA	MK	IDNO	CONC	NAME
1	0.86	728			0.0214	
2	1.315	4458			0.1311	
3	1.62	274514	SV		8.0723	Acetone
4	2.32	72329	SV		2.1269	MEK
5	2.587	651	T		0.0191	
6	2.912	20597	V		0.6057	
7	3.115	8630	V		0.2538	
8	3.5	11626	V		0.3419	
9	3.773	348214	V		10.2395	MIBK
10	4.298	311280	V		9.1534	Toluene
11	4.55	16477	V		0.4845	
12	5.105	449369	V		13.214	PM Acetate
13	5.572	302195	V		8.8862	Xylene
14	5.89	136215	V		4.0055	Xylene
15	6.267	57299	V		1.6849	Solvent 100
16	6.743	675259	V		19.8565	Solvent 100
17	6.983	70330	V		2.0681	Solvent 100
18	7.16	350533	V		10.3077	Solvent 100
19	7.528	69734	V		2.0506	Solvent 100
20	7.787	73061	V		2.1484	Solvent 100
21	8.218	50467	V		1.484	Solvent 100
22	8.578	74575	V		2.1929	Solvent 100
23	8.907	6919	V		0.2035	Solvent 100
24	9.058	9876	V		0.2904	Solvent 100
25	9.365	2089	V		0.0614	Solvent 100
26	9.508	3280	V		0.0965	Solvent 100
	TOTAL	3400702			100	

Exhibit C-3
Rev. 7/90

SAMPLE ANALYSIS

DATE: August 30, 1990

MANIFEST #: 11699

CUSTOMER NAME: DUPONT - MT. CLEMENS COATINGS

CUSTOMER CODE #: D-31 MAK

JOB ORDER #: A-12094

WASTE ID #: MID005358825

TOTAL RECEIVED: prox 3994

BULK XX DRUMS

DATE RECEIVED: 8-31-90

DATE SAMPLED: 9-4-90

NO OF SAMPLES: 1

STORAGE AREA: East

SIGNED: Paul

SAMPLE RESULTS	FLASH POINT	#/GAL.	ODOR	G.C. RUN	WATER CONT.	ANALYSIS
BULK COMPOSITE	<100°	8.63	MAK	✓	none free	B.T.U.'S: 15,444 % Cl₂ .32
DRUM #						% SOLIDS: 2.86% A.P.V.: .028
DRUM #						% ACTIVES: 94%
DRUM #						
DRUM #						

SAMPLE DISTILLATION REPORT

LUWA OR TOWER: 100 mls

APPROX. YIELD: 90%

WATER CONTENT: none free

FLASH POINT: < 100° F

ODOR: MAK

G.C. ANALYSIS: ~~see~~ LAB

COMMENTS:

CRUDE: THIN CLEAR YELLOW LIQUID

DIST: CLEAR W/W THIN

BOTTOMS: THIN YELLOW LIQUID

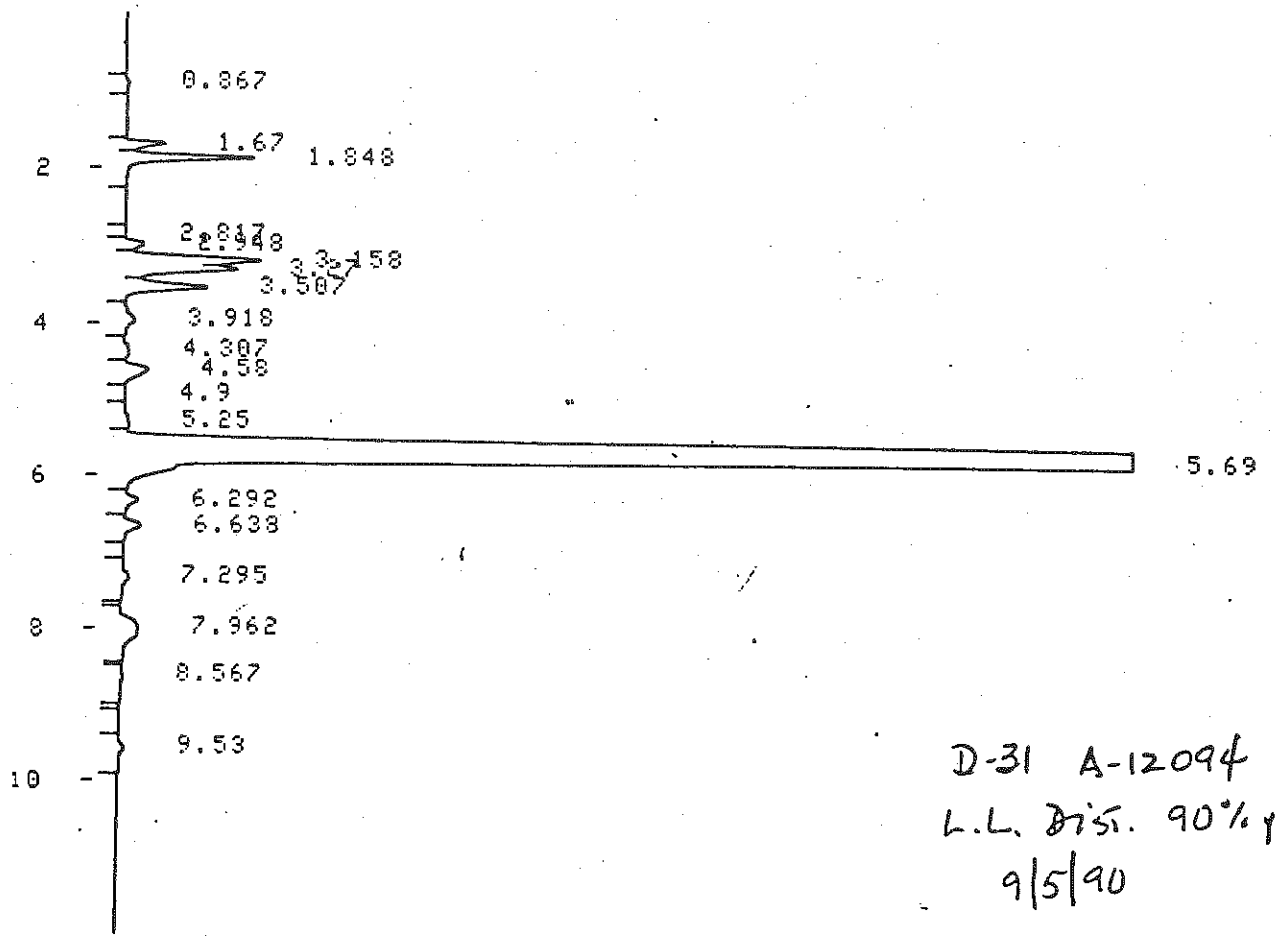
SIGNED:

White: Lab Yellow: Production Pink: Office Goldenrod: Inventory

HCC-50 REV.8/89

Exhibit C-4

Rev. 7/90



D-31 A-12094
L.L. Dist. 90% yld.
9/5/90

CHROMATOPAC C-R3A
SAMPLE NO 0
REPORT NO 7857

FILE 6
METHOD 461

PKNO	TIME	AREA	MK	IDNO	CONC	NAME
1	0.867	1087			0.0378	
2	1.67	12065			0.42	
3	1.848	41163	V		1.4331	n-Pentane
4	2.817	557			0.0194	
5	2.948	7838	V		0.2729	
6	3.158	59372	V		2.067	Heptanes
7	3.27	43759	V		1.5235	Heptanes
8	3.507	36831	V		1.2822	Heptanes
9	3.918	8680	V		0.3022	
10	4.307	4494	V		0.1564	
11	4.58	15545	V		0.5412	
12	4.9	2227	V		0.0775	
13	5.25	6490	V		0.2259	
14	5.69	2586003	SV		90.0307	MAK
15	6.292	5775	T		0.2011	
16	6.638	8172	T		0.2845	
17	7.295	4774	T		0.1662	
18	7.962	21961	T		0.7646	
19	8.567	2386	TV		0.0831	
20	9.53	3178			0.1107	
	TOTAL	2872356			100	

Exhibit C-4 Con'd

Analytical Quality Control

The following components of the analytical quality control are related to the analytical batch. The analytical batch is defined as samples which are analyzed together with the same method sequence, the same lots of reagents, the same manipulations common to each sample and within the same time period or in sequential time periods. Samples in each batch should be of similar composition.

1. Duplicate Spike - A split/spiked field sample shall be analyzed at least once a day. The objective of this is to determine the extent of matrix bias or interference on analyte recovery and sample-to-sample precision.

2. Check Sample - Each batch shall contain a check sample which is a blank that has been spiked with analytes. The analytes employed shall be a representative subset of the analytes to be determined. The concentrations of these analytes shall approach the estimated quantification limit in the matrix of the check sample. The level of the spike shall be at the regulatory action level when applicable. For example, this would be the sanitary sewer limits for various organic impurities in rainwater. Where no regulatory level exists, the spike shall be at five times the estimated quantification limit.

Calibrations

Analytical instruments shall be calibrated in accordance with the requirements which are specific to the instrumentation and procedures employed.

A Standard Curve will be established for the analytes expected to be present. This requires running standards at various concentrations and plotting the concentration of an analyte against the instrument response to the analyte.

A Practical Quantitation Limit (PQL) will be established for the analytes expected to be present. The PQL is the lowest level that can be readily detected within specified limits of precision and accuracy during routine laboratory operating conditons.

Refer to "1.3 DETECTION LIMIT AND QUANTIFICATION LIMIT" on page 15, Chapter ONE, of the SW-846 Manual for the method of determining the Method Detection Limit (MDL) and the Method Quantitation Limit (MQL).

Review and Revisions of the QA/QC Program

Additions to and revisions of this QA/QC Program, once established and approved, are to be made in writing and approved by the Company President. The QA/QC Program is to be reviewed on an annual basis and revised as required.

dilution factor expressed as a ratio and the analyst's initials.

There will also be separate folders in the file for the following QA/QC information on the instrument:

Quality Control Data
Operating Procedures

II. Quality Assurance Program

The Quality Assurance aspect of the QA/QC Program consists of the management of the HCC Laboratory operations. The Quality Assurance Person has the responsibility for providing documented proof that the QA/QC Program is followed. This includes Performance and System Audits to ensure that data of known and defensible quality are produced. He/She is responsible for initiating corrective action and verifying that the corrective action has eliminated the problem. He/She is also responsible for reporting the results of the audits to HCC Management on a timely basis.

The Systems Audits are qualitative evaluations of all components of field and laboratory quality control measurement systems. The Performance Audit is a quantitative evaluation of the measurement systems of a program, the evaluation of precision and accuracy. The procedures developed for the System and Performance Audits for the HCC Lab will be documented and become a part of this QA/QC Program.

III. Quality Control Program

The Quality Control aspect of the QA/QC Program consists of the development of information to 1.) evaluate the accuracy and precision of analytical data in order to establish the quality of the data, 2.) provide an indication of the need for corrective actions when comparison with existing program criteria or data trends show that activities must be changed or monitored to a different degree and 3.) determine the effect of corrective actions. The procedures developed for Quality Control for the HCC Lab will be documented and become a part of this QA/QC Program.

The general requirements, procedures and definitions for the HCC QA/QC Program are found in the U.S. EPA's SW-846 Manuals. Although the HCC Laboratory is not a Contract Laboratory, most of the requirements of the SW-846 are applicable.

Field Quality Control

The sampling techniques used by HCC will be either those found in SW-846 or techniques developed by HCC and proven to provide acceptable representation and reproducibility.

Laboratory Quality Assurance/Quality Control Program

The purpose of the Laboratory Quality Assurance/Quality Control (QA/QC) Program is to provide scientific and statistical credibility to the analytical results generated by the Hukill Chemical Corporation (HCC) Laboratory for our Customers, for in-house requirements and for the various governmental regulatory agencies to whom HCC must report.

The QA/QC Program requires that three programs be developed and consistently followed by the HCC Lab. These are; 1.) a Documentation Program, 2.) a Quality Assurance Program, 3.) a Quality Control Program.

I. Documentation Program

The Documentation Program includes both sampling and analytical activities. It must provide a traceable, legal history for each sample and its subsequent analyses.

All references to a "logbook" refer to a bound, 8 1/2" by 11" book with numbered pages that has been issued a Logbook Control Number.

1. Laboratory Sample Logbook - This will be used to log in all off-site H.W. samples brought into the Lab. The time, date, source of sample, the name of the person delivering the sample, the name of the Lab person receiving the sample, the requested analyses, the date the sample was analyzed and the GC run number (if run on a GC) will be recorded in this.

2. Laboratory Instrument Record Logbook - A logbook will be issued for each instrument. The P.O. Number(s) for the purchase of the instrument and its attachments, the source of the instrument and its attachments, the date the instrument was placed into HCC service and the type of analysis for which the instrument was purchased are to be printed on the first page. Dated and signed entries will be made for calibration with standards, source of standards, detection levels for each analyte, instrument maintenance, instrument problems and actions taken to correct instrument problems.

3. Laboratory Chromatography Files - The Lab GC records will consist of print-outs from each Gas Chromatograph. One file will contain only print-outs from one GC unit. There will be a separate folder in each instrument's file for each of the following types of print-outs.

Blanks
Calibration and Standards
Check Analysis

Sample analyses will be filed in the respective customer's file.

Each print-out will contain such information as the source of the sample, the name of the person or company requesting the analysis, the purpose of the analysis, i.e., daily air stripper effluent, Tank V-125 check, French drain sump check, tap water blank, etc. Each print-out will also contain the

HUKILL CHEMICAL CORPORATION 06/22/84
Lab Procedure
A.P.V. Procedure for Solvent Acidity

1. add 100 mls of isopropyl alcohol (IPA) to a 250 ml erlenmeyer flask.

2. Add 5 - 10 drops of 1% Phenolphthalein indicator to the IPA.

3. Titrate the IPA solution with .05 N Sodium Hydroxide (NaOH) until a faint pink end point is obtained and lasts for 20 seconds. The volume of NaOH used is not needed for the calculations.

4. To the same flask, and solution, add 50 mls of the solvent to be tested and mix well.

5. Titrate with .05N NaOH until a similiar faint pink end point is obtained and lasts for 20 seconds. Record the number of mls of sodium hydroxide used.

6. Calculations:

   a. Acidity as Acetic acid percent by wt. in solvent

   $$\frac{.05 \times \text{mls of NaOH used} \times .12}{\text{Specific gravity of sample}}$$

   b. Acidity as mg KOH per g of sample

   $$\frac{.05 \times 1.12}{\text{specific gravity of sample}}$$

      1. If virgin solvent is being tested use its known specific gravity.

      2. If specific gravity of solvent is unknown use .800 as the value or measure the specific gravity with a hydrometer.

7. Note: If you do not have 50 mls of solvent cut the amount to 25 mls, and in the calculations remember to multiply by an additional factor of 2.

I. APV limits - at or less than .005 - not acidic
greater than .010 - Acidic, must be neutralized
between .005 and .010 - Marginal - See Supervisor

II. APV testing will be done on the following samples, routinely.

1.) All salesman's distillate samples

2.) All reclaim/disposal streams inbound that showed acidity in saleman's samples. (Also, done on complete work-ups per usual.)

3.) All reclaim - Hukill stock distillates regardless of salesman's samples results.

4.) All solvent blends containing reclaimed solvents.

5.) All blended samples, immediately after a caustic addition and mix, to insure that neutralization has taken place.

6.) All final solvent blends, either virgin, reclaim, or combinations of solvents.

III. APV lab neutralization

1.) All laboratory neutralizations should be done in lab luwa setups, not in cans or bottles. Use vigorous agitation for at least 15 minutes.

Procedure to analyze the solvent for H_2O by Karl Fisher

NOTE: DO NOT use Acetone or large amounts (max:. 20 mgs.) of Ketones.

1. Display on Aquatest IV '0 mcg'
   If not, press [mcg]

2. Press [ENTER] Press [1]
   Display '0.50 min' [Time given for injecting sample] Press [ENTER]
   If display is '0.00 min;
   press [.] [5] [0] ENTER
   Display '0 mcg'

AQUATEST IS READY

3.
   a. Take a 1 ml or 0.5 ml glass syringe.
   b. Wash it with acetone and dry it with air.
   c. Draw the desired sample in the syringe (see the chart)
   d. Pull the plunger back a little (enough to pull the sample in the syringe needle)
   e. Weigh the sample on analytical balance.
   f. Press [START] on Aquatest IV
      Display '0 smpl' (for 7 seconds)
      Display '0 stir' (for 43 seconds)
      [you have 50 seconds to inject the sample]
   g. Insert the needle thru septum until it is dipped in the solution.
   h. Inject the sample in the solution.
   i. Pull the syringe out.
   j. Pull the plunger out a little.
   k. Weigh the syringe.

4. Titration will go on and it will stop with a steady number.

5. Display a number [which is UTC#, Note the reading In a log book]

6. Display a number in 'mcg' mode [note the reading In a log book]

7. Press [% ppm]
   Display a number in 'mg' mode

8. Press [CLEAR]
   Display '0 mg'.

9. Punch in sample weight in mgs. and press [ENTER]

10. Display a number in 'PCT' mode on 'ppm' mode. Note the result.

K.S.

Procedures:

HUKILL CHEMICAL CORPORATION
Lab Procedure ASTM D-808
Determination of BTU/pound value:

1. Attach fuse wire to bomb electrodes and make a loop.
2. Add 5 mls. 5% sodium carbonate solution to the bomb, using a rubber policeman. Wet the sides of the bomb and the inner surface of the head with this solution.
3. Weigh 1.0000 gram ± 0.1 gram of sample to be tested in the sample cup using the analytical balance.
4. Place the cup in the holder between the electrodes, as soon as possible.
5. Place the loop in the sample. Make sure loop is dipped in sample and it is not touching the sides of the cup.
6. Place the head in the bomb without shaking the sample and hand tighten the lid.
7. Close the outlet valve on top of bomb, finger tight.
8. Attach oxygen line to inlet on bomb.
9. Open valve on oxygen line to inlet on bomb.
10. Pressurize bomb very slowly to 30 to 31 atmospheres.
11. When pressure holds at 30 atmospheres, close tank valve and release pressure on line via relief valve.
12. Place bucket inside calorimeter on circular raised portion.
13. Place bomb in the bucket.
14. Attach ignition unit wires to electrodes (either electrode).
15. Add 2 liters of H_2O measured in 2000 ml. volumetric flask, to this bucket.
16. Set calorimeter lid in place.
17. Attach stirrer belt and allow to stir for 5 minutes.
18. Read temperature. The temperature should stabilize - remain the same for 5 minutes. Record initial temperature.
19. Plug in ignition unit. Hold down ignition button for a few seconds or until red light goes out.
20. Temperature should begin to rise in 20 seconds.
21. Record temperature at maximum point where reading is unchanged for 2 minutes.
22. Calculate BTU formula using the following formula.

$$BTU = \frac{\Delta t \times W \times 1.8}{M}$$

Δt = Final Temperature - Initial Temperature

W = 2408 Cal - equivalent of calorimeter

M = sample wt. in grams.

Exhibit C-8

Modified ASTM D 512-B Determination of % Chloride

1. Follow all 22 steps of BTU/lb procedure.
2. Take the bomb out of the calorimeter.
3. Vent the O_2 very slowly.
4. Lift the head of bomb up and rinse the inner surface of it with a distilled water jet. Rinse the cup and the bomb thoroughly with distilled water, use about 50 ml of water.
5. Filter the wash with glass wool into a 250 ml. flask.
6. Add 5 drops of 1% phenolpthalein indicator.
7. Titrate the solution with (1 + 19) H_2SO_4 until faint pink color disappears (to adjust the pH).
8. Add .5 ml of 30% H_2O_2 (Hydrogen peroxide) Mix for 1 minute.
9. Add 1 ml of 5% K_2CrO_4 (Potassium Chromate indicator)
10. Titrate it with (0.025 N) $AgNO_3$ until color changes to faint pinkish red, or brick red or brownish yellow.
11. Note the amount of $AgNO_3$ used.

$$Ag^+ + Cl^- = AgCl$$

1 mole of $AgNO_3$ = 1 mole of AgCl.
for 1 ion of Cl^-, it will use 1 ion of Ag^+.

$$\% Cl_2 = \frac{\text{ml of } AgNO_3 \times N \times Fw. \times 100}{1000 \times \text{sample weight}}$$

N = normality = 0.025
Fw = formula wt. for Cl^- = 35.5

Sample weight in grams.

Preparing 4:1 (Toluene + Cl_2 Sample) Solution for BTU & % Cl_2

1. Weigh 1 oz. bottle empty = A (Grams)
2. Add 2 grams of sample to 1 oz. bottle = (A + 2) grams.
3. Add 9.2 mls of Virgin Toluene (1 gram of toluene = 1.15 mls of Toluene)
4. Shake the bottle.
5. Use this composite to do BTU & % Cl_2.

   (Use BTU & % Cl_2 Procedure)

   BTU on Virgin Toluene = 17,984.7

   % Cl_2 on Virgin Toluene 0.149

   BTU on Composite = C

   % Cl_2 on Composite = D

   BTU on sample = 5C-4 (17,984.7)

   % Cl_2 on Sample = 5D-4 (0.149)

NOTE: This method is not for loaded C.F.

Procedures:

HUKILL CHEMICAL CORPORATION

Lab Procedure ASTM D-808

Determination of BTU/pound value:

1. Attach fuse wire to bomb electrodes and make a loop.
2. Add 5 mls. 5% sodium carbonate solution to the bomb, using a rubber policeman. Wet the sides of the bomb and the inner surface of the head with this solution.
3. Weigh 1.0000 gram $\pm$ 0.1 gram of sample to be tested in the sample cup using the analytical balance.
4. Place the cup in the holder between the electrodes, as soon as possible.
5. Place the loop in the sample. Make sure loop is dipped in sample and it is not touching the sides of the cup.
6. Place the head in the bomb without shaking the sample and hand tighten the lid.
7. Close the outlet valve on top of bomb, finger tight.
8. Attach oxygen line to inlet on bomb.
9. Open valve on oxygen line to inlet on bomb.
10. Pressurize bomb very slowly to 30 to 31 atmospheres.
11. When pressure holds at 30 atmospheres, close tank valve and release pressure on line via relief valve.
12. Place bucket inside calorimeter on circular raised portion.
13. Place bomb in the bucket.
14. Attach ignition unit wires to electrodes (either electrode).
15. Add 2 liters of H_2O measured in 2000 ml. volumetric flask, to this bucket.
16. Set calorimeter lid in place.
17. Attach stirrer belt and allow to stir for 5 minutes.
18. Read temperature. The temperature should stabilize - remain the same for 5 minutes. Record initial temperature.
19. Plug in ignition unit. Hold down ignition button for a few seconds or until red light goes out.
20. Temperature should begin to rise in 20 seconds.
21. Record temperature at maximum point where reading is unchanged for 2 minutes.
22. Calculate BTU formula using the following formula.

$$BTU = \frac{\Delta t \times W \times 1.8}{M}$$

Δt = Final Temperature - Initial Temperature

W = 2408 Cal - equivalent of calorimeter

M = sample wt. in grams.

Modified ASTM D 512-B Determination of % Chloride

1. Follow all 22 steps of BTU/lb procedure.
2. Take the bomb out of the calorimeter.
3. Vent the O_2 very slowly.
4. Lift the head of bomb up and rinse the inner surface of it with a distilled water jet. Rinse the cup and the bomb thoroughly with distilled water, use about 50 ml of water.
5. Filter the wash with glass wool into a 250 ml. flask.
6. Add 5 drops of 1% phenolpthalein indicator.
7. Titrate the solution with (1 + 19) H_2SO_4 until faint pink color disappears (to adjust the pH).
8. Add .5 ml of 30% H_2O_2 (Hydrogen peroxide) Mix for 1 minute.
9. Add 1 ml of 5% K_2CrO_4 (Potassium Chromate indicator)
10. Titrate it with (0.025 N) $AgNO_3$ until color changes to faint pinkish red, or brick red or brownish yellow.
11. Note the amount of $AgNO_3$ used.

$$Ag^+ + Cl^- = AgCl$$

1 mole of $AgNO_3$ = 1 mole of AgCl.
for 1 ion of Cl^-, it will use 1 ion of Ag^+.

$$\% Cl_2 = \frac{\text{ml of } AgNO_3 \times N \times Fw. \times 100}{1000 \times \text{sample weight}}$$

N = normality = 0.025
Fw = formula wt. for Cl^- = 35.5

Sample weight in grams.

Preparing 4:1 (Toluene + Cl_2 Sample) Solution for BTU & % Cl_2

1. Weigh 1 oz. bottle empty = A (Grams)
2. Add 2 grams of sample to 1 oz. bottle = (A + 2) grams.
3. Add 9.2 mls of Virgin Toluene (1 gram of toluene = 1.15 mls of Toluene)
4. Shake the bottle.
5. Use this composite to do BTU & % Cl_2.

   (Use BTU & % Cl_2 Procedure)

   BTU on Virgin Toluene = 17,984.7

   % Cl_2 on Virgin Toluene 0.149

   BTU on Composite = C

   % Cl_2 on Composite = D

   BTU on sample = 5C-4 (17,984.7)

   % Cl_2 on Sample = 5D-4 (0.149)

NOTE: This method is not for loaded C.F.

06/22/84

HUKILL CHEMICAL CORPORATION
Lab Procedure
% of Solid

1. Weigh empty aluminum dish on analytical balance = A gms.

2. Weigh about 2 grams of sample = B grams.

3. Heat it on hot plate until all solvent is evaporated.
   [Do not Heat it until it burns the residue].

4. Weigh the dish after it cooks down = C grams.

Sample wt. = B - A

= _____ gms.

Wt. of residue = C - A gms.

= _____ gms.

$$\% \text{ Solids} = \frac{\text{Wt of Residue}}{\text{Sample Wt.}} \times 100$$

KS

Procedure to analyze the solvent for H_2O by Karl Fisher

NOTE: DO NOT use Acetone or large amounts (max. 20 mgs.) of Ketones.

1. Display on Aquatest IV '0 mcg'
   If not, press [mcg]

2. Press [ENTER], Press [1]
   Display '0.50 min' [Time given for injecting sample] Press [ENTER]
   If display is '0.00 min;
   press [.] [5] [0] ENTER
   Display '0 mcg'

AQUATEST IS READY

3.
   a. Take a 1 ml or 0.5 ml glass syringe.
   b. Wash it with acetone and dry it with air.
   c. Draw the desired sample in the syringe (see the chart)
   d. Pull the plunger back a little (enough to pull the sample in the syringe needle)
   e. Weigh the sample on analytical balance.
   f. Press [START] on Aquatest IV
      Display '0 smpl' (for 7 seconds)
      Display '0 stir' (for 43 seconds)
      [you have 50 seconds to inject the sample]
   g. Insert the needle thru septum until it is dipped in the solution.
   h. Inject the sample in the solution.
   i. Pull the syringe out.
   j. Pull the plunger out a little.
   k. Weigh the syringe.

4. Titration will go on and it will stop with a steady number.

5. Display a number [which is UTC#, Note the reading In a log book]

6. Display a number in 'mcg' mode [note the reading In a log book]

7. Press [% ppm]
   Display a number in 'mg' mode

8. Press [CLEAR]
   Display '0 mg'

9. Punch in sample weight in mgs. and press [ENTER]

10. Display a number in 'PCT' mode on 'ppm' mode. Note the result.

K.S.

HUKILL CHEMICAL CORPORATION 06/22/84
Lab Procedure
A.P.V. Procedure for Solvent Acidity

1. add 100 mls of isopropyl alcohol (IPA) to a 250 ml erlenmeyer flask.

2. Add 5 - 10 drops of 1% Phenolphthalein indicator to the IPA.

3. Titrate the IPA solution with .05 N Sodium Hydroxide (NaOH) until a faint pink end point is obtained and lasts for 20 seconds. The volume of NaOH used is not needed for the calculations.

4. To the same flask, and solution, add 50 mls of the solvent to be tested and mix well.

5. Titrate with .05N NaOH until a similiar faint pink end point is obtained and lasts for 20 seconds. Record the number of mls of sodium hydroxide used.

6. Calculations:

   a. Acidity as Acetic acid percent by wt. in solvent

$$\frac{.05 \times \text{mls of NaOH used} \times .12}{\text{Specific gravity of sample}}$$

   b. Acidity as mg KOH per g of sample

$$\frac{.05 \times 1.12}{\text{specific gravity of sample}}$$

      1. If virgin solvent is being tested use its known specific gravity.

      2. If specific gravity of solvent is unknown use .800 as the value or measure the specific gravity with a hydrometer.

7. Note: If you do not have 50 mls of solvent cut the amount to 25 mls, and in the calculations remember to multiply by an additional factor of 2.

KS

I. APV limits - at or less than .005 - not acidic
greater than .010 - Acidic, must be neutralized
between .005 and.010 - Marginal - See Supervisor

II. APV testing will be done on the following samples, routinely.

1.) All salesman's distillate samples

2.) All reclaim/disposal streams inbound that showed acidity in saleman's samples. (Also, done on complete work-ups per usual.)

3.) All reclaim - Hukill stock distillates regardless of salesman's samples results.

4.) All solvent blends containing reclaimed solvents.

5.) All blended samples, immediately after a caustic addition and mix, to insure that neutralization has taken place.

6.) All final solvent blends, either virgin, reclaim, or combinations of solvents.

III. APV lab neutralization

1.) All laboratory neutralizations should be done in lab luwa setups, not in cans or bottles. Use vigorous agitation for at least 15 minutes.

Active Measurements for Solvents

1. Measure 10 mls of the solvent sample to be tested accuragely into a 25 ml graduated cylinder with a ground joint top.

2. Cool the side of the cylinder with running cold water.

3. While cooling the cylinder add concentrated sulfuric acid (H_2SO_4) cautiously and slowly to about the 24 ml mark.
   Note: Highly active solvetns react vigorously with sulfuric acid. If added too fast without sufficient cooling, the contents may explode. Do not make the total volume exceed the 25 ml mark of the graduate cylinder.

4. Continue to cool under running water and stopper the cylinder and gently mix the contents well.

5. Remove the stopper and allow the reacted material to settle to the bottom and the unreacted material to the surface. The unreacted material is clear.

6. Measure the number of milliliters of unreacted material (clear)

7. Calculation:

   (10 - milliliters of unreacted material) x 10 = percent active solvents in the sample tested.

8. All types of chlorinated streams must avoid this test. Violent reactions will occur.

HUKILL CHEMICAL CORPORATION
Lab Procedure
Viscosity

06/22/84

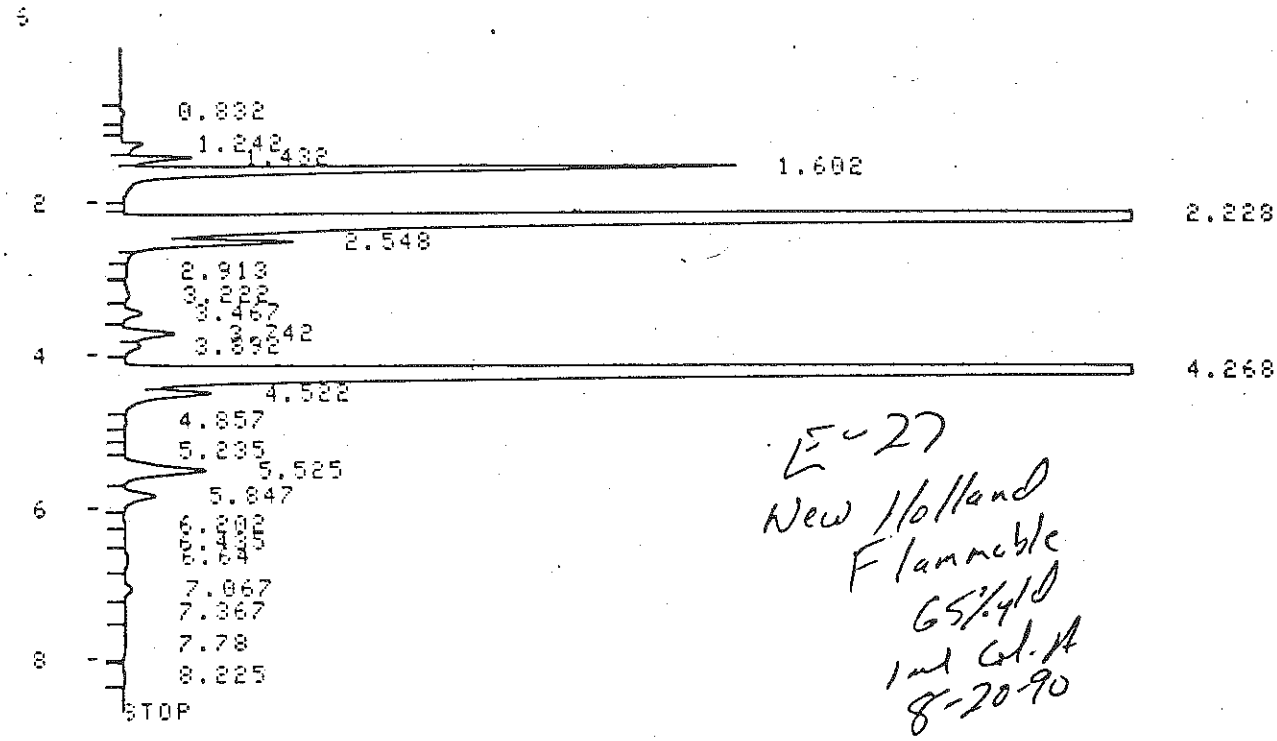
1. Pour about 300 ml of sample in a 400 ml plastic beaker.
2. Attach spindle # 1 on Brookfield Viscosity Meter.
3. Set RPM's to 10.
4. Set the beaker beneath the spindle.
5. Lower the spindle in the sample until it dips up to the mark on spindle.
6. Make sure the spindle is not touching the sides of beaker.
7. Turn the switch on for spindle to turn.
8. Read the scale where needle stabilizes.

   Scale Reading x 10

   = Viscosity

   = _____cps.

START
90/08/20
17:03:49



E-27
New Holland
Flammable
65% yld
1st Col. A
8-20-90

CHROMATOPAC C-R3A FILE 6
SAMPLE NO 0 METHOD 461
REPORT NO 7465

PKNO	TIME	AREA	MK	IDNO	CONC	NAME
1	0.832	1348			0.0372	
2	1.242	8238			0.2276	
3	1.432	20381	V		0.5631	
4	1.602	194763	V		5.3814	- ACETONE
5	2.228	2017297	S		55.7388	- MEK
6	2.548	34320	T		0.9483	- EZOAC
7	2.913	683	T		0.0189	
8	3.222	3511	T		0.097	
9	3.467	8004	TV		0.2212	
10	3.742	21728			0.6004	
11	3.892	7657	V		0.2116	
12	4.268	1185155	V		32.7463	- TOLUENE
13	4.522	38977	V		1.077	- BUOAC
14	4.857	776	V		0.0215	
15	5.235	529			0.0146	
16	5.525	44700	V		1.2351	XYLENE
17	5.847	15365	V		0.4245	
18	6.202	1086			0.03	
19	6.435	2001	V		0.0553	
20	6.64	3457	V		0.0955	
21	7.067	4739	V		0.1309	
22	7.367	1262	V		0.0349	
23	7.78	1655	V		0.0457	
24	8.225	1567			0.0433	
	TOTAL	3619196			100	

Exhibit C
Exhibit C-14 Con'd
Rev.7/90

HUKILL CHEMICAL CORPORATION

JOB COST SHEET

Code:

Customer:

Job Description:

Date:

Job Order No: 14839

Manifest #:

Date Required:

P. O. #:

Invoice #:

Instructions:

Formulation:

JOB TIME

Date:	Start:	Finish:

RAW MATERIALS — Office Use

Description	Quantity	Cost

DIRTY SOLVENT

Drums on Order _____

Drums Pumped _____

Tank # _____

Gals. Dirty _____

RECLAIMED SOLVENT

Tank # _____

Meter Stop _____

Meter Start _____

Total Gals. _____

Drs. Filled _____

DIRTY DRUMS

Good Drums _____

Drs. to Dump _____

Scrapped Drums _____

Total Drums _____

T.P.V. _____

Yield _____

Total Sludge _____

Water _____

Sludge to Tank _____

G.P.M. _____ % Yield _____

Remarks: _____

HCC-80

Exhibit C-15

HUKILL CHEMICAL CORPORATION
WASTE DATA SHEET

HUKILL CHEMICAL CORPORATION
7013 KRICK ROAD
BEDFORD, OHIO 44146
OHD 0001926740

HUKILL INFO BOX: Sales Sample #_____
CO CODE_____ Approved by Lab _____ Date_____
PART NUMBER_____ Approved by Prod. _____ Date_____
WASTE CODE #_____ Approved by Environ. _____ Date_____
COMMON NAME _____ Approved & Quoted by Sales _____ Date_____

Sales Sample#_____ Customer Code_____ Part#_____

In order to safely handle your material, please attach any necessary Material Safety Data Sheets (MSDS), laboratory analysis, old Waste Profile Sheets, additional hazard information, special handling or transportation requirements which are not detailed below.

GENERATOR INFORMATION:
Name_____
Address_____
City, State, ZIP_____
Telephone ( )_____
Fax ( )_____
Technical Contact:_____
Scheduler/Ship&Rec._____
Shipping & Receiving Hours_____

BILLING/PURCHASING INFORMATION:
Billing Name_____
Address_____
City,State, ZIP_____
Telephone: ( )_____
Fax: ( )_____
Accounts Payable_____
Buyer_____

MANIFESTING & TRANSPORTATION INFORMATION:

U.S. DOT hazardous material? (49CFR 171-177) [ ] No [ ] Yes
U.S. DOT hazardous substance (Reportable Quantity)? (49CFR 302)
[ ] No [ ] Yes in _____ gallon containers

U.S DOT Proper Shipping Name:(Choose most specific from 49CFR172.101)
[ ] _____
[ ] If a Not Otherwise Specified (N.O.S.) Proper Shipping Name,
List the 2 largest constituents which give the material its DOT hazard class.
(Contains:(1)_____ (2)_____)
DOT Identification number: UN_____ NA_____
DOT Hazard Class[ ] Flammable <100° F [ ] Combustible > 100°F
[ ]ORM-A [ ]ORM-B [ ]ORM-C [ ]ORM-E [ ]CORROSIVE [ ]OXIDIZER

EPA ID No._____
State EPA ID No._____
[ ] Conditionally Exempt small quantity generator per 40 CFR 261.5
U.S. EPA hazardous waste? [ ] No [ ] Yes, check codes below
EPA WASTE CODES FOR THIS WASTE:
[ ]F001 [ ]F002 [ ]F003 [ ]F004 [ ]F005 [ ]D001 [ ]D002 [ ]D004 [ ]D005 [ ]D006
[ ]D007 [ ]D008 [ ]D009 [ ]D010 [ ]D011 [ ]D018 [ ]D035 [ ]D039 [ ]D040
[ ]U____[ ]U____[ ]K086 [ ]Others_____

YOUR 24 HOUR MONITORED TELEPHONE NUMBER FOR A CHEMICAL EMERGENCY:_____

CHEMICAL COMPOSITION OF YOUR WASTE Must total 100%:

	Conc.	Range
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%
_____	____%	____to____%

WASTE STREAM ____ of _____ streams submitted

What do you call this waste stream at your facility?:
_____

Waste generating process(check AND describe below):
[ ]Mfg. By-product [ ]Paint Related [ ]Spill Cleanup
[ ]Off-spec Product [ ]Unused Commercial Product
[ ]From Cleaning, Flushing or Washing Parts/equipment
Describe the waste AND generating process:_____
_____
_____

VOLUME OF STREAM:
Quantity _____ Units_____ per_____
Container: [ ]Drum [ ]Tote [ ]Bulk [ ]_____
Container Volume _____

PHYSICAL DESCRIPTION OF WASTE STREAM:
Physical State at 70°F: [ ] Liquid [ ] Sludge
[ ] Solid [ ] Powder [ ] Debris [ ]_____
Viscosity: [ ] Low [ ] Medium [ ] High
Pumpable at 70°F: [ ] Yes [ ] No @_____°F
at 20°F: [ ] Yes [ ] No
Phases/Layers: [ ] Single [ ] Bi-layered [ ] Multi
Percentage Volume of each:
Top____% Middle____% Bottom____% Free Water____%
Color:_____ Density:_____
pH: [ ]≤2.0 [ ]≥12.5 _____Exact
Liquid Flashpoint (°F):[ ]<100° [ ]<140° [ ]>140° [ ]>200°
[ ] None _____°F Exact
Odor: [ ] None [ ] Mild [ ] Strong Type (describe) _____
Solids: [ ]<1% [ ]>1% Value_____%
[ ] Settled Solids [ ] In solution
Total Organic Carbon (TOC): [ ] <1% [ ] >1% Value_____%

FUELS RECOVERY INFORMATION:
BTU Value/lb._____ Ash Content _____%
Total Chlorine _____% Total Halogens _____%
Water in solution _____%

HUKILL CHEMICAL CORPORATION
HAZARDOUS WASTE STREAM INFORMATION UPDATE 1991

In an effort to keep our waste profiles up to date, please complete the following information request, sign, date and return to Hukill Chemical Corporation, Sales Service Department, 7013 Krick Road, Bedford, Ohio 44146 in the attached envelope. Correct the label information as necessary

EPA
I.D._____
Your in-plant contacts:
Technical_____
Scheduler_____
Buyer_____
A/Pay_____

WASTE STREAM [ ] 1 [ ] 2 [ ] 3 [ ] 4 Please make copies if you have more than one waste stream. Thank you.
Your name for this wastestream:_____

Is it a waste by-product of a manufacturing process [ ] Yes [ ] No *If YES, quickly describe the generating process*
_____

Is it an off-spec product? [ ] Yes [ ] No *If YES, what is contained in the waste?*
_____

Is it from cleaning, flushing, or washing of your parts or equipment? [ ] Yes [ ] No
Is this a paint related waste? [ ] Yes [ ] No
What industry are you in?_____
Will this material be reclaimed or fractionated? [ ] Yes [ ] No
If YES, what is your expected usage of the returned material?
_____

TRANSPORTATION INFORMATION: Inbound Material
[ ] This material not regulated by DOT, but is considered hazardous by EPA
[ ] This is a NON Regulated material.
Is this a DOT hazardous material (49CFR 171-177)? [ ] Yes [ ] No
Is this a DOT hazardous substance (49CFR 302) [ ] Yes [ ] No
DOT Hazard Class [ ] Flammable <100°F Flashpoint [ ] Combustible >100°F & <200°F Flashpoint
[ ] ORM-A [ ] ORM-B [ ] ORM-C [ ] ORM-E [ ] Corrosive
other[ ] _____

DOT Proper Shipping Name: *(Choose most specific from 49CFR172.101) Remember WASTE is first part of Name.*
[ ] Waste_____ (chemical specific name)
[ ] Waste Paint (per 173.28 Paint is proper shipping name for paint, lacquer, enamel, stain, shellac, varnish, liquid alum, liquid gold, liquid bronze, liquid wood filler and liquid lacquer base)
[ ] Waste Paint Related Material (per 173.28 Paint Related Material is the proper shipping name for a paint thinning or reducing or removing compound...unless a more specific description is listed in ...172.101.)
[ ] Waste Ink (per Small Quantity Generator Handbook ...includes solvents washes & sludges, caustic washes & sludges from cleaning tubs & equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.*see K086.
[ ] Waste Resin Solution
[ ] Waste Compound, Cleaning, Liquid
[ ] Waste Flammable Liquid, N.O.S. (containing (1)_____ (2)_____)
(List the 2 constituents which make the material that DOT hazard class)
[ ] Waste Combustible Liquid,N.O.S.(containing(1)_____ (2)_____)
(List the 2 constituents which make the material that DOT hazard class)
[ ] Waste _____
[ ] DOT Identification number: UN_____ **NA**_____
EPA WASTE CODES FOR THIS WASTE: (Attach an additional sheet if necessary.)
[ ] F001 [ ] F002 [ ] F003 [ ] F004 [ ] F005
[ ] D001 [ ] D002 [ ] D003 [ ] D004 [ ] D005 [ ] D006 [ ] D007 [ ] D008 [ ] D009 [ ] D010
[ ] D011 [ ] D___ [ ] D___ [ ] D___ [ ] U___ [ ] U___ [ ] K086* [ ] ___ [ ] ___ [ ] ___

YOUR 24 HOUR MONITORED TELEPHONE NUMBER FOR A CHEMICAL EMERGENCY:_____
I certify the above information is correct based upon my knowledge of the waste or laboratory analysis:
Printed
Name/Title_____Signature_____Date_____
Sample submitted? [ ] YES or [ ] NO

Notification of Hazardous Waste Restricted From Land Disposal
Hukill Chemical Corporation (EPA I.D. OHD001926740)

Keep one copy for your files
HCC510 REV. 9/90

SECTION I. GENERATOR INFORMATION Name _____ Ship Date _____

Address: _____ EPA I.D. No. _____

MANIFEST # _____ LINE # _____ EPA WASTE CODES _____

Use a separate form for each line number (11a, 11b, 11c, 11d) on your manifest

SECTION II. F001 - F005 SPENT SOLVENTS

Check the appropriate box (es) for each statement.

1. The following checked constituents are present in this F001 - F005 Waste:
2. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% F001 - F005 constituents, total. Otherwise it is a Nonwastewater.)

	CONSTITUENT	CCWE Except As Indicated	TREATMENT STANDARDS PER 40 CFR 268.41, 268.42, 268.43 [ ] Wastewater (mg/L)	[ ] Nonwastewater (mg/L)
[ ]	Acetone	F003	0.05	0.59
[ ]	Benzene	F005	0.070CCW	3.7CCW
[ ]	n-Butyl Alcohol	F003	5.0	5.0
[ ]	Carbon disulfide	F005	1.05	4.81
[ ]	Carbon tetrachloride	F001	0.05	0.96
[ ]	Chlorobenzene	F002	0.15	0.05
[ ]	Cresols (& cresylic acid)	F004	2.82	0.75
[ ]	Cyclohexanone	F003	0.125	0.75
[ ]	1, 2-Dichlorobenzene	F002	0.65	0.125
[ ]	Ethyl acetate	F003	0.05	0.75
[ ]	Ethyl benzene	F003	0.05	0.053
[ ]	Ethyl ether	F003	0.05	0.75
[ ]	Isobutanol	F005	5.0	5.0
[ ]	Methanol	F003	0.25	0.75
[ ]	Methylene chloride	F001 or F002	0.20	0.96
[ ]	Methylene chloride (from pharmaceutical industry)	F002	0.44CCW	N/A
[ ]	Methyl Ethyl Ketone (MEK)	F005	0.05	0.75
[ ]	Methyl Isobutyl Ketone (MIBK)	F003	0.05	0.33
[ ]	Nitrobenzene	F004	0.66	0.125
[ ]	Pyridine	F005	1.12	0.33
[ ]	Tetrachloroethylene	F001 or F002	0.079	0.05
[ ]	Toluene	F005	1.12	0.33
[ ]	1, 1, 1-Trichloroethane	F001 or F002	1.05	0.41
[ ]	1, 1, 2-Trichloroethane	F002	0.030CCW	7.6CCW
[ ]	1, 1, 2-Trichloro-1, 2, 2-Trifluoroethane	F001 or F002	1.05	0.96
[ ]	Trichloroethylene	F001 or F002	0.062	0.091
[ ]	Trichlorofluoromethane	F001 or F002	0.05	0.96
[ ]	Xylene	F003	0.05	0.15
[ ]	2-Nitropropane	F005	(WETOX or CHOXD) (bCARBN or INCIN	INCIN
[ ]	2-Ethoxyethanol ("Cellosolve")	F005	BIODG; or INCIN	INCIN

SECTION III. CALIFORNIA LIST PROHIBITIONS

Check the appropriate box (es) if the waste contains the following

Liquid hazardous wastes or free liquids which contain: ☐ PCB'S: NOT ACCEPTED by Hukill Chemical Corporation

☐ Halogenated Organic Compounds (HOCs) in total concentrations greater than or equal to 1,000 mg/L (liquids) or 1,000 mg/kg (nonliquids), but not listed or characterized as containing HOC's.

A "D" Waste that also contains metals or compounds with metals at mg/L concentration as follows: ☐ Arsenic >500 ☐ Mercury > 20 ☐ Nickel > 134 ☐ Thallium > 130

SECTION III. CHARACTERISTIC WASTES - COMMON "D" WASTE CODES

1. Check the appropriate box (es) if this waste is a Characteristic Waste.
2. Check the appropriate box (es) if this waste is a listed Waste (F, K, or U Code Waste) AND exhibits one or more hazardous characteristics that would exist if the Listed Waste constituents (in Section II and Section V) were not present.
3. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% by weight Total Organic Carbons (TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
4. The following waste codes apply to this waste as checked:

	EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) (mg/1)	[ ] NonWastewater (By CCWE) (mg/1)
[ ]	D001	Ignitability	Ignitable Liquids	DEACT	NA
[ ]	D001	Ignitability	Low TOC Ignitable Liquids	NA	DEACT
[ ]	D001	Ignitability	High TOC Ignitable Liquids	NA	FSUBS; RORGS; INCIN
[ ]	D004	Arsenic	NA	5.0	5.0*
[ ]	D005	Barium	NA	100	100
[ ]	D006	Cadmium	NA	1.0	1.0
[ ]	D007	Chromium (total)	NA	5.0	5.0
[ ]	D008	Lead	NA	5.0	5.0
[ ]	D009	Mercury	Low Mercury - <260mg/kg	0.20	0.20*
[ ]	D010	Selenium	NA	1.0	5.7

* Has a capacity variance until May 8, 1992

SECTION V. OTHER EPA WASTE CODES

List any "U", "K" or other "D" Waste Codes not found in Section II or IV.

1. The Treatability Group for this waste is Wastewater or a Nonwastewater. Check the box for the appropriate group. A wastewater contains less than 1% by weight Total Organic Carbons(TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
2. Refer to Hukill Chemical Corporation's Approved Waste Code Listing. Select the proper waste code for this waste. Enter under appropriate heading:

EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) CONCENTRATION	[ ] NonWastewater (By CCWE) OR TECHNOLOGY

SECTION VI. CERTIFICATION

The above waste stream conforms to the description of and is identified as a restricted waste. It must meet the treatment standards noted above before it qualifies for disposal in a secure landfill. This notification is based upon:

☐ Attached Analysis ☐ Knowledge of Waste and Generating Process

Signature / Title (This must be an authorized signature certifying the information.)

Printed Name _____ Date of Shipment _____

Laboratory Quality Assurance/Quality Control Program

The purpose of the Laboratory Quality Assurance/Quality Control (QA/QC) Program is to provide scientific and statistical credibility to the analytical results generated by the Hukill Chemical Corporation (HCC) Laboratory for our Customers, for in-house requirements and for the various governmental regulatory agencies to whom HCC must report.

The QA/QC Program requires that three programs be developed and consistently followed by the HCC Lab. These are; 1.) a Documentation Program, 2.) a Quality Assurance Program, 3.) a Quality Control Program.

I. Documentation Program

The Documentation Program includes both sampling and analytical activities. It must provide a traceable, legal history for each sample and its subsequent analyses.

All references to a "logbook" refer to a bound, 8 1/2" by 11" book with numbered pages that has been issued a Logbook Control Number.

1. Laboratory Sample Logbook - This will be used to log in all off-site H.W. samples brought into the Lab. The time, date, source of sample, the name of the person delivering the sample, the name of the Lab person receiving the sample, the requested analyses, the date the sample was analyzed and the GC run number (if run on a GC) will be recorded in this.

2. Laboratory Instrument Record Logbook - A logbook will be issued for each instrument. The P.O. Number(s) for the purchase of the instrument and its attachments, the source of the instrument and its attachments, the date the instrument was placed into HCC service and the type of analysis for which the instrument was purchased are to be printed on the first page. Dated and signed entries will be made for calibration with standards, source of standards, detection levels for each analyte, instrument maintenance, instrument problems and actions taken to correct instrument problems.

3. Laboratory Chromatography Files - The Lab GC records will consist of print-outs from each Gas Chromatograph. One file will contain only print-outs from one GC unit. There will be a separate folder in each instrument's file for each of the following types of print-outs.

Blanks
Calibration and Standards
Check Analysis

Sample analyses will be filed in the respective customer's file.

Each print-out will contain such information as the source of the sample, the name of the person or company requesting the analysis, the purpose of the analysis, i.e., daily air stripper effluent, Tank V-125 check, French drain sump check, tap water blank, etc. Each print-out will also contain the dilution factor expressed as a ratio and the analyst's initials.

There will also be separate folders in the file for the following QA/QC information on the instrument:

Quality Control Data
Operating Procedures

II. Quality Assurance Program

The Quality Assurance aspect of the QA/QC Program consists of the management of the HCC Laboratory operations. The Quality Assurance Person has the responsibility for providing documented proof that the QA/QC Program is followed. This includes Performance and System Audits to ensure that data of known and defensible quality are produced. He/She is responsible for initiating corrective action and verifying that the corrective action has eliminated the problem. He/She is also responsible for reporting the results of the audits to HCC Management on a timely basis.

The Systems Audits are qualitative evaluations of all components of field and laboratory quality control measurement systems. The Performance Audit is a quantitative evaluation of the measurement systems of a program, the evaluation of precision and accuracy. The procedures developed for the System and Performance Audits for the HCC Lab will be documented and become a part of this QA/QC Program.

III. Quality Control Program

The Quality Control aspect of the QA/QC Program consists of the development of information to 1.) evaluate the accuracy and precision of analytical data in order to establish the quality of the data, 2.) provide an indication of the need for corrective actions when comparison with existing program criteria or data trends shows that activities must be changed or monitored to a different degree and 3.) determine the effect of corrective actions. The procedures developed for Quality Control for the HCC Lab will be documented and become a part of this QA/QC Program.

The general requirements, procedures and definitions for the HCC QA/QC Program are found in the EPA's SW-846 Manuals. Although

the HCC Laboratory is not a Contract Laboratory, most of the requirements of the SW-846 are applicable.

Field Quality Control

The sampling techniques used by HCC will be either those found in SW-846 or techniques developed by HCC and proven to provide acceptable representation and reproducibility.

Analytical Quality Control

The following components of the analytical quality control are related to the analytical batch. The analytical batch is defined as samples which are analyzed together with the same method sequence, the same lots of reagents, the same manipulations common to each sample and within the same time period or in sequential time periods. Samples in each batch should be of similar composition.

1. Duplicate Spike - A split/spiked field sample shall be analyzed at least once a day. The objective of this is to determine the extent of matrix bias or interference on analyte recovery and sample-to-sample precision.

2. Check Sample - Each batch shall contain a check sample which is a blank that has been spiked with analytes. The analytes employed shall be a representative subset of the analytes to be determined. The concentrations of these analytes shall approach the estimated quantification limit in the matrix of the check sample. The level of the spike shall be at the regulatory action level when applicable. For example, this would be the sanitary sewer limits for various organic impurities in rainwater. Where no regulatory level exists, the spike shall be at five times the estimated quantification limit.

Calibrations

Analytical instruments shall be calibrated in accordance with the requirements which are specific to the instrumentation and procedures employed.

A Standard Curve will be established for the analytes expected to be present. This requires running standards at various concentrations and plotting the concentration of an analyte against the instrument response to the analyte.

A Practical Quantitation Limit (PQL) will be established for the analytes expected to be present. The PQL is the lowest level that can be readily detected within specified limits of precision and accuracy during routine laboratory operating conditons.

Refer to "1.3 DETECTION LIMIT AND QUANTIFICATION LIMIT" on page 15, Chapter ONE, of the SW-846 Manual for the method of determining the Method Detection Limit (MDL) and the Method Quantitation Limit (MQL).

Review and Revisions of the QA/QC Program

Additions to and revisions of this QA/QC Program, once established and approved, are to be made in writing and approved by the Company President. The QA/QC Program is to be reviewed on an annual basis and revised as required.

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

WASTE DATA SHEET NO._____

CUSTOMER CODE NO._____

DATE_____

GENERATORS MATERIAL PROFILE SHEET AND SAMPLE CERTIFICATION

GENERAL INSTRUCTIONS

In order for us to determine whether we can lawfully, safely, and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers: if your response is "none", so indicate. Information you provide will be maintained in strictest confidence.

1.) Complete each section of the Generator Waste Date Sheet. Please PRINT OR TYPE. If you do not have analytical information, please include a Material Safety Data Sheet (MSDS) for each stream and request an analysis. We will work with you to complete the requested information.

Referring to Item V, Page 4, under landfill restriction regulations California listed materials require Generators of restricted wastes to identify metals in that waste, even though a standard for the solvent exists.

2.) Submit original to HUKILL CHEMICAL CORPORATION, 7013 KRICK ROAD, BEDFORD, OHIO 44146-4493 for preliminary evaluation. Retain a copy for your records.

3.) At the time you submit this form, you should collect a representative sample of the waste material to be submitted using two 8 oz. sealed glass containers.

4.) Complete the Certification of Representative Sample.

5.) Complete the Notification of Hazardous Waste Restricted from Land Disposal Form.

Should any questions arise, please contact:

Customer Service
Hukill Chemical Corporation
7013 Krick Road
Bedford, Ohio 44146-4493

(216) 232-9400 (phone)

(216) 232-9477 (fax)

U.S. EPA ID OHD001926740 STATE EPA ID. OH-02-18-0315

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ __/__/__

HUKILL CHEMICAL CORPORATION
7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

717-627-2161

GENERATORS WASTE DATA SHEET

Please PRINT IN INK OR TYPE.

I. GENERATOR INFORMATION

A. Generator Name KENDIK, INC.

B. Generator EPA I.D.No. PAD 982568487

C. Generator State I.D. No. N/A

D. Facility Address 10 WEST 2ND AVE

State LITITZ PA Zip 17543

E. Billing Address (if different) R. W. Eaken, Inc., P. O. Box 171

State Leesport, PA Zip 19533

F. Business Contact William G. Mills

Phone: (215) 926-2136

G. Technical Contact Kevin G. Kochinsky

Phone: (215) 926-2136

The following information is required to comply with RCRA 40CFR264.13/265.13

OK for disposal

II. GENERAL WASTE INFORMATION

A. Name of Waste WASTE CLEANER S

B. Process Generating Waste DEGREASING "FLUSH"

(should be complete enough to compare with process description in 40CFR261.31 and 261.32)

C. Generators Code (optional)_____ D. SIC code_____

E. Annual quantity generated_____(gals, drums

F. Current Accumulation 1 drums _____Bulk

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ ___/___/___

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

III. PHYSICAL DESCRIPTION

A. Color VARIED

B. Odor MILD to STRONG ETHERAL ODOR

C. Specific Gravity 1.02
Range 1.0 - 1.3

D. Physical State @ 70 F._____
(x) Liquid ____% ( ) Sludge ( ) Semi-solid ( ) Solid

E. ( ) Multilayered ( ) Bilayered (x) Single phased

F. Liquid Flashpoint: ( ) >140 ( ) <140 ( ) <100 (x) None
( ) Open Cup (x) Closed Cup

G. pH_____

H. BTU Value/lb. N/D

I. % Water 20-60

IV. CHEMICAL COMPOSITION OF WASTE
Components including 40 CFR 261,App.7
Hazardous Constituents

Hazardous Constituents	Min..-Max. %
WATER	20 - 60
NONYLPHENOL ETHOXYLATES	20 - 35
SODIUM SILICATE	1 - 10
2-BUTOXYETHANOL	6 - 10
POTASSIUM HYDROXIDE	0 - 3
OILS	2 - 20
Total %	100 %

Note: Chemical composition in min/max column must meet or exceed 100%.

-If you do not know the chemical composition of the stream and wish an outside lab to do an analysis, check here. ( )

-Do you have a lab analysis for this waste stream ( ) Yes (attached
(x) No

-You must attach a MSDS for each stream or stream component if a combination of products accumulated together.

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ __/__/__

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

V. METALS (indicate if this waste contains any of the following)
See Landfill restrictions in General Instructions

A. ( ) EP TOX/TCLP or (X) TOTAL
(Parts Per Million)

METAL	LESS THAN		OR ACTUAL	
Arsenic	( ) < 5	(X)	<500	_____
Barium	(X) <100			_____
Cadmium	( ) < 1	(X)	<100	_____
Chromium	(X) < 5			_____
Lead	( ) < 5	(X)	<500	_____
Mercury	( ) <0.2	(X)	< 20	_____
Selenium	( ) < 1	(X)	<100	_____
Silver	(X) < 5			_____
Chromium-Hex	( ) < 5	(X)	<500	_____
Copper	(X) < 5			_____
Nickel	( ) < 5	(X)	<134	_____
Thallium	( ) < 5	(X)	<130	_____
Zinc	(X) < 5			_____
Aluminum	NOT SUSPECTED			_____
Magnesium				_____
Silicon				_____
Sodium				_____

Outside Lab Analysis Needed ( ) Lab Analysis Attached ( )

VI. OTHER CHARACTERISTICS OF THE WASTE

A. Indicate if this waste contains any of the following:

	NONE	LESS THAN	ACTUAL
PCB'S	(X)	( ) < 50 ppm	_____
Cyanides	(X)	( ) < 50 ppm	_____
Phenolics	(X)	( ) < 50 ppm	_____
Sulfides	(X)	( ) < 50 ppm	_____
Pesticides	(X)	( ) < 50 ppm	_____
Herbicides	(X)	( ) < 50 ppm	_____
Dioxins	(X)	( ) < 50 ppm	_____

Outside Lab Analysis Needed ( ) Lab Analysis Attached ( )

B. Indicate :

Halogens as Chlorine TRACE

Total Halogens TRACE

Does this waste contain >1000 ppm total halogenated organic compounds? ( ) YES (X) NO

Outside Lab Analysis Needed ( ) Lab Analysis Attached ( )

C. Does this waste contain any of the most highly toxic chemicals as per OSHA list? NO

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ __/__/__

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-8400

VI. OTHER CHARACTERISTICS CONTINUED:

C. Check the applicable box below:

( ) Ignitable
( ) Water Reactive
( ) Explosive
( ) Shock Sensitive
( ) Pyrophoric
( ) RCRA Reactive
( ) Radioactive
( ) Etiological
( ) Pesticide
( ) Other_____
(X) None of the above

D. Is this waste a listed solvent waste as defined by 40 CFR 261.31? ( ) YES (X) NO
Please identify: F001, F002, F003, F004 or F005.

E. COMPLETE ONLY FOR WASTES INTENDED FOR FUELS OR INCINERATION

		LESS THAN	OR	ACTUAL
Beryllium	(X)	< 5000 ppm		_____ ppm
Potassium	(Y)	< 5000 ppm		_____ ppm
Sodium	(X)	< 5000 ppm		_____ ppm
Total Bromine	(V)	< 2 %		_____ %
Total Chlorine	(Y)	< 35 %		_____ %
Total Fluorine	(Y)	< 1 %		_____ %
Total Sulfur	NOT SUSPECTED			_____ %
Total Iodine				_____ %
Total Nitrogen				_____ %
Total Phosphorus				_____ %

Outside Lab Analysis Needed ( ) Lab Analysis Attached ( )

F. PHYSICAL PROPERTIES

1. Heat Value (BTU/lb.-Range) N/D
2. Water 20-60 %
3. Viscosity (cps) low @ ( )____F ( ) 100F ( ) 150F
4. Ash < 15 %
5. Settleable Solids_____%
6. Vapor Pressure @ STP (mm/Hg) < 5 est.
7. Is this waste a pumpable liquid? (X) YES ( ) NO
8. Can this waste be heated to improve flow? ( ) YES (X) NO
9. Is this waste soluble in water? (X) YES ( ) NO
10. Particle Size: Will the solid portion of this waste pass through an 1/8" screen? (X) YES ( ) NO

Outside Lab Analysis Needed ( ) Lab Analysis Attached ( )

HCC-400 REV. 8/89

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ ___/___/___

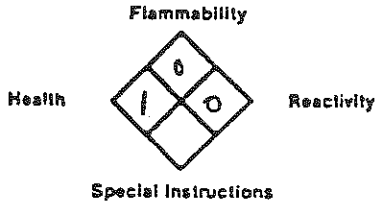
HUKILL

CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

VII. HAZARD IDENTIFICATION SYSTEM

0 - No unusual hazard
1 - Slightly Hazardous
2 - Hazardous
3 - Extremely Hazardous
4 - Specific Hazard



TOXICITY

( ) Eye Explain_____

( ) Inhalation Explain_____

( ) Dermal Explain_____

( ) Ingestion Explain_____

( ) Other Explain_____

( ) Carcinogen (suspected or known) Explain_____

_____

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ __/__/__

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

VIII. TRANSPORTATION AND HANDLING INFORMATION

A. Is this a DOT hazardous material as per 49CFR 171-177?
( ) Yes (x) No

B. Proper DOT Shipping Name NON REGULATED

C. DOT Hazard Class NON REGULATED

D. DOT UN or NA Number N/A

E. EPA Waste I.D. NO. N/A

F. Placards: NONE Labels: NONE

G. Additional Description NONE

H. CERCLA Reportable Quantity (RQ) NONE

I. USEPA Hazardous Waste as defined by 40 CFR261( ) yes (x) no

J. State Hazardous Waste ( ) yes (Y) No---State Waste No._____

K. Method of Shipment: ( ) Bulk liquid ( ) Bulk solid
(x) Drum (Type/Size) 55 GALLON

L. Transportation Equipment Required VAN TRAILER

M. Service/Scheduling Requirements NONE

N. Special Handling Information DISPOSAL/FUEL BLEND

(attach additional pages, if neccessary)

SECTION C Exhibit C-24 cont.

HCC-400 REV. 8/89

WASTE DATA SHEET NO._____ CUSTOMER CODE_____ __/__/__

HUKILL CHEMICAL CORPORATION

7013 KRICK ROAD • BEDFORD, OHIO 44146 • 216/232-9400

IX. GENERATOR CERTIFICATION

I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste material, and all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

Donald W. Warren — Signature

DIRECTOR OF OPERATIONS — Title

DONALD W. WARREN — Printed or Typed Name

10/22/91 — Date

X. CONFIDENTIALITY AGREEMENT

HUKILL CHEMICAL CORPORATION as consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By:_____ for Hukill Chemical Corporation as

_____(Title) on _____198____

APR 19 1991

HUKILL CHEMICAL CORPORATION
HAZARDOUS WASTE STREAM INFORMATION UPDATE 1991

In an effort to keep our waste profiles up to date, please complete the following information request, sign, date and return to Hukill Chemical Corporation, Sales Service Department, 7013 Krick Road, Bedford, Ohio 44146 in the attached envelope.

SHELLY LYNCH
PIERCE & STEVENS CORPORATION
ACCOUNTS PAYABLE
P O BOX 1092
BUFFALO NY
14240

EPA I.D. NYD002108629
Your in-plant contacts:
Technical JAMES DRZEWIECKI JR.
Scheduler SHELLY LYNCH
Buyer SHELLY LYNCH
A/Pay

WASTE STREAM [✓] 1 [ ] 2 [ ] 3 [ ] 4 Please make copies if you have more than one waste stream. Thank you.

Your name for this wastestream: SOLVENT BORNE WASTE

Is it a waste by-product of a manufacturing process [ ] Yes [✓] No *If YES, quickly describe the generating process*

Is it an off-spec product? [✓] Yes [ ] No *If YES, what is contained in the waste?*
MIXER WASHINGS, CUST. RETURNS, OFF SPEC PRODUCTS - SOLVENTS

Is it from cleaning, flushing, or washing of your parts or equipment? [✓] Yes [ ] No

Is this a paint related waste? [ ] Yes [✓] No

What industry are you in? MANUF. OF COATINGS AND ADHESIVES 2851/2891

Will this material be reclaimed or fractionated? [✓] Yes [ ] No

If YES, what is your expected usage of the returned material?
SOLVENT BLEND USED IN PRODUCTION

TRANSPORTATION INFORMATION: Inbound Material

[ ] This material not regulated by DOT, but is considered hazardous by EPA

[ ] This is a NON Regulated material.

Is this a DOT hazardous material (49CFR 171-177)? [✓] Yes [ ] No

Is this a DOT hazardous substance (49CFR 302) [✓] Yes [ ] No

DOT Hazard Class [✓] Flammable <100°F Flashpoint [ ] Combustible >100°F & <200°F Flashpoint
[ ] ORM-A [ ] ORM-B [ ] ORM-C [ ] ORM-E [ ] Corrosive
other[ ] _____

DOT Proper Shipping Name: *(Choose most specific from 49CFR172.101) Remember WASTE is first part of Name.*

[ ] Waste _____ (chemical specific name)

[ ] Waste Paint (per 173.28 Paint is proper shipping name for paint, lacquer, enamel, stain, shellac, varnish, liquid alum, liquid gold, liquid bronze, liquid wood filler and liquid lacquer base)

[ ] Waste Paint Related Material (per 173.28 Paint Related Material is the proper shipping name for a paint thinning or reducing or removing compound...unless a more specific description is listed in ...172.101.)

[ ] Waste Ink (per Small Quantity Generator Handbook ...includes solvents washes & sludges, caustic washes & sludges from cleaning tubs & equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.*see K086.

[ ] Waste Resin Solution

[ ] Waste Compound, Cleaning, Liquid

[✓] Waste Flammable Liquid, N.O.S. (containing (1) TOLUENE (2) METHYL ETHYL KETONE)
(List the 2 constituents which make the material that DOT hazard class)

[ ] Waste Combustible Liquid,N.O.S.(containing(1) _____ (2) _____)
(List the 2 constituents which make the material that DOT hazard class)

[ ] Waste _____

[ ] DOT Identification number: UN 1993 NA _____

EPA WASTE CODES FOR THIS WASTE: (Attach an additional sheet if necessary.)

[ ] F001 [ ] F002 [✓] F003 [ ] F004 [✓] F005

[✓] D001 [ ] D002 [ ] D003 [ ] D004 [ ] D005 [ ] D006 [ ] D007 [ ] D008 [ ] D009 [ ] D010

[ ] D011 [✓] D035 [ ] D___ [ ] D___ [ ] U___ [ ] U___ [ ] K086* [ ] ___ [ ] ___ [ ] ___

YOUR 24 HOUR MONITORED TELEPHONE NUMBER FOR A CHEMICAL EMERGENCY: 716-856-4910

I certify the above information is correct based upon my knowledge of the waste or laboratory analysis:

Printed JAMES DRZEWIECKI JR.

Name/Title SAFETY / REGULATORY FACIL. Signature James Drzewiecki Jr. Date 4/17/91

Sample submitted? [ ] YES or [✓] NO

Notification of Hazardous Waste Restricted From Land Disposal
Hukill Chemical Corporation (EPA I.D. OHD001926740)

Keep one copy for your files
HCC510 REV. 9/90

SECTION I. GENERATOR INFORMATION Name PIERCE & STEVENS CORPORATION Ship Date

Address: 710 OHIO STREET BUFFALO NEW YORK 14203 EPA I.D. No. NYD002108620

MANIFEST # LINE # EPA WASTE CODES F003, F005, D001, D035

Use a separate form for each line number (11a, 11b, 11c, 11d) on your manifest

SECTION II. F001 - F005 SPENT SOLVENTS

Check the appropriate box (es) for each statement.

1. The following checked constituents are present in this F001 - F005 Waste:
2. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% F001 - F005 constituents, total. Otherwise it is a Nonwastewater.)

	CONSTITUENT	CCWE Except As Indicated	TREATMENT STANDARDS PER 40 CFR 268.41, 268.42, 268.43 [ ] Wastewater (mg/L)	[✓] Nonwastewater (mg/L)
[✓]	Acetone	F003	0.05	0.59
[ ]	Benzene	F005	0.070CCW	3.7CCW
[✓]	n-Butyl Alcohol	F003	5.0	5.0
[ ]	Carbon disulfide	F005	1.05	4.81
[ ]	Carbon tetrachloride	F001	0.05	0.96
[ ]	Chlorobenzene	F002	0.15	0.05
[ ]	Cresols (& cresylic acid)	F004	2.82	0.75
[ ]	Cyclohexanone	F003	0.125	0.75
[ ]	1, 2-Dichlorobenzene	F002	0.65	0.125
[✓]	Ethyl acetate	F003	0.05	0.75
[ ]	Ethyl benzene	F003	0.05	0.053
[ ]	Ethyl ether	F003	0.05	0.75
[✓]	Isobutanol	F005	5.0	5.0
[✓]	Methanol	F003	0.25	0.75
[ ]	Methylene chloride	F001 or F002	0.20	0.96
[ ]	Methylene chloride (from pharmaceutical industry)	F002	0.44CCW	N/A
[✓]	Methyl Ethyl Ketone (MEK)	F005	0.05	0.75
[ ]	Methyl Isobutyl Ketone (MIBK)	F003	0.05	0.33
[ ]	Nitrobenzene	F004	0.66	0.125
[ ]	Pyridine	F005	1.12	0.33
[ ]	Tetrachloroethylene	F001 or F002	0.079	0.05
[✓]	Toluene	F005	1.12	0.33
[ ]	1, 1, 1-Trichloroethane	F001 or F002	1.05	0.41
[ ]	1, 1, 2-Trichloroethane	F002	0.030CCW	7.6CCW
[ ]	1, 1, 2-Trichloro-1, 2, 2-Trifluoroethane	F001 or F002	1.05	0.96
[ ]	Trichloroethylene	F001 or F002	0.062	0.091
[ ]	Trichlorofluoromethane	F001 or F002	0.05	0.96
[✓]	Xylene	F003	0.05	0.15
[ ]	2-Nitropropane	F005	(WETOX or CHOXD) fbCARBN or INCIN	INCIN
[ ]	2-Ethoxyethanol ("Cellosolve")	F005	BIODG; or INCIN	INCIN

SECTION III. CALIFORNIA LIST PROHIBITIONS

Check the appropriate box (es) if the waste contains the following

Liquid hazardous wastes or free liquids which contain: [ ] PCB'S: NOT ACCEPTED by Hukill Chemical Corporation

[ ] Halogenated Organic Compounds (HOCs) in total concentrations greater than or equal to 1,000 mg/L (liquids) or 1,000 mg/kg (nonliquids), but not listed or characterized as containing HOC's.

A "D" Waste that also contains metals or compounds with metals at mg/L concentration as follows: [ ] Arsenic >500 [ ] Mercury > 20 [ ] Nickel > 134 [ ] Thallium > 130

SECTION III. CHARACTERISTIC WASTES - COMMON "D" WASTE CODES

1. Check the appropriate box (es) if this waste is a Characteristic Waste.
2. Check the appropriate box (es) if this waste is a listed Waste (F, K, or U Code Waste) AND exhibits one or more hazardous characteristics that would exist if the Listed Waste constituents (in Section II and Section V) were not present.
3. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% by weight Total Organic Carbons (TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
4. The following waste codes apply to this waste as checked:

	EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) (mg/l)	[✓] NonWastewater (By CCWE) (mg/l)
[ ]	D001	Ignitability	Ignitable Liquids	DEACT	NA
[ ]	D001	Ignitability	Low TOC Ignitable Liquids	NA	DEACT
[✓]	D001	Ignitability	High TOC Ignitable Liquids	NA	FSUBS; RORGS; INCIN
[ ]	D004	Arsenic	NA	5.0	5.0*
[ ]	D005	Barium	NA	100	100
[ ]	D006	Cadmium	NA	1.0	1.0
[ ]	D007	Chromium (total)	NA	5.0	5.0
[ ]	D008	Lead	NA	5.0	5.0
[ ]	D009	Mercury	Low Mercury - <260mg/kg	0.20	0.20*
[ ]	D010	Selenium	NA	1.0	5.7

* Has a capacity variance until May 8, 1992

SECTION V. OTHER EPA WASTE CODES

List any "U", "K" or other "D" Waste Codes not found in Section II or IV.

1. The Treatability Group for this waste is Wastewater or a Nonwastewater. Check the box for the appropriate group. A wastewater contains less than 1% by weight Total Organic Carbons(TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
2. Refer to Hukill Chemical Corporation's Approved Waste Code Listing. Select the proper waste code for this waste. Enter under appropriate heading:

EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) CONCENTRATION	[✓] NonWastewater (By CCWE) OR TECHNOLOGY
D035	METHYL ETHYL KETONE	NA		INCIN.

SECTION VI. CERTIFICATION

The above waste stream conforms to the description of and is identified as a restricted waste. It must meet the treatment standards noted above before it qualifies for disposal in a secure landfill. This notification is based upon:

[ ] Attached Analysis [✓] Knowledge of Waste and Generating Process

Signature / Title (This must be an authorized signature certifying the information.) SAFETY / REGULATORY FACILITATOR

JAMES DRZEWIECKI, JR.
Printed Name

Date of Shipment

Notification of Hazardous Waste Restricted From Land Disposal
Hukill Chemical Corporation (EPA I.D. OHD001926740)

Keep one copy for your files
HCC510 REV. 9/90

SECTION I. GENERATOR INFORMATION Name HUKILL CHEMICAL CORPORATION

Ship Date 12-5-91

Address: 7013 Krick Road, Bedford, Ohio 44146

EPA I.D. No. OHD001926740

MANIFEST # 10499 LINE # A. EPA WASTE CODES F001,F002,F003,F005,D001,D006,D008

Use a separate form for each line number (11a. 11b. 11c. 11d) on your manifest

SECTION II. F001 - F005 SPENT SOLVENTS

Check the appropriate box (es) for each statement.

1. The following checked constituents are present in this F001 - F005 Waste:
2. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% F001 - F005 constituents, total. Otherwise it is a Nonwastewater.)

	CONSTITUENT	CCWE Except As Indicated	TREATMENT STANDARDS PER 40 CFR 268.41, 268.42, 268.43 [ ] Wastewater (mg/L)	[X] Nonwastewater (mg/L)
[X]	Acetone	F003	0.05	0.59
[ ]	Benzene	F005	0.070CCW	3.7CCW
[X]	n-Butyl Alcohol	F003	5.0	5.0
[ ]	Carbon disulfide	F005	1.05	4.81
[ ]	Carbon tetrachloride	F001	0.05	0.96
[ ]	Chlorobenzene	F002	0.15	0.05
[ ]	Cresols (& cresylic acid)	F004	2.82	0.75
[ ]	Cyclohexanone	F003	0.125	0.75
[ ]	1, 2-Dichlorobenzene	F002	0.65	0.125
[X]	Ethyl acetate	F003	0.05	0.75
[X]	Ethyl benzene	F003	0.05	0.053
[ ]	Ethyl ether	F003	0.05	0.75
[X]	Isobutanol	F005	5.0	5.0
[X]	Methanol	F003	0.25	0.75
[X]	Methylene chloride	F001 or F002	0.20	0.96
[ ]	Methylene chloride (from pharmaceutical industry)	F002	0.44CCW	N/A
[X]	Methyl Ethyl Ketone (MEK)	F005	0.05	0.75
[X]	Methyl Isobutyl Ketone (MIBK)	F003	0.05	0.33
[ ]	Nitrobenzene	F004	0.66	0.125
[ ]	Pyridine	F005	1.12	0.33
[ ]	Tetrachloroethylene	F001 or F002	0.079	0.05
[X]	Toluene	F005	1.12	0.33
[X]	1, 1, 1-Trichloroethane	F001 or F002	1.05	0.41
[ ]	1, 1, 2-Trichloroethane	F002	0.030CCW	7.6CCW
[ ]	1, 1, 2-Trichloro-1, 2, 2-Trifluoroethane	F001 or F002	1.05	0.96
[X]	Trichloroethylene	F001 or F002	0.062	0.091
[ ]	Trichlorofluoromethane	F001 or F002	0.05	0.96
[X]	Xylene	F003	0.05	0.15
[ ]	2-Nitropropane	F005	(WETOX or CHOXD) RCARBN or INCIN	INCIN
[ ]	2-Ethoxyethanol ("Cellosolve")	F005	BIODG; or INCIN	INCIN

SECTION III. CALIFORNIA LIST PROHIBITIONS

Check the appropriate box (es) if the waste contains the following

Liquid hazardous wastes or free liquids which contain:

[ ] PCB'S: NOT ACCEPTED by Hukill Chemical Corporation

[ ] Halogenated Organic Compounds (HOCs) in total concentrations greater than or equal to 1,000 mg/L (liquids) or 1,000 mg/kg (nonliquids), but not listed or characterized as containing HOC's.

A "D" Waste that also contains metals or compounds with metals at mg/L concentration as follows: [ ] Arsenic >500 [ ] Mercury > 20 [ ] Nickel > 134 [ ] Thallium > 130

SECTION III. CHARACTERISTIC WASTES - COMMON "D" WASTE CODES

1. Check the appropriate box (es) if this waste is a Characteristic Waste.
2. Check the appropriate box (es) if this waste is a Listed Waste (F, K, or U Code Waste) AND exhibits one or more hazardous characteristics that would exist if the Listed Waste constituents (in Section II and Section V) were not present.
3. The Treatability Group for this waste is a Wastewater or a Nonwastewater. Check the box for the appropriate group. (A Wastewater contains less than 1% by weight Total Organic Carbons (TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
4. The following waste codes apply to this waste as checked:

	EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) (mg/l)	[X] Nonwastewater (By CCWE) (mg/l)
[ ]	D001	Ignitability	Ignitable Liquids	DEACT	NA
[ ]	D001	Ignitability	Low TOC Ignitable Liquids	NA	DEACT
[X]	D001	Ignitability	High TOC Ignitable Liquids	NA	FSUBS; RORGS; INCIN
[ ]	D004	Arsenic	NA	5.0	5.0*
[ ]	D005	Barium	NA	100	100
[X]	D006	Cadmium	NA	1.0	1.0
[ ]	D007	Chromium (total)	NA	5.0	5.0
[X]	D008	Lead	NA	5.0	5.0
[ ]	D009	Mercury	Low Mercury - <260mg/kg	0.20	0.20*
[ ]	D010	Selenium	NA	1.0	5.7

* Has a capacity variance until May 8, 1992

SECTION V. OTHER EPA WASTE CODES

List any "U", "K" or other "D" Waste Codes not found in Section II or IV.

1. The Treatability Group for this waste is Wastewater or a Nonwastewater. Check the box for the appropriate group. A wastewater contains less than 1% by weight Total Organic Carbons(TOC) AND less than 1% by weight Total Suspended Solids (TSS). Otherwise it is a Nonwastewater.
2. Refer to Hukill Chemical Corporation's Approved Waste Code Listing. Select the proper waste code for this waste. Enter under appropriate heading:

EPA WASTE CODE	CONSTITUENT OR CHARACTERISTIC	SUBCATEGORY	TREATMENT STANDARDS [ ] Wastewater (By CCW) CONCENTRATION	[ ] Nonwastewater (By CCWE) OR TECHNOLOGY

SECTION VI. CERTIFICATION

The above waste stream conforms to the description of and is identified as a restricted waste. It must meet the treatment standards noted above before it qualifies for disposal in a secure landfill. This notification is based upon:

[ ] Attached Analysis [X] Knowledge of Waste and Generating Process

Robert Lang Production Supervisor

Signature / Title (This must be an authorized signature certifying the information)

Robert Lang

Printed Name

12/5/91

Date of Shipment

APPENDIX - SECTION C

Index of Part B, Section C Appendix - Rev. 12/17/92

Exhibit C-1	HF WORKSHEET
Exhibit C-2	Waste Data Sheet
Exhibit C-3	SAMPLE ANALYSIS (Job Order # A-12034)
Exhibit C-4	SAMPLE ANALYSIS (Job Order # A-12094)
Exhibit C-5	Laboratory Qality Assurance/Quality Control Program
Exhibit C-6	A.P.V. Procedure for Solvent Acidity
Exhibit C-7	Procedure to Analyze the Solvent for H_2O by Karl Fisher
Exhibit C-8	Determination of BTU/pound Value
	Determination of % Chlorides
Exhibit C-9	Percent Solids
Exhibit C-10	Notification of Hazardous Waste Restricted From, Land Disposal
Exhibit C-11	Completed Waste Data Sheet
Exhibit C-12	Completed LDR Notification
Exhibit C-13	H W Fuels Blend Specifications
Exhibit C-14	Completed Sample Analysis - Fuels Blend Stream
Exhibit C-15	Job Cost Sheet