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Please print or type in the unshaded areas only (fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permit Program

(Read the "General Instructions" before starting.)

I. EPA NUMBER: F ILD044231470 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

RECEIVED SEP 07 1994 Environmental Protection Agency Division of Water Pollution Control Permit Section (mail code) State of Illinois

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GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (*the area to the left of the label space lists the information that should appear*), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (*except VI-B which must be completed regardless*). Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge to waters of the U.S.**?		X	
B. Does or will this facility (*either existing or proposed*) include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**?		X	
C. Is this a facility which currently results in **discharges** to waters of the U.S. other than those described in A or B above?	X		X
D. Is this a proposed facility (*other than those described in A or B above*) which will result in a discharge to **waters of the U.S.**?		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**?		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water?		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons?		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy?		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may effect or be located in an attainment area?		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may effect or be located in an attainment area?		X	

III. NAME OF FACILITY

1 SKIP: Crawford Generating Station

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 O'Toole, Mary F. Env. Serv. Mgr.	312 394 4430

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P.O. Box 767 ESD, 35 FNW

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Chicago	IL	60690

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 3501 S. Pulaski Road

B. COUNTY NAME

Cook

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 Chicago	IL	60623	

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CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4911 (specify) Electrical Generation &	(specify)
C. THIRD Distribution	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: Commonwealth Edison Company

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*
P (specify)

D. PHONE *(area code & no.)*: A 312 394 4430

E. STREET OR P.O. BOX: P.O. Box 767 ESD, 35 FNW

F. CITY OR TOWN: Chicago

G. STATE: IL

H. ZIP CODE: 60690

IX. INDIAN LAND
Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: N ILO002186	D. PSD *(Air Emissions from Proposed Sources)*: P
B. UIC *(Underground Injection of Fluids)*: U	E. OTHER *(specify)*: 9 730 30804 (specify) General Air Operating Permit
C. RCRA *(Hazardous Wastes)*: R	E. OTHER *(specify)*: 9 73030806 (specify) Unit 7 Air Operating Permit

XI. 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 the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Generation and Distribution of Electric Power

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Robert J. Manning Senior Vice President		9/6/94

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Division of Water Pollution Control
Permit Section-Springfield
State of Illinois

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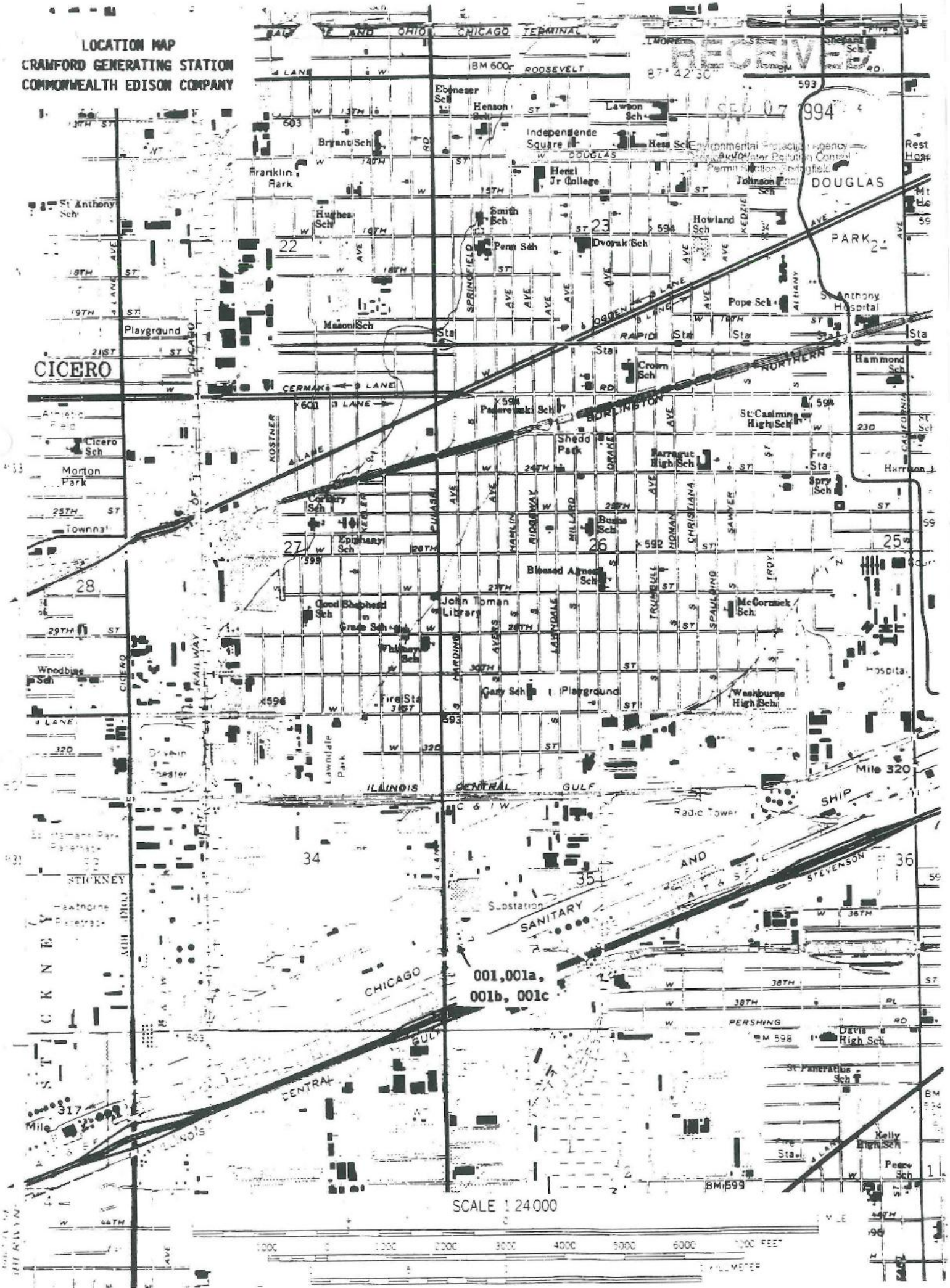
Crawford Generating Station
Other Permits (Cont')

Peakers -- GT Air Operating Permit	---	73030807
Unit 8 Air Operating Permit	---	73030808
Open Burning Permit	---	B9406056

MEC:et
cpermits.mem

LOCATION MAP
CRAWFORD GENERATING STATION
COMMONWEALTH EDISON COMPANY



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Form Approved.
OMB No. 2000-0059
Approval expires 12-31-85

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
001	41	49	35	87	43	24	Chicago Sanitary and Ship Canal
001(a)	41	49	35	87	43	24	Chicago Sanitary and Ship Canal
001(b)	41	49	35	87	43	24	Chicago Sanitary and Ship Canal
001(c)	41	49	35	87	43	24	Chicago Sanitary and Ship Canal

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Condenser Cooling Water	414.5 MGD	Discharge to Surface	4-A	
	and House Service Water		Waters		
	(Condenser Cooling Water,				
	House Service Water,				
	Demineralizer Regenerant				
	Wastes, Boiler				
	Blowdown, Recirculating				
	Wastewater Treatment				
	System Blowdown, Intake				
	Screen Backwash)				
001 (a)	Demineralizer Regenerant	0.035 MGD	Equalization, Buffering	X-X	X-X
	Wastes		With Circulating Water		
001 (b)	Boiler Blowdown	0.055 MGD	Buffering with Circulating	X-X	
			Water		

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C. Except for storm runoff, leaks, or spills, are of the discharges described in Items II-A or B intermittent or seasonal?

[X] YES (complete the following table) [ ] NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY a. DAYS PER WEEK (specify average)	3. FREQUENCY b. MONTHS PER YEAR (specify average)	4. FLOW a. FLOW RATE (in mgd) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (in mgd) 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME (specify with units) 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME (specify with units) 2. MAXIMUM DAILY	4. FLOW c. DURATION (in days)
001(a)	Demineralizer Regenerant Wastes	6	12	0.035	0.073	35,000 Gallons	73,000 Gallons	1
001(b)	Boiler Blowdown	2	12	0.055	0.208	55,000 Gallons	208,000 Gallons	1
001(c)	Recirculating Wastewater Treatment System Blowdown	2	12	1.05	2.76	1,050,000 Gallons	2,760,000 Gallons	1

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

[X] YES (complete Item III-B) [ ] NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?

[ ] YES (complete Item III-C) [X] NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	2. AFFECTED OUTFALLS (list outfall numbers)
N/A	N/A	N/A	N/A

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State of Illinois

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders; enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

[ ] YES (complete the following table) [X] NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED
N/A		N/A	N/A		

B. OPTIONAL. You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your planned schedules for construction. [ ] MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

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1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001 (c)	Recirculating Wastewater	1.05 MGD	Equalization, pH Adjustment;	X-X	X-X
	Treatment System		or Equalization, Chemical	X-X	2-C
	Blowdown (Ash		Percipitation, pH Adjustment	X-X	
	Sluice Water, Ash		(Metal Cleaning Waste		
	Hopper Overflow,		Only); coagulation;	2-D	
	Coal Pile Runoff,		Flocculation;	1-G	
	Non-Chemical Metal		Sedimentation;	1-U	
	Cleaning Wastes,		Sludge to Sludge Lagoons,	5-T	
	Demineralizer Filter		Land Application	5-P	
	Backwash, Boiler and				
	Turbine Building				
	Floor Drains, Fuel				
	Oil Handling Area				
	Runoff, Unit #7				
	Air Compressor				
	Cooling Water, Coal				
	Storage Area #2				
	Runoff, Settling				
	Basin Area #3 Runoff,				
	Ash Pile Area #13				
	Runoff, Yard				
	Drainage Areas #				
	15 and 16, South				
	Detention Basin				
	Consisting of Area				
	Runoff from:				
	Transmission Area #7,				
	Oil Storage Area #11, Ash				
	Hopper and Crib				
	House Area #13,				
	Rock Conveyor				
	Area #22)				

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EPA I.D. NUMBER (copy from Item 1 of Form 1)
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OMB No. 2000-0059
Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
N/A	N/A		

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VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES (list all such pollutants below) ☒ NO (go to Item VI-B)

N/A

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VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

N/A

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VIII CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☒ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code & no.)*	D. POLLUTANTS ANALYZED *(list)*
N/A	N/A	N/A	N/A

IX. CERTIFICATION

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 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.

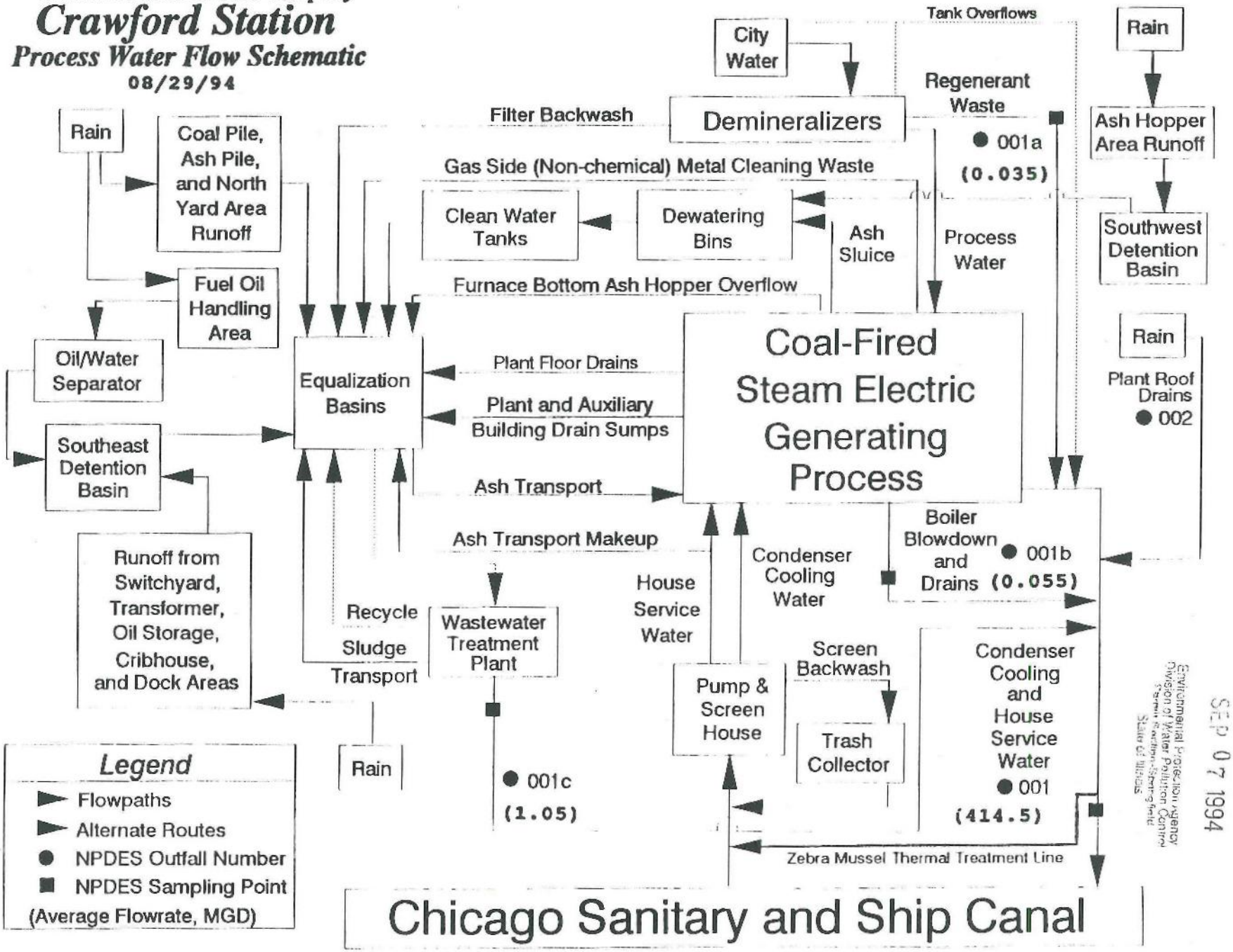
A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
Robert J. Manning, Senior Vice President	(312) 394-3339
C. SIGNATURE	D. DATE SIGNED
	9/6/94

Commonwealth Edison Company

Crawford Station

Process Water Flow Schematic

08/29/94



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Condenser Cooling Water and House Service Water

473-868 0 - 85 - 2

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*: ILD044231470

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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*												
b. Chemical Oxygen Demand *(COD)*												
c. Total Organic Carbon *(TOC)*												
d. Total Suspended Solids *(TSS)*												
e. Ammonia *(as N)*												
f. Flow	VALUE 783		VALUE 521		VALUE 414.5		365		MGD	VALUE		
g. Temperature *(winter)*	VALUE 23.3		VALUE 18.7		VALUE 11.3		90	°C		VALUE		
h. Temperature *(summer)*	VALUE 33.3		VALUE 32.6		VALUE 25.8		122	°C		VALUE		
i. pH	MINIMUM 7.1	MAXIMUM 7.8	MINIMUM	MAXIMUM			24	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		<0.5	306*		236*		124.4*	1	mg/l	lb/day	<0.5		1
b. Chlorine, Total Residual	X		0.19	156*		121*	0.16	63.8*		mg/l	lb/day			
c. Color	X		15						1	Pt-Co		18		1
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.62	2,143.3					1	mg/l	lb/day	0.68		1
f. Nitrate-Nitrite *(as N)*	X		2.8	9,679.4					1	mg/l	lb/day	2.80		1

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*Taken from DMR

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		0.9	3,111.2					1	mg/l	lb/day	0.9		1
h. Oil and Grease	X		<1.3	<4,494					4	mg/l	lb/day	<1.8		4
i. Phosphorus (as P), Total (7723-14-0)	X		0.81	2,80.1					1	mg/l	lb/day	0.79		1
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		47	162,476					1	mg/l	lb/day	42		1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		0.32	1,106.2					1	mg/l	lb/day	0.32		1
o. Aluminum, Total (7429-90-5)	X		0.4	1,382.8					1	mg/l	lb/day	0.4		1
p. Barium, Total (7440-39-3)	X		<0.1	<345.7					1	mg/l	lb/day	<0.1		1
q. Boron, Total (7440-42-8)	X		0.13	449.4					1	mg/l	lb/day	0.13		1
r. Cobalt, Total (7440-48-4)	X		<0.05	<172.8					1	mg/l	lb/day	<0.05		1
s. Iron, Total (7439-89-6)	X		0.69	2,385.3					1	mg/l	lb/day	0.69		1
t. Magnesium, Total (7439-95-4)	X		17.9	61,879.0					1	mg/l	lb/day	17.9		1
u. Molybdenum, Total (7439-98-7)	X		<0.2	<691.4					1	mg/l	lb/day	<0.2		1
v. Manganese, Total (7439-96-5)	X		<0.03	<103.7					1	mg/l	lb/day	<0.03		1
w. Tin, Total (7440-31-5)	X		<0.8	<2,765.5					1	mg/l	lb/day	<0.8		1
x. Titanium, Total (7440-32-6)	X		<0.8	<2,765.5					1	mg/l	lb/day	<0.8		1

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CONTINUE ON PAGE V-3

Crawford Station

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001

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OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (If available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.5	<1,728.5					1	mg/l	lb/day	<0.5		1
2M. Arsenic, Total (7440-38-2)	X			<0.001	<3.5					1	mg/l	lb/day	<0.001		1
3M. Beryllium, Total, 7440-41-7)	X			<0.01	<34.6					1	mg/l	lb/day	<0.01		1
4M. Cadmium, Total (7440-43-9)	X			0.0004	1.4					1	mg/l	lb/day	0.0003		1
5M. Chromium, Total (7440-47-3)	X			0.004	13.8					1	mg/l	lb/day	0.004		1
6M. Copper, Total (7440-50-8)	X			0.007	24.2					1	mg/l	lb/day	0.006		1
7M. Lead, Total (7439-92-1)	X			0.008	27.7					1	mg/l	lb/day	0.008		1
8M. Mercury, Total (7439-97-6)	X			<0.00005	<0.17					1	mg/l	lb/day	<0.00005		1
9M. Nickel, Total (7440-02-0)	X			0.006	20.7					1	mg/l	lb/day	0.006		1
10M. Selenium, Total (7782-49-2)	X			<0.001	<3.5					1	mg/l	lb/day	<0.001		1
11M. Silver, Total (7440-22-4)	X			<0.0006	<2.1					1	mg/l	lb/day	<0.0006		1
12M. Thallium, Total (7440-28-0)	X			<0.001	<3.5					1	mg/l	lb/day	<0.001		1
13M. Zinc, Total (7440-66-6)	X			0.05	172.8					1	mg/l	lb/day	<0.02		1
14M. Cyanide, Total (57-12-5)	X			<0.011	<38.0					4	mg/l	lb/day	<0.01		4
15M. Phenols, Total	X			<0.005	<17.3					4	mg/l	lb/day	<0.006		4
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<100	<345.7					1	ug/l	lb/day	<100		1
2V. Acrylonitrile (107-13-1)	X			<100	<345.7					1	ug/l	lb/day	<100		1
3V. Benzene (71-43-2)	X			<5	<17.3					1	ug/l	lb/day	<5		1
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)	X			<5	<17.3					1	ug/l	lb/day	<5		1
6V. Carbon Tetrachloride (56-23-5)	X			<5	<17.3					1	ug/l	lb/day	<5		1
7V. Chlorobenzene (108-90-7)	X			<5	<17.3					1	ug/l	lb/day	<5		1
8V. Chlorodibromomethane (124-48-1)	X			<5	<17.3					1	ug/l	lb/day	<5		1
9V. Chloroethane (75-00-3)	X			<10	<34.6					1	ug/l	lb/day	<10		1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	<34.6					1	ug/l	lb/day	<10		1
11V. Chloroform (67-66-3)	X			<5	<17.3					1	ug/l	lb/day	<5		1
12V. Dichlorobromomethane (75-27-4)	X			<5	<17.3					1	ug/l	lb/day	<5		1
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<17.3					1	ug/l	lb/day	<5		1
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<17.3					1	ug/l	lb/day	<5		1
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<17.3					1	ug/l	lb/day	<5		1
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<17.3					1	ug/l	lb/day			1
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<17.3					1	ug/l	lb/day	<5		1
19V. Ethylbenzene (100-41-4)	X			<5	<17.3					1	ug/l	lb/day	<5		1
20V. Methyl Bromide (74-83-9)	X			<10	<34.6					1	ug/l	lb/day	<10		1
21V. Methyl Chloride (74-87-3)	X			<10	<34.6					1	ug/l	lb/day	<10		1

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Crawford Station

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (Copy from Item 1 of Form 1): ILD044231470

OUTFALL NUMBER: 001

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OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(1) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(1) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(1) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(1) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			<5	<17.3					1	ug/1	lb/day	<5		1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<17.3					1	ug/1	lb/day	<5		1
24V. Tetrachloroethylene (127-18-4)	X			<5	<17.3					1	ug/1	lb/day	<5		1
25V. Toluene (108-88-3)	X			<5	<17.3					1	ug/1	lb/day	<5		1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<17.3					1	ug/1	lb/day	<5		1
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<17.3					1	ug/1	lb/day	<5		1
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<17.3					1	ug/1	lb/day	<5		1
29V. Trichloroethylene (79-01-6)	X			<5	<17.3					1	ug/1	lb/day	<5		1
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)	X			<10	<34.6					1	ug/1	lb/day	<10		1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	<34.6					1	ug/1	lb/day	<10		1
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	<34.6					1	ug/1	lb/day	<10		1
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	<34.6					1	ug/1	lb/day	<10		1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	<172.8					1	ug/1	lb/day	<50		1
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	<172.8					1	ug/1	lb/day	<50		1
6A. 2-Nitrophenol (88-75-5)	X			<10	<34.6					1	ug/1	lb/day	<10		1
7A. 4-Nitrophenol (100-02-7)	X			<50	<172.8					1	ug/1	lb/day	<50		1
8A. P-Chloro-M Cresol (59-50-7)	X			<10	<34.6					1	ug/1	lb/day	<10		1
9A. Pentachlorophenol (87-86-5)	X			<50	<172.8					1	ug/1	lb/day	<50		1
10A. Phenol (108-95-2)	X			<10	<34.6					1	ug/1	lb/day	<10		1
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	<34.6					1	ug/1	lb/day	<10		1

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CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (a) Anthracene (56-55-3)			X												
6B. Benzo (a) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X												
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)			X												
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)			X												
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)			X												
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Dichloro-benzene (541-73-1)			X												

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CONTINUE ON PAGE V-8

Crawford Station

EPA I.D. NUMBER (Copy from Item 1 of Form 1): ILD044231470

OUTFALL NUMBER: 001

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CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

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CONTINUE ON REVERSE

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4 - Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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CONTINUE ON PAGE V-9

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001

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OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

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State of Illinois

Crawford Station

Demineralizer Regenerant Wastes

473-868 O - 85 - 2

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: ILD044231470

Form Approved. OMB No. 2000-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001(a)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)												
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)	8.0	2.3	8.0	2.3	4.3	1.3	12	mg/1	lb/day			
e. Ammonia (as N)												
f. Flow	VALUE 0.073		VALUE 0.040		VALUE 0.035		365		MGD	VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X		1						1	Pt-Co				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		2.38	0.69					1	mg/1	lb/day			
f. Nitrate-Nitrite (as N)	X		1.09	0.32					1	mg/1	lb/day			

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CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		0.5	0.15					1	mg/l	lb/day			
h. Oil and Grease	X		<1	<0.29					1	mg/l	lb/day			
i. Phosphorus (as P), Total (7723-14-0)	X		0.99	0.29					1	mg/l	lb/day			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		14,500	4,232.6					1	mg/l	lb/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.07	<0.02					1	mg/l	lb/day			
o. Aluminum, Total (7429-90-5)	X		1.7	0.50					1	mg/l	lb/day			
p. Barium, Total (7440-39-3)	X		0.1	0.03					1	mg/l	lb/day			
q. Boron, Total (7440-42-8)	X		0.16	0.05					1	mg/l	lb/day			
r. Cobalt, Total (7440-48-4)	X		0.07	0.02					1	mg/l	lb/day			
s. Iron, Total (7439-89-6)	X		1.54	0.45					1	mg/l	lb/day			
t. Magnesium, Total (7439-95-4)	X		108	31.5					1	mg/l	lb/day			
u. Molybdenum, Total (7439-98-7)	X		<0.2	<006					1	mg/l	lb/day			
v. Manganese, Total (7439-96-5)	X		<0.03	<0.009					1	mg/l	lb/day			
w. Tin, Total (7440-31-5)	X		<0.8	<0.23					1	mg/l	lb/day			
x. Titanium, Total (7440-32-6)	X		<0.8	<0.23					1	mg/l	lb/day			

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Crawford Station

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(a)

Form Approved.
OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.5	<0.15					1	mg/l	lb/day			
2M. Arsenic, Total (7440-38-2)	X			0.004	0.001					1	mg/l	lb/day			
3M. Beryllium, Total, 7440-41-7)	X			<0.01	<0.003					1	mg/l	lb/day			
4M. Cadmium, Total (7440-43-9)	X			<0.0002	<0.00006					1	mg/l	lb/day			
5M. Chromium, Total (7440-47-3)	X			0.011	0.003					1	mg/l	lb/day			
6M. Copper, Total (7440-50-8)	X			0.004	0.001					1	mg/l	lb/day			
7M. Lead, Total (7439-92-1)	X			0.15	0.04					1	mg/l	lb/day			
8M. Mercury, Total (7439-97-6)	X			0.0033	0.001					1	mg/l	lb/day			
9M. Nickel, Total (7440-02-0)	X			0.011	0.003					1	mg/l	lb/day			
10M. Selenium, Total (7782-49-2)	X			0.001	0.0003					1	mg/l	lb/day			
11M. Silver, Total (7440-22-4)	X			<0.0006	<0.0002					1	mg/l	lb/day			
12M. Thallium, Total (7440-28-0)	X			<0.001	<0.0003					1	mg/l	lb/day			
13M. Zinc, Total (7440-66-6)	X			0.03	0.009					1	mg/l	lb/day			
14M. Cyanide, Total (57-12-5)	X			<0.008	<0.002					1	mg/l	lb/day			
15M. Phenols, Total	X			<0.005	<0.001					1	mg/l	lb/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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Illinois EPA

CONTINUE ON REVERSE

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<100	<0.03					1	ug/l	lb/day			
2V. Acrylonitrile (107-13-1)	X			<100	<0.03					1	ug/l	lb/day			
3V. Benzene (71-43-2)	X			<5	<0.0015					1	ug/l	lb/day			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)	X			<5	<0.0015					1	ug/l	lb/day			
6V. Carbon Tetrachloride (56-23-5)	X			<5	<0.0015					1	ug/l	lb/day			
7V. Chlorobenzene (108-90-7)	X			<5	<0.0015					1	ug/l	lb/day			
8V. Chlorodibromomethane (124-48-1)	X			<5	<0.0015					1	ug/l	lb/day			
9V. Chloroethane (75-00-3)	X			<10	<0.003					1	ug/l	lb/day			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	<0.003					1	ug/l	lb/day			
11V. Chloroform (67-66-3)	X			6	0.0018					1	ug/l	lb/day			
12V. Dichlorobromomethane (75-27-4)	X			5	0.0015					1	ug/l	lb/day			
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<0.0015					1	ug/l	lb/day			
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<0.0015					1	ug/l	lb/day			
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<0.0015					1	ug/l	lb/day			
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<0.0015					1	ug/l	lb/day			
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<0.0015					1	ug/l	lb/day			
19V. Ethylbenzene (100-41-4)	X			<5	<0.0015					1	ug/l	lb/day			
20V. Methyl Bromide (74-83-9)	X			<10	<0.003					1	ug/l	lb/day			
21V. Methyl Chloride (74-87-3)	X			<10	<0.003					1	ug/l	lb/day			

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Crawford Station

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (Copy from Item 1 of Form 1): ILD044231470

OUTFALL NUMBER: 001(a)

Form Approved. OMB No. 2000-0059 Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			<5	<0.0015					1	ug/l	lb/day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<0.0015					1	ug/l	lb/day			
24V. Tetrachloroethylene (127-18-4)	X			<5	<0.0015					1	ug/l	lb/day			
25V. Toluene (108-88-3)	X			<5	<0.0015					1	ug/l	lb/day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<0.0015					1	ug/l	lb/day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<0.0015					1	ug/l	lb/day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<0.0015					1	ug/l	lb/day			
29V. Trichloroethylene (79-01-6)	X			<5	<0.0015					1	ug/l	lb/day			
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)	X			<10	<0.003					1	ug/l	lb/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	<0.003					1	ug/l	lb/day			
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	<0.003					1	ug/l	lb/day			
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	<0.003					1	ug/l	lb/day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	<0.015					1	ug/l	lb/day			
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	<0.015					1	ug/l	lb/day			
6A. 2-Nitrophenol (88-75-5)	X			<10	<0.003					1	ug/l	lb/day			
7A. 4-Nitrophenol (100-02-7)	X			<50	<0.015					1	ug/l	lb/day			
8A. P-Chloro-M Cresol (59-50-7)	X			<10	<0.003					1	ug/l	lb/day			
9A. Pentachlorophenol (87-86-5)	X			<50	<0.015					1	ug/l	lb/day			
10A. Phenol (108-95-2)	X			<10	<0.003					1	ug/l	lb/day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	<0.003					1	ug/l	lb/day			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<10	<0.003					1	ug/l	lb/day			
2B. Acenaphtylene (208-96-8)	X			<10	<0.003					1	ug/l	lb/day			
3B. Anthracene (120-12-7)	X			<10	<0.003					1	ug/l	lb/day			
4B. Benzidine (92-87-5)	X			<50	<0.015					1	ug/l	lb/day			
5B. Benzo (a) Anthracene (56-55-3)	X			<10	<0.003					1	ug/l	lb/day			
6B. Benzo (a) Pyrene (50-32-8)	X			<10	<0.003					1	ug/l	lb/day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<10	<0.003					1	ug/l	lb/day			
8B. Benzo (ghi) Perylene (191-24-2)	X			<10	<0.003					1	ug/l	lb/day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10	<0.003					1	ug/l	lb/day			
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X			<10	<0.003					1	ug/l	lb/day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			<10	<0.003					1	ug/l	lb/day			
12B. Bis (2-Chloroiso-propyl) Ether (102-80-1)	X			<10	<0.003					1	ug/l	lb/day			
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			<10	<0.003					1	ug/l	lb/day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			<10	<0.003					1	ug/l	lb/day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10	<0.003					1	ug/l	lb/day			
16B. 2-Chloro-naphthalene (91-58-7)	X			<10	<0.003					1	ug/l	lb/day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			<10	<0.003					1	ug/l	lb/day			
18B. Chrysene (218-01-9)	X			<10	<0.003					1	ug/l	lb/day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10	<0.003					1	ug/l	lb/day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			<10	<0.003					1	ug/l	lb/day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			<10	<0.003					1	ug/l	lb/day			

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Division of Water Pollution Control
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State of Illinois
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 CONTINUE ON PAGE V-8

Crawford Station

Unit 7 and 8
Boiler Blowdown

473-868 O - 85 - 2

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: ILD044231470

Form Approved. OMB No. 2000-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001(b)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*												
b. Chemical Oxygen Demand *(COD)*												
c. Total Organic Carbon *(TOC)*												
d. Total Suspended Solids *(TSS)*	7.0	3.2	7.0	3.2	3.8	1.7	12	mg/1	lb/day			
e. Ammonia *(as N)*												
f. Flow	VALUE 0.208		VALUE 0.104		VALUE 0.055		365		MGD	VALUE		
g. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X		2						1	Pt-Co				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.13	0.06					1	mg/1	lb/day			
f. Nitrate-Nitrite *(as N)*	X		<0.02	<0.009					1	mg/1	lb/day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. REQUIRED PRESENT	2. MARK 'X' b. REQUIRED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		<0.4	<0.18					1	mg/l	lb/day			
h. Oil and Grease	X		<1	<0.46					1	mg/l	lb/day			
i. Phosphorus (as P), Total (7723-14-0)	X		0.06	0.028					1	mg/l	lb/day			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		<3	<1.4					1	mg/l	lb/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.07	<0.032					1	mg/l	lb/day			
o. Aluminum, Total (7429-90-5)	X		<0.3	<0.14					1	mg/l	lb/day			
p. Barium, Total (7440-39-3)	X		<0.1	<0.05					1	mg/l	lb/day			
q. Boron, Total (7440-42-8)	X		<0.05	<0.02					1	mg/l	lb/day			
r. Cobalt, Total (7440-48-4)	X		<0.05	<0.02					1	mg/l	lb/day			
s. Iron, Total (7439-89-6)	X		<0.05	<0.02					1	mg/l	lb/day			
t. Magnesium, Total (7439-95-4)	X		0.04	0.018					1	mg/l	lb/day			
u. Molybdenum, Total (7439-98-7)	X		<0.2	<0.09					1	mg/l	lb/day			
v. Manganese, Total (7439-96-5)	X		<0.03	<0.014					1	mg/l	lb/day			
w. Tin, Total (7440-31-5)	X		<0.8	<0.4					1	mg/l	lb/day			
x. Titanium, Total (7440-32-6)	X		<0.8	<0.4					1	mg/l	lb/day			

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Crawford Station

EPA I.D. NUMBER (copy from Item I of Form 1)	OUTFALL NUMBER
ILD044231470	001(b)

CONTINUED FROM PAGE 3 OF FORM 2-C

Form Approved.
OMB No. 2000-0059
Approval expires 12-31-85

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (If available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.5	<0.23					1	mg/1	lb/day			
2M. Arsenic, Total (7440-38-2)	X			<0.001	<0.0005					1	mg/1	lb/day			
3M. Beryllium, Total, 7440-41-7)	X			<0.01	<0.005					1	mg/1	lb/day			
4M. Cadmium, Total (7440-43-9)	X			<0.0002	<0.0001					1	mg/1	lb/day			
5M. Chromium, Total (7440-47-3)	X			<0.001	<0.0005					1	mg/1	lb/day			
6M. Copper, Total (7440-50-8)	X			0.013	0.006					1	mg/1	lb/day			
7M. Lead, Total (7439-92-1)	X			<0.005	<0.002					1	mg/1	lb/day			
8M. Mercury, Total (7439-97-6)	X			<0.00005	<0.00002					1	mg/1	lb/day			
9M. Nickel, Total (7440-02-0)	X			0.011	0.005					1	mg/1	lb/day			
10M. Selenium, Total (7782-49-2)	X			<0.001	<0.0005					1	mg/1	lb/day			
11M. Silver, Total (7440-22-4)	X			<0.0006	<0.0003					1	mg/1	lb/day			
12M. Thallium, Total (7440-28-0)	X			<0.001	<0.0005					1	mg/1	lb/day			
13M. Zinc, Total (7440-66-6)	X			<0.02	<0.009					1	mg/1	lb/day			
14M. Cyanide, Total (57-12-5)	X			<0.008	<0.004					3	mg/1	lb/day			
15M. Phenols, Total	X			<0.005	<0.002					3	mg/1	lb/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Bureau of Records
SEP 07 1994

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. LIMIT IN REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<100	<0.05					1	ug/l	lb/day			
2V. Acrylonitrile (107-13-1)	X			<100	<0.05					1	ug/l	lb/day			
3V. Benzene (71-43-2)	X			<5	<0.002					1	ug/l	lb/day			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)	X			<5	<0.002					1	ug/l	lb/day			
6V. Carbon Tetrachloride (56-23-5)	X			<5	<0.002					1	ug/l	lb/day			
7V. Chlorobenzene (108-90-7)	X			<5	<0.002					1	ug/l	lb/day			
8V. Chlorodibromomethane (124-48-1)	X			<5	<0.002					1	ug/l	lb/day			
9V. Chloroethane (75-00-3)	X			<10	<0.005					1	ug/l	lb/day			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	<0.005					1	ug/l	lb/day			
11V. Chloroform (67-66-3)	X			<5	<0.002					1	ug/l	lb/day			
12V. Dichlorobromomethane (75-27-4)	X			<5	<0.002					1	ug/l	lb/day			
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<0.002					1	ug/l	lb/day			
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<0.002					1	ug/l	lb/day			
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<0.002					1	ug/l	lb/day			
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<0.002					1	ug/l	lb/day			
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<0.002					1	ug/l	lb/day			
19V. Ethylbenzene (100-41-4)	X			<5	<0.002					1	ug/l	lb/day			
20V. Methyl Bromide (74-83-9)	X			<10	<0.005					1	ug/l	lb/day			
21V. Methyl Chloride (74-87-3)	X			<10	<0.005					1	ug/l	lb/day			

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Crawford Station

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (c...y from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(b)

Form Approved.
OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			<5	<0.002					1	ug/1	lb/day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<0.002					1	ug/1	lb/day			
24V. Tetrachloroethylene (127-18-4)	X			<5	<0.002					1	ug/1	lb/day			
25V. Toluene (108-88-3)	X			<5	<0.002					1	ug/1	lb/day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<0.002					1	ug/1	lb/day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<0.002					1	ug/1	lb/day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<0.002					1	ug/1	lb/day			
29V. Trichloroethylene (79-01-6)	X			<5	<0.002					1	ug/1	lb/day			
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)	X			<10	<0.005					1	ug/1	lb/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	<0.005					1	ug/1	lb/day			
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	<0.005					1	ug/1	lb/day			
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	<0.005					1	ug/1	lb/day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	<0.023					1	ug/1	lb/day			
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	<0.023					1	ug/1	lb/day			
6A. 2-Nitrophenol (88-75-5)	X			<10	<0.005					1	ug/1	lb/day			
7A. 4-Nitrophenol (100-02-7)	X			<50	<0.023					1	ug/1	lb/day			
8A. P-Chloro-M Cresol (59-50-7)	X			<10	<0.005					1	ug/1	lb/day			
9A. Pentachlorophenol (87-86-5)	X			<50	<0.023					1	ug/1	lb/day			
10A. Phenol (108-95-2)	X			<10	<0.005					1	ug/1	lb/day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	<0.005					1	ug/1	lb/day			

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CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<10	<0.005					1	ug/1	lb/day			
2B. Acenaphtylene (208-96-8)	X			<10	<0.005					1	ug/1	lb/day			
3B. Anthracene (120-12-7)	X			<10	<0.005					1	ug/1	lb/day			
4B. Benzidine (92-87-5)	X			<50	<0.023					1	ug/1	lb/day			
5B. Benzo (a) Anthracene (56-55-3)	X			<10	<0.005					1	ug/1	lb/day			
6B. Benzo (a) Pyrene (50-32-8)	X			<10	<0.005					1	ug/1	lb/day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<10	<0.005					1	ug/1	lb/day			
8B. Benzo (ghi) Perylene (191-24-2)	X			<10	<0.005					1	ug/1	lb/day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10	<0.005					1	ug/1	lb/day			
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X			<10	<0.005					1	ug/1	lb/day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			<10	<0.005					1	ug/1	lb/day			
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)	X			<10	<0.005					1	ug/1	lb/day			
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			<10	<0.005					1	ug/1	lb/day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			<10	<0.005					1	ug/1	lb/day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10	<0.005					1	ug/1	lb/day			
16B. 2-Chloro-naphthalene (91-58-7)	X			<10	<0.005					1	ug/1	lb/day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			<10	<0.005					1	ug/1	lb/day			
18B. Chrysene (218-01-9)	X			<10	<0.005					1	ug/1	lb/day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10	<0.005					1	ug/1	lb/day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			<10	<0.005					1	ug/1	lb/day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			<10	<0.005					1	ug/1	lb/day			

Environmental Protection Agency Division of Water Pollution Control Permit Section Chief State of Illinois
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Crawford Station

EPA I.D. NUMBER (cop. n Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(b)

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

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Environmental Protection Agency
Division of Water Pollution Control
Permit Section (Attn: Fee)
Springfield, Illinois

— Crawford Station

EPA I.D. NUMBER (Copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(b)

Form Approved.
OMB No. 2000-0059
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CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X			<10	<0.005					1	ug/1	lb/day			
23B. 3,3'-Dichlorobenzidine (91-94-1)	X			<20	<0.009					1	ug/1	lb/day			
24B. Diethyl Phthalate (84-66-2)	X			<10	<0.005					1	ug/1	lb/day			
25B. Dimethyl Phthalate (131-11-3)	X			<10	<0.005					1	ug/1	lb/day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			<10	<0.005					1	ug/1	lb/day			
27B. 2,4-Dinitrotoluene (121-14-2)	X			<10	<0.005					1	ug/1	lb/day			
28B. 2,6-Dinitrotoluene (606-20-2)	X			<10	<0.005					1	ug/1	lb/day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10	<0.005					1	ug/1	lb/day			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			<20	<0.009					1	ug/1	lb/day			
31B. Fluoranthene (206-44-0)	X			<10	<0.005					1	ug/1	lb/day			
32B. Fluorene (86-73-7)	X			<10	<0.005					1	ug/1	lb/day			
33B. Hexachlorobenzene (118-74-1)	X			<10	<0.005					1	ug/1	lb/day			
34B. Hexachlorobutadiene (87-68-3)	X			<10	<0.005					1	ug/1	lb/day			
35B. Hexachlorocyclopentadiene (77-47-4)	X			<10	<0.005					1	ug/1	lb/day			
36B. Hexachloroethane (67-72-1)	X			<10	<0.005					1	ug/1	lb/day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			<10	<0.005					1	ug/1	lb/day			
38B. Isophorone (78-59-1)	X			<10	<0.005					1	ug/1	lb/day			
39B. Naphthalene (91-20-3)	X			<10	<0.005					1	ug/1	lb/day			
40B. Nitrobenzene (98-95-3)	X			<10	<0.005					1	ug/1	lb/day			
41B. N-Nitrosodimethylamine (62-75-9)	X			<10	<0.005					1	ug/1	lb/day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<10	<0.005					1	ug/1	lb/day			

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
OCT 17 1994

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<10	<0.005					1	ug/l	lb/day			
44B. Phenanthrene (85-01-8)	X			<10	<0.005					1	ug/l	lb/day			
45B. Pyrene (129-00-0)	X			<10	<0.005					1	ug/l	lb/day			
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X			<10	<0.005					1	ug/l	lb/day			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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Crawford Station

Recirculating
Wastewater treatment
System

473-868 O - 85 - 2

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: ILD044231470

Form Approved.
OMB No. 2000-0059
Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001(c)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*												
b. Chemical Oxygen Demand *(COD)*												
c. Total Organic Carbon *(TOC)*												
d. Total Suspended Solids *(TSS)*	11.50	100.7	9.70	84.9	7.64	66.9	52	mg/1	lb/day			
e. Ammonia *(as N)*												
f. Flow	VALUE 2.76		VALUE 1.56		VALUE 1.05		365		MGD	VALUE		
g. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 6.3	MAXIMUM 8.8	MINIMUM	MAXIMUM			52	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X		6						1	Pt-Co				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.42	3.7					1	mg/1	lb/day			
f. Nitrate-Nitrite *(as N)*	X		2.29	20.1					1	mg/1	lb/day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		0.8	7.0					1	mg/l	lb/day			
h. Oil and Grease	X		3.00	26.3	1.50	13.1	<1.04	<9.1	52	mg/l	lb/day			
i. Phosphorus (as P), Total (7723-14-0)	X		0.12	1.1					1	mg/l	lb/day			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		170	1,488.7					1	mg/l	lb/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		0.10	0.88					1	mg/l	lb/day			
o. Aluminum, Total (7429-90-5)	X		2.1	18.4					1	mg/l	lb/day			
p. Barium, Total (7440-39-3)	X		0.10	0.88					1	mg/l	lb/day			
q. Boron, Total (7440-42-8)	X		0.47	4.1					1	mg/l	lb/day			
r. Cobalt, Total (7440-48-4)	X		<0.05	<0.44					1	mg/l	lb/day			
s. Iron, Total (7439-89-6)	X		0.32	2.8	0.32	2.8	<0.15	<1.3	12	mg/l	lb/day			
t. Magnesium, Total (7439-95-4)	X		19.8	173.4					1	mg/l	lb/day			
u. Molybdenum, Total (7439-98-7)	X		<0.2	<1.8					1	mg/l	lb/day			
v. Manganese, Total (7439-96-5)	X		<0.03	<0.26					1	mg/l	lb/day			
w. Tin, Total (7440-31-5)	X		<0.8	<7.0					1	mg/l	lb/day			
x. Titanium, Total (7440-32-6)	X		<0.8	<7.0					1	mg/l	lb/day			

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
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OMB No. 2000-0059
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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (If available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.5	<4.4					1	mg/l	lb/day			
2M. Arsenic, Total (7440-38-2)	X			<0.001	<0.009					1	mg/l	lb/day			
3M. Beryllium, Total, 7440-41-7)	X			<0.01	<0.09					1	mg/l	lb/day			
4M. Cadmium, Total (7440-43-9)	X			0.0004	0.004					1	mg/l	lb/day			
5M. Chromium, Total (7440-47-3)	X			0.005	0.04					1	mg/l	lb/day			
6M. Copper, Total (7440-50-8)	X			0.04	0.35	0.04	0.35	<0.02	<0.18	12	mg/l	lb/day			
7M. Lead, Total (7439-92-1)	X			<0.005	<0.044					1	mg/l	lb/day			
8M. Mercury, Total (7439-97-6)	X			<0.00005	<0.0004					1	mg/l	lb/day			
9M. Nickel, Total (7440-02-0)	X			0.021	0.18					1	mg/l	lb/day			
10M. Selenium, Total (7782-49-2)	X			0.001	0.009					1	mg/l	lb/day			
11M. Silver, Total (7440-22-4)	X			<0.0006	<0.005					1	mg/l	lb/day			
12M. Thallium, Total (7440-28-0)	X			<0.001	<0.009					1	mg/l	lb/day			
13M. Zinc, Total (7440-66-6)	X			0.03	0.26					1	mg/l	lb/day			
14M. Cyanide, Total (57-12-5)	X			0.009	0.08					4	mg/l	lb/day			
15M. Phenols, Total	X			<0.005	<0.04					4	mg/l	lb/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<100	<0.88					1	ug/1	lb/day			
2V. Acrylonitrile (107-13-1)	X			<100	<0.88					1	ug/1	lb/day			
3V. Benzene (71-43-2)	X			<5	<0.04					1	ug/1	lb/day			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)	X			11	0.096					1	ug/1	lb/day			
6V. Carbon Tetrachloride (56-23-5)	X			<5	<0.04					1	ug/1	lb/day			
7V. Chlorobenzene (108-90-7)	X			<5	<0.04					1	ug/1	lb/day			
8V. Chlorodibromomethane (124-48-1)	X			14	0.12					1	ug/1	lb/day			
9V. Chloroethane (75-00-3)	X			<10	<0.09					1	ug/1	lb/day			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	<0.09					1	ug/1	lb/day			
11V. Chloroform (67-66-3)	X			<5	<0.04					1	ug/1	lb/day			
12V. Dichlorobromomethane (75-27-4)	X			9	0.079					1	ug/1	lb/day			
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<0.04					1	ug/1	lb/day			
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<0.04					1	ug/1	lb/day			
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<0.04					1	ug/1	lb/day			
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<0.04					1	ug/1	lb/day			
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<0.04					1	ug/1	lb/day			
19V. Ethylbenzene (100-41-4)	X			<5	<0.04					1	ug/1	lb/day			
20V. Methyl Bromide (74-83-9)	X			<10	<0.09					1	ug/1	lb/day			
21V. Methyl Chloride (74-87-3)	X			<10	<0.09					1	ug/1	lb/day			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			<5	<0.04					1	ug/l	lb/day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<0.04					1	ug/l	lb/day			
24V. Tetrachloroethylene (127-18-4)	X			<5	<0.04					1	ug/l	lb/day			
25V. Toluene (108-88-3)	X			<5	<0.04					1	ug/l	lb/day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<0.04					1	ug/l	lb/day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<0.04					1	ug/l	lb/day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<0.04					1	ug/l	lb/day			
29V. Trichloroethylene (79-01-6)	X			<5	<0.04					1	ug/l	lb/day			
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)	X			<10	<0.09					1	ug/l	lb/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	<0.09					1	ug/l	lb/day			
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	<0.09					1	ug/l	lb/day			
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	<0.09					1	ug/l	lb/day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	<0.44					1	ug/l	lb/day			
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	<0.44					1	ug/l	lb/day			
6A. 2-Nitrophenol (88-75-5)	X			<10	<0.09					1	ug/l	lb/day			
7A. 4-Nitrophenol (100-02-7)	X			<50	<0.44					1	ug/l	lb/day			
8A. P-Chloro-M-Cresol (59-50-7)	X			<10	<0.09					1	ug/l	lb/day			
9A. Pentachlorophenol (87-86-5)	X			<50	<0.44					1	ug/l	lb/day			
10A. Phenol (108-95-2)	X			<10	<0.09					1	ug/l	lb/day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	<0.09					1	ug/l	lb/day			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<10	<0.09					1	ug/l	lb/day			
2B. Acenaphtylene (208-96-8)	X			<10	<0.09					1	ug/l	lb/day			
3B. Anthracene (120-12-7)	X			<10	<0.09					1	ug/l	lb/day			
4B. Benzidine (92-87-5)	X			<50	<0.44					1	ug/l	lb/day			
5B. Benzo (a) Anthracene (56-55-3)	X			<10	<0.09					1	ug/l	lb/day			
6B. Benzo (a) Pyrene (50-32-8)	X			<10	<0.09					1	ug/l	lb/day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<10	<0.09					1	ug/l	lb/day			
8B. Benzo (ghi) Perylene (191-24-2)	X			<10	<0.09					1	ug/l	lb/day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10	<0.09					1	ug/l	lb/day			
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	X			<10	<0.09					1	ug/l	lb/day			
11B. Bis (2-Chloroethyl) Ether (111-44-4)	X			<10	<0.09					1	ug/l	lb/day			
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)	X			<10	<0.09					1	ug/l	lb/day			
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	X			<10	<0.09					1	ug/l	lb/day			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	X			<10	<0.09					1	ug/l	lb/day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10	<0.09					1	ug/l	lb/day			
16B. 2-Chloronaphthalene (91-58-7)	X			<10	<0.09					1	ug/l	lb/day			
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	X			<10	<0.09					1	ug/l	lb/day			
18B. Chrysene (218-01-9)	X			<10	<0.09					1	ug/l	lb/day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10	<0.09					1	ug/l	lb/day			
20B. 1,2-Dichlorobenzene (95-50-1)	X			<10	<0.09					1	ug/l	lb/day			
21B. 1,3-Dichlorobenzene (541-73-1)	X			<10	<0.09					1	ug/l	lb/day			

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EPA I.D. NUMBER (Copy from Item 1 of Form 1): ILD044231470

OUTFALL NUMBER: 001(c)

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X			<10	<0.09					1	ug/l	lb/day			
23B. 3,3'-Dichlorobenzidine (91-94-1)	X			<20	<0.18					1	ug/l	lb/day			
24B. Diethyl Phthalate (84-66-2)	X			<10	<0.09					1	ug/l	lb/day			
25B. Dimethyl Phthalate (131-11-3)	X			<10	<0.09					1	ug/l	lb/day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			<10	<0.09					1	ug/l	lb/day			
27B. 2,4-Dinitrotoluene (121-14-2)	X			<10	<0.09					1	ug/l	lb/day			
28B. 2,6-Dinitrotoluene (606-20-2)	X			<10	<0.09					1	ug/l	lb/day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10	<0.09					1	ug/l	lb/day			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 20	<0.18					1	ug/l	lb/day			
31B. Fluoranthene (206-44-0)	X			<10	<0.09					1	ug/l	lb/day			
32B. Fluorene (86-73-7)	X			<10	<0.09					1	ug/l	lb/day			
33B. Hexachlorobenzene (118-74-1)	X			<10	<0.09					1	ug/l	lb/day			
34B. Hexachlorobutadiene (87-68-3)	X			<10	<0.09					1	ug/l	lb/day			
35B. Hexachlorocyclopentadiene (77-47-4)	X			<10	<0.09					1	ug/l	lb/day			
36B. Hexachloroethane (67-72-1)	X			<10	<0.09					1	ug/l	lb/day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			<10	<0.09					1	ug/l	lb/day			
38B. Isophorone (78-59-1)	X			<10	<0.09					1	ug/l	lb/day			
39B. Naphthalene (91-20-3)	X			<10	<0.09					1	ug/l	lb/day			
40B. Nitrobenzene (98-95-3)	X			<10	<0.09					1	ug/l	lb/day			
41B. N-Nitrosodimethylamine (62-75-9)	X			<10	<0.09					1	ug/l	lb/day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<10	<0.09					1	ug/l	lb/day			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<10	<0.09					1	ug/l	lb/day			
44B. Phenanthrene (85-01-8)	X			<10	<0.09					1	ug/l	lb/day			
45B. Pyrene (129-00-0)	X			<10	<0.09					1	ug/l	lb/day			
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			<10	<0.09					1	ug/l	lb/day			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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Crawford Station

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(c)

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Approval expires 12-31-85

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

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Permit Section (Springfield)
State of Illinois

Crawford Station

Recirculating Wastewater Treatment System Blowdown Following Nonchemical Metal Cleaning

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: ILD044231470

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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001(c)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*												
b. Chemical Oxygen Demand *(COD)*												
c. Total Organic Carbon *(TOC)*												
d. Total Suspended Solids *(TSS)*	9.5	123.6			6.6	85.9	2	mg/l	lb/day			
e. Ammonia *(as N)*												
f. Flow	VALUE 2.46		VALUE		VALUE 1.56		5	MGD		VALUE		
g. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.9	MAXIMUM 8.7	MINIMUM	MAXIMUM			2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		<0.05	<0.65					4	mg/l	lb/day			
c. Color	X		10						1	Pt-Co				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.98	12.8					1	mg/l	lb/day			
f. Nitrate-Nitrite *(as N)*	X		3.24	42.2					1	mg/l	lb/day			

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ITEM V B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		0.5	6.5					1	mg/l	lb/day			
h. Oil and Grease	X		3.0	39.0			1.5	19.5	2	mg/l	lb/day			
i. Phosphorus (as P), Total (7723-14-0)	X		0.05	0.65					1	mg/l	lb/day			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		1070	13,921					1	mg/l	lb/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		0.12	1.56					1	mg/l	lb/day			
o. Aluminum, Total (7429-90-5)	X		1.1	14.3					1	mg/l	lb/day			
p. Barium, Total (7440-39-3)	X		<0.1	<1.3					1	mg/l	lb/day			
q. Boron, Total (7440-42-8)	X		2.93	38.1					1	mg/l	lb/day			
r. Cobalt, Total (7440-48-4)	X		<0.05	<0.65					1	mg/l	lb/day			
s. Iron, Total (7439-89-6)	X		<0.05	<0.65			<0.05	<0.65	5	mg/l	lb/day			
t. Magnesium, Total (7439-95-4)	X		26.0	338.3					1	mg/l	lb/day			
u. Molybdenum, Total (7439-98-7)	X		<0.2	<2.6					1	mg/l	lb/day			
v. Manganese, Total (7439-96-5)	X		0.22	2.9					1	mg/l	lb/day			
w. Tin, Total (7440-31-5)	X		<0.8	<10.4					1	mg/l	lb/day			
x. Titanium, Total (7440-32-6)	X		<0.8	<10.4					1	mg/l	lb/day			

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Crawford Station

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ILD044231470	001(c)

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OMB No. 2000-0059
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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.5	<6.5					1	mg/l	lb/day			
2M. Arsenic, Total (7440-38-2)	X			<0.001	<0.013					1	mg/l	lb/day			
3M. Beryllium, Total, 7440-41-7)	X			<0.01	<0.13					1	mg/l	lb/day			
4M. Cadmium, Total (7440-43-9)	X			0.0007	0.009					1	mg/l	lb/day			
5M. Chromium, Total (7440-47-3)	X			<0.001	<0.013					1	mg/l	lb/day			
6M. Copper, Total (7440-50-8)	X			<0.02	<0.26			<0.02	<0.26	5	mg/l	lb/day			
7M. Lead, Total (7439-92-1)	X			<0.005	<0.065					1	mg/l	lb/day			
8M. Mercury, Total (7439-97-6)	X			<0.00005	<0.00065					1	mg/l	lb/day			
9M. Nickel, Total (7440-02-0)	X			0.006	0.078					1	mg/l	lb/day			
10M. Selenium, Total (7782-49-2)	X			0.027	0.35					1	mg/l	lb/day			
11M. Silver, Total (7440-22-4)	X			<0.0006	<0.0078					1	mg/l	lb/day			
12M. Thallium, Total (7440-28-0)	X			0.060	0.78					1	mg/l	lb/day			
13M. Zinc, Total (7440-66-6)	X			<0.02	<0.26					1	mg/l	lb/day			
14M. Cyanide, Total (57-12-5)	X			<0.008	<0.10					4	mg/l	lb/day			
15M. Phenols, Total	X			<0.005	<0.065					4	mg/l	lb/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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Permit Section-Permit Unit
State of Illinois

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. BELIEVED PRESENT	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION -- VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<100	<1.3					1	ug/l	lb/day			
2V. Acrylonitrile (107-13-1)	X			<100	<1.3					1	ug/l	lb/day			
3V. Benzene (71-43-2)	X			<5	<0.065					1	ug/l	lb/day			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)	X			<5	<0.065					1	ug/l	lb/day			
6V. Carbon Tetrachloride (56-23-5)	X			<5	<0.065					1	ug/l	lb/day			
7V. Chlorobenzene (108-90-7)	X			<5	<0.065					1	ug/l	lb/day			
8V. Chlorodibromomethane (124-48-1)	X			<5	<0.065					1	ug/l	lb/day			
9V. Chloroethane (75-00-3)	X			<10	<0.13					1	ug/l	lb/day			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	<0.13					1	ug/l	lb/day			
11V. Chloroform (67-66-3)	X			<5	<0.065					1	ug/l	lb/day			
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)	X			<5	<0.065					1	ug/l	lb/day			
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<0.065					1	ug/l	lb/day			
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<0.065					1	ug/l	lb/day			
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<0.065					1	ug/l	lb/day			
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<0.065					1	ug/l	lb/day			
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<0.065					1	ug/l	lb/day			
19V. Ethylbenzene (100-41-4)	X			<5	<0.065					1	ug/l	lb/day			
20V. Methyl Bromide (74-83-9)	X			<10	<0.13					1	ug/l	lb/day			
21V. Methyl Chloride (74-87-3)	X			<10	<0.13					1	ug/l	lb/day			

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EPA I.D. NUMBER (from Item 1 of Form 1): ILD044231470

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(1) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			<5	<0.065					1	ug/l	lb/day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<0.065					1	ug/l	lb/day			
24V. Tetrachloroethylene (127-18-4)	X			<5	<0.065					1	ug/l	lb/day			
25V. Toluene (108-88-3)	X			<5	<0.065					1	ug/l	lb/day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<0.065					1	ug/l	lb/day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<0.065					1	ug/l	lb/day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<0.065					1	ug/l	lb/day			
29V. Trichloroethylene (79-01-6)	X			<5	<0.065					1	ug/l	lb/day			
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)	X			<10	<0.13					1	ug/l	lb/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	<0.13					1	ug/l	lb/day			
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	<0.13					1	ug/l	lb/day			
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	<0.13					1	ug/l	lb/day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	<0.65					1	ug/l	lb/day			
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	<0.65					1	ug/l	lb/day			
6A. 2-Nitrophenol (88-75-5)	X			<10	<0.13					1	ug/l	lb/day			
7A. 4-Nitrophenol (100-02-7)	X			<50	<0.65					1	ug/l	lb/day			
8A. P-Chloro-M-Cresol (59-50-7)	X			<10	<0.13					1	ug/l	lb/day			
9A. Pentachlorophenol (87-86-5)	X			<50	<0.65					1	ug/l	lb/day			
10A. Phenol (108-95-2)	X			<10	<0.13					1	ug/l	lb/day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	<0.13					1	ug/l	lb/day			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<10	<0.13					1	ug/l	lb/day			
2B. Acenaphtylene (208-96-8)	X			<10	<0.13					1	ug/l	lb/day			
3B. Anthracene (120-12-7)	X			<10	<0.13					1	ug/l	lb/day			
4B. Benzidine (92-87-5)	X			<50	<0.65					1	ug/l	lb/day			
5B. Benzo (a) Anthracene (56-55-3)	X			<10	<0.13					1	ug/l	lb/day			
6B. Benzo (a) Pyrene (50-32-8)	X			<10	<0.13					1	ug/l	lb/day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<10	<0.13					1	ug/l	lb/day			
8B. Benzo (ghi) Perylene (191-24-2)	X			<10	<0.13					1	ug/l	lb/day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10	<0.13					1	ug/l	lb/day			
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X			<10	<0.13					1	ug/l	lb/day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			<10	<0.13					1	ug/l	lb/day			
12B. Bis (2-Chloroiso-propyl) Ether (102-60-1)	X			<10	<0.13					1	ug/l	lb/day			
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			<10	<0.13					1	ug/l	lb/day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			<10	<0.13					1	ug/l	lb/day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10	<0.13					1	ug/l	lb/day			
16B. 2-Chloro-naphthalene (91-58-7)	X			<10	<0.13					1	ug/l	lb/day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			<10	<0.13					1	ug/l	lb/day			
18B. Chrysene (218-01-9)	X			<10	<0.13					1	ug/l	lb/day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10	<0.13					1	ug/l	lb/day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			<10	<0.13					1	ug/l	lb/day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			<10	<0.13					1	ug/l	lb/day			

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
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Approval expires 12-31-85

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)	X			<10	<0.13					1	ug/l	lb/day			
23B. 3,3'-Dichlorobenzidine (91-94-1)	X			<20	<0.26					1	ug/l	lb/day			
24B. Diethyl Phthalate (84-66-2)	X			<10	<0.13					1	ug/l	lb/day			
25B. Dimethyl Phthalate (131-11-3)	X			<10	<0.13					1	ug/l	lb/day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			<10	<0.13					1	ug/l	lb/day			
27B. 2,4-Dinitrotoluene (121-14-2)	X			<10	<0.13					1	ug/l	lb/day			
28B. 2,6-Dinitrotoluene (606-20-2)	X			<10	<0.13					1	ug/l	lb/day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10	<0.13					1	ug/l	lb/day			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			<20	<0.26					1	ug/l	lb/day			
31B. Fluoranthene (206-44-0)	X			<10	<0.13					1	ug/l	lb/day			
32B. Fluorene (86-73-7)	X			<10	<0.13					1	ug/l	lb/day			
33B. Hexachlorobenzene (118-74-1)	X			<10	<0.13					1	ug/l	lb/day			
34B. Hexachlorobutadiene (87-68-3)	X			<10	<0.13					1	ug/l	lb/day			
35B. Hexachlorocyclopentadiene (77-47-4)	X			<10	<0.13					1	ug/l	lb/day			
36B. Hexachloroethane (67-72-1)	X			<10	<0.13					1	ug/l	lb/day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			<10	<0.13					1	ug/l	lb/day			
38B. Isophorone (78-59-1)	X			<10	<0.13					1	ug/l	lb/day			
39B. Naphthalene (91-20-3)	X			<10	<0.13					1	ug/l	lb/day			
40B. Nitrobenzene (98-95-3)	X			<10	<0.13					1	ug/l	lb/day			
41B. N-Nitrosodimethylamine (62-75-9)	X			<10	<0.13					1	ug/l	lb/day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<10	<0.13					1	ug/l	lb/day			

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Division of Water Pollution Control
Permit Section (Attn: Permit Section)
Mail Code 19
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CONTINUE ON REVERSE

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<10	<0.13					1	ug/l	lb/day			
44B. Phenanthrene (85-01-8)	X			<10	<0.13					1	ug/l	lb/day			
45B. Pyrene (129-00-0)	X			<10	<0.13					1	ug/l	lb/day			
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X			<10	<0.13					1	ug/l	lb/day			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(c)

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVRG. VALUE (if available) (1) Concentration	(2) Mass	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	(2) Mass	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<10	<0.003					1	ug/l	lb/day			
44B. Phenanthrene (85-01-8)	X			<10	<0.003					1	ug/l	lb/day			
45B. Pyrene (129-00-0)	X			<10	<0.003					1	ug/l	lb/day			
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			<10	<0.003					1	ug/l	lb/day			
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2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
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8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
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14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(a)

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INC. REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X			<10	<0.003					1	ug/l	lb/day			
23B. 3,3'-Dichlorobenzidine (91-94-1)	X			<20	<0.006					1	ug/l	lb/day			
24B. Diethyl Phthalate (84-66-2)	X			<10	<0.003					1	ug/l	lb/day			
25B. Dimethyl Phthalate (131-11-3)	X			<10	<0.003					1	ug/l	lb/day			
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28B. 2,6-Dinitrotoluene (606-20-2)	X			<10	<0.003					1	ug/l	lb/day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10	<0.003					1	ug/l	lb/day			
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X			<20	<0.006					1	ug/l	lb/day			
31B. Fluoranthene (206-44-0)	X			<10	<0.003					1	ug/l	lb/day			
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40B. Nitrobenzene (98-95-3)	X			<10	<0.003					1	ug/l	lb/day			
41B. N-Nitrosodimethylamine (62-75-9)	X			<10	<0.003					1	ug/l	lb/day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<10	<0.003					1	ug/l	lb/day			

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
ILD044231470	001(a)

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
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23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

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Contents for this MSDS

1. GENERAL INFORMATION
2. SECTION I
3. SECTION II - HAZARDOUS INGREDIENTS
4. SECTION III - PHYSICAL DATA
5. SECTION IV - FIRE AND EXPLOSION HAZARD DATA
6. SECTION V - HEALTH HAZARD DATA
7. SECTION VI - REACTIVITY DATA
8. SECTION VII - SPILL OR LEAK PROCEDURES
9. SECTION VIII - SPECIAL PROTECTION INFORMATION
10. SECTION IX - SPECIAL PRECAUTIONS

01 - GENERAL INFORMATION

CE002478
U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
REQUIRED UNDER USDL SAFETY AND HEALTH REGULATIONS FOR SHIPYARD EMPLOYMENT
(29 CFR 1915)
OMB NO 1218-0074
EXPIRATION DATE: 05/31/86
FORM OSHA-20
(REV 3/84)

02 - SECTION I

MANUFACTURER'S NAME: THE POWER GROUP, INC.
EMERGENCY TELEPHONE NUMBER: (312) 974-2010
ADDRESS (NUMBER, STREET, CITY, STATE, AND ZIP CODE):
10661 S. ROBERTS ROAD SUITE 205 PALOS HILLS, IL 60465
CHEMICAL NAME AND SYNONYMS: ANIONIC POLYACRYLAMIDE
TRADE NAME AND SYNONYMS: PWR-FLOC AE-225
CHEMICAL FAMILY: ACRYLAMIDE/ACRYLIC ACID COPOLYMER
FORMULA: PROPRIETARY

****

| 03 - SECTION II - HAZARDOUS INGREDIENTS |

PAINTS, PRESERVATIVES, AND SOLVENTS	%	TLV (UNITS)	ALLOYS AND METALLIC COATINGS	%	TLV (UNITS)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

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HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES

	%	TLV (UNITS)
ACRYLAMIDE MONOMER: 0.2% BY WEIGHT		
PETROLEUM DISTILLATE	22	200 PPM

| 04 - SECTION III - PHYSICAL DATA |

BOILING POINT (DEG. F): 212 DEG. F
SPECIFIC GRAVITY (H2O=1): 1.01-1.03
VAPOR PRESSURE (MM HG): N/A
PERCENT VOLATILE BY VOLUME (%): NIL @ 70 F
VAPOR DENSITY (AIR=1): N/A
EVAPORATION RATE (_____ =1): N/A
SOLUBILITY IN WATER: N/A
APPEARANCE AND ODOR:
MILKY WHITE LIQUID: SLIGHT HYDROCARBON ODOR.

| 05 - SECTION IV - FIRE AND EXPLOSION HAZARD DATA |

FLASH POINT (METHOD USED): 140 DEG. F SETAFLASH
FLAMMABLE LIMITS:
LEL:
UEL:
EXTINGUISHING MEDIA: FOAM, DRY CHEMICAL, CO2
SPECIAL FIRE FIGHTING PROCEDURES: USE AIR SUPPLIED RESCUE EQUIPMENT FOR ENCLOSED AREAS - COOL EXPOSED CONTAINERS WITH WATER.
UNUSUAL FIRE AND EXPLOSION HAZARDS: COMBUSTIBLE LIQUID.

| 06 - SECTION V - HEALTH HAZARD DATA |

THRESHOLD LIMIT VALUE: TOXICITY COMPARABLE TO MINERAL SPIRITS.
EFFECTS OF OVEREXPOSURE: THIS PRODUCT CONTAINS SOME MATERIALS WHICH HAVE SOME POTENTIAL FOR SKIN & EYE DAMAGE. INHALATION OF HIGH CONCENTRATIONS MAY RESULT IN MOLD DEPRESSION & NAUSEA.
EMERGENCY FIRST AID PROCEDURES: IF OVERCOME BY VAPOR, REMOVE FROM EXPOSURE IMMEDIATELY, CALL PHYSICIAN. REMOVE CONTAMINATED CLOTHING &

WASH SKIN. FLUSH EYES WITH PLENTY OF WATER, CALL PHYSICIAN.

07 - SECTION VI - REACTIVITY DATA

STABILITY:
UNSTABLE:
STABLE: X
CONDITIONS TO AVOID: HIGH TEMPERATURE
INCOMPATABILITY (MATERIALS TO AVOID):
HAZARDOUS DECOMPOSITION PRODUCTS:
HAZARDOUS POLYMERIZATION:
MAY OCCUR:
WILL NOT OCCUR: X
CONDITIONS TO AVOID: NONE

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08 - SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: REMOVE ALL IGNITION SOURCES. KEEP PEOPLE AWAY. RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. AVOID BREATHING VAPORS. VENTILATE ENCLOSED SPACES.
WASTE DISPOSAL METHOD: ABSORB WITH DRY SOLIDS (E.G. WITH SWEEPING COMPOUND) AND INCINERATE.

09 - SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH APPROVED ORGANIC VAPOR RESPIRATORS ARE REQUIRED WHEN VENTILATION IS INADEQUATE.
VENTILATION:
LOCAL EXHAUST: 60 FPM FACE VELOCITY
SPECIAL:
MECHANICAL (GENERAL):
OTHER:
ROTECTIVE GLOVES: RUBBER OR VINYL
EYE PROTECTION: SAFETY GOGGLES AND EYE WASH STATION
OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWER

10 - SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP CONTAINERS CLOSED. KEEP AWAY FROM HEAT AND OPEN FLAMES. USE ONLY WITH ADEQUATE VENTILATION.
OTHER PRECAUTIONS: AVOID PROLONGED OR REPEATED BREATHING OF VAPORS OR CONTACT WITH THE SKIN.

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Contents for this MSDS

1. PRODUCT IDENTIFICATION
2. HAZARDOUS COMPONENTS
3. PHYSICAL DATA
4. FIRE AND EXPLOSION HAZARD DATA
5. HEALTH HAZARD DATA
6. REACTIVITY DATA
7. SPILL AND DISPOSAL PROCEDURES
8. PROTECTIVE EQUIPMENT
9. STORAGE AND HANDLING PRECAUTIONS
10. TRANSPORTATION DATA AND ADDITIONAL INFORMATION

01 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM PHOSPHATE, TRIBASIC, 12-HYDRATE
FORMULA: NA3PO4 12H2O
FORMULA WT: 380.12
CAS NO.: 10101-89-0
NIOSH/RTECS NO.: TC9575000
COMMON SYNONYMS: TRISODIUM PHOSPHATE, 12-HYDRATE; PHOSPHORIC ACID, TRISODIUM SALT, 12-HYDRATE
PRODUCT CODES: 3840,5349,3836

- STANDARD PHRASE

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J. T. BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 08/14/87
REVISION #03

PRECAUTIONARY LABELLING

BAKER SAF-T-DATA(*) SYSTEM

HEAL	-	2	MODERATE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	1	SLIGHT
CONTACT	-	2	MODERATE

HAZARD RATINGS ARE 0 TO 4 (0 = NO HAZARD; 4 = EXTREME HAZARD).

LABORATORY PROTECTIVE EQUIPMENT

SAFETY GLASSES; LAB COAT; VENT HOOD; PROPER GLOVES

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State of Illinois

PRECAUTIONARY LABEL STATEMENTS

WARNING
CAUSES IRRITATION
HARMFUL IF SWALLOWED OR INHALED

AVOID CONTACT WITH EYES, SKIN, CLOTHING.
AVOID BREATHING DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

SAF-T-DATA(*) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

02 - HAZARDOUS COMPONENTS

COMPONENT	%	CAS NO.
SODIUM PHOSPHATE, TRIBASIC, 12-HYDRATE	98-100	10101-89-0

03 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE(MM HG): N/A

MELTING POINT: N/A

VAPOR DENSITY(AIR=1): N/A

PECIFIC GRAVITY: 1.62 (H2O=1)

EVAPORATION RATE: N/A (BUTYL ACETATE=1)

SOLUBILITY(H2O): APPRECIABLE (MORE THAN 10 %) % VOLATILES BY VOLUME: 0

APPEARANCE & ODOR: WHITE OR COLORLESS, CRYSTALLINE SOLID. ODORLESS.

04 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP N/A

FLAMMABLE LIMITS: UPPER - N/A % LOWER - N/A %

FIRE EXTINGUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE.

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TOXIC GASES PRODUCED
PHOSPHORUS OXIDE

05 - HEALTH HAZARD DATA

TLV, STEL, AND PEL VALUES HAVE NOT BEEN ESTABLISHED FOR THIS PRODUCT.

TOXICITY: LD50 (ORAL-RAT) (MG/KG) - 7400
LD50 (IPR-MOUSE) (MG/KG) - 430

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

EFFECTS OF OVEREXPOSURE
INHALATION OF DUST MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.
CONTACT WITH SKIN OR EYES MAY CAUSE SEVERE IRRITATION OR BURNS.
INGESTION MAY CAUSE NAUSEA, VOMITING AND DIARRHEA.
INGESTION MAY CAUSE IRRITATION AND BURNING TO MOUTH AND STOMACH.

TARGET ORGANS
EYES, SKIN

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

ROUTES OF ENTRY
INGESTION, INHALATION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES
CALL A PHYSICIAN.
IF SWALLOWED, IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. INDUCE VOMITING.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
WASH CLOTHING BEFORE RE-USE.

06 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HE

INCOMPATIBLES: STRONG ACIDS, IRON AND OTHER HEAVY METALS

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

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07 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

08 - PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, RUBBER GLOVES ARE RECOMMENDED.

09 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA(*) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SPECIAL PRECAUTIONS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME ORM-E, SOLID, N.O.S. (SODIUM PHOSPHATE, TRIBASIC)
HAZARD CLASS ORM-E

UN/NA NA9188
LABELS N(
REPORTABLE QUANTITY 5000 LBS.

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATE

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(*) AND (R) DESIGNATE TRADEMARKS.
N/A = NOT APPLICABLE OR NOT AVAILABLE

- STANDARD PHRASE
THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND DATA PRESENTED IN VARIOUS TECHNICAL PUBLICATIONS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE. J.T.BAKER INC. MAKES NO WARRANTY OR REPRESENTATION ABOUT THE ACCURACY OR COMPLETENESS NOR FITNESS FOR PURPOSE OF THE INFORMATION CONTAINED HEREIN.

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9. REACTIVITY DATA
10. PHYSICAL PROPERTIES
11. SPILL OR LEAK PROCEDURES
12. WASTE DISPOSAL
13. SPECIAL PRECAUTIONS

01 - General Information

MSDS NO. 0070-01
CAS NO. 010043-01-3
DATE: 08/03/82
EMERGENCY PHONE: 201/835-3100
AMERICAN CYANAMID COMPANY, WAYNE, NEW JERSEY 07470
Alum, Liquid
Marvin A. Friedman, Ph.D., Director of Toxicology and Product Safety
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02 - PRODUCT IDENTIFICATION

TRADE NAME: Alum, Liquid
SYNONYMS: Aluminum sulfate, aqueous
CHEMICAL FORMULA: Inorganic salt
MOLECULAR FORMULA: AL2(SO4)3 .14H2O

MOLECULAR WGT.: 1590

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| 03 - WARNING |
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NO WARNING STATEMENTS

****
| 04 - HAZARDOUS INGREDIENTS |
****

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
No Permissible Exposure Limits (PEL), have been established by OSHA				

****
| 05 - NFPA HAZARD RATING |
****

Not Established

****
| 06 - HEALTH HAZARD INFORMATION |
****

EFFECTS OF OVEREXPOSURE: Acute oral LD50 for the rat is greater than 2.5 ml/kg. Animal testing indicated that the product did not cause skin irritation but did produce eye irritation.
FIRST AID: In case of eye contact, immediately irrigate with plenty of water for 15 minutes.

****
| 07 - EXPOSURE CONTROL METHODS |
****

Engineering controls are not usually necessary, if good hygiene practice are strictly followed. Respiratory protection is generally not required during normal operations. For operations where eye or face contact can occur wear chemical splash proof goggles. Provide eyewash fountain in close proximity to points of potential exposure.

****
| 08 - FIRE AND EXPLOSION HAZARD INFORMATION |
****

FLASH POINT: Not Applicable
FLAMMABLE LIMITS (% BY VOL): Not Applicable
AUTOIGNITION TEMP: Not Applicable
DECOMPOSITION TEMP: Not Applicable
FIRE FIGHTING: This material will not burn. Use an extinguishing media appropriate for the surrounding fire. When exposed to fire, wear

self-contained, positive pressure breathing apparatus and full firefighting protective clothing.

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****
| 09 - REACTIVITY DATA |
****

STABILITY: Stable
CONDITION TO AVOID: None known
POLYMERIZATION: Will Not Occur
CONDITIONS TO AVOID: None known
INCOMPATIBLE MATERIALS: Alum corrodes iron and aluminum. This product is incompatible with alkalies.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce sulfur dioxide or sulfur trioxide.

****
| 10 - PHYSICAL PROPERTIES |
****

APPEARANCE AND ODOR: Clear, light green liquid, practically odorless
BOILING POINT: ~212 F (~100 C)
MELTING POINT: Not Available
VAPOR PRESSURE: Similar to water
SPECIFIC GRAVITY: 1.34 @ 60 F
VAPOR DENSITY: Similar to water
% VOLATILE (BY VOL): 67 (water by weight)
OCTANOL/H2O PARTITION COEF.: Not Available
pH: 2.2
SATURATION IN AIR (BY VOL): Similar to water
EVAPORATION RATE: Similar to water
SOLUBILITY IN WATER: Complete

****
| 11 - SPILL OR LEAK PROCEDURES |
****

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: In addition to the protective clothing/equipment in Exposure Control Methods, wear impervious boots. Spilled Alum may be slippery. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush area with water.

****
| 12 - WASTE DISPOSAL |
****

Disposal must be in accordance with applicable governmental regulations.

****
| 13 - SPECIAL PRECAUTIONS |
****

HANDLING AND STORAGE/OTHERS: None

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9. VIII. REACTIVITY DATA
10. IX. SPILL OR LEAK PROCEDURES
11. X. SPECIAL PRECAUTIONS & STORAGE DATA
12. XI. SHIPPING DATA

01 - GENERAL INFORMATION

CE007036
486871
DIVISION ADDRESS:
MOBAY CHEMICAL CORPORATION
INORGANIC CHEMICALS DIVISION
MOBAY ROAD
PITTSBURGH, PA 15205-9741
ISSUE DATE: 12/20/84
SUPERSEDES: 6/7/84
TRANSPORTATION EMERGENCY: CALL CHEMTREC
TELEPHONE NO: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616
MOBAY NON-TRANSPORTATION EMERGENCY NO.: 412/923-1800
PRODUCT CODE: V-350
MB 321 REV 183

02 - I. PRODUCT IDENTIFICATION

PRODUCT NAME: **HYDRAZINE 35%**
PRODUCT CODE NUMBER: V-350

CHEMICAL FAMILY: DIAMINES
CHEMICAL NAME: HYDRAZINE
SYNONYMS: AQUEOUS HYDRAZINE SOLUTION, 54.7% HYDRAZINE HYDRATE, DIAMIDE RATE
T.S.C.A. STATUS: YES

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****
| 03 - II. HAZARDOUS INGREDIENTS |
****

COMPONENTS:	%	CURRENT TLV:
HYDRAZINE (CAS #302-01-2)	APPROXIMATELY 35	1 PPM (OSHA) 0.1 PPM (ACGIH)

****
| 04 - III. PHYSICAL DATA |
****

APPEARANCE: LIQUID
COLOR: COLORLESS TO SLIGHTLY YELLOW
ODOR: WEAK, AMMONIA LIKE
MOLECULAR WEIGHT: 50.06
MELT POINT: -65 DEG. C
BOILING POINT: 109 DEG. C
VAPOR PRESSURE: APPROXIMATELY 0.8 MMHG (PARTIAL PRESSURE OF N2H4 AT 25 DEG. C)
VAPOR DENSITY (AIR=1): 1
SPECIFIC GRAVITY: 1.02
"BILITY IN WATER: MISCIBLE
.OLATILE BY VOLUME: 100%

****
| 05 - IV. FIRE & EXPLOSION DATA |
****

FLASH POINT DEG. F (DEG. C): GREATER THAN 200 DEG. F (93 DEG. C) (PMCC)
FLAMMABLE LIMITS - (AS N2H4):
LEL: 9.3%
UEL: 83.4%
EXTINGUISHING MEDIA: WATER SPRAY
SPECIAL FIRE FIGHTING PROCEDURES/UNUSUAL FIRE OR EXPLOSION HAZARDS:
FIREFIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING INCLUDING SELF CONTAINED BREATHING APPARATUS. UNDER FIRE CONDITIONS, HAZARDOUS VAPORS AND GASES MAYBE EMITTED. CONTAINERS EXPOSED TO EXCESSIVE HEAT MAY RUPTURE VIOLENTLY. USE A WATER SPRAY TO KEEP CONTAINERS COOL. FIGHT FIRES FROM A PROTECTED AREA.

****
| 06 - V. HEALTH EFFECTS DATA |
****

ANIMAL TOXICITY:
ORAL, LD50 (INGESTION): 60 MG N2H4/KG (RAT)
DERMAL, LD50 (SKIN CONTACT): FOR THIS N2H4 SOLUTION: GREATER THAN 200 G/KG (RABBIT; DOT METHOD)

INHALATION, LC50: 570 PPM N2H4 (RAT 4/HR)
FISH, LC50: 1.5 MG N2H4 /l (GOLDEN ORFE)
SKIN EFFECTS: NOT CORROSIVE (RABBIT; DOT PROTOCOL)
OTHER: HYDRAZINE HAS BEEN SHOWN TO CAUSE TUMORS AND HEPATOTOXIC EFFECTS IN RODENTS EXPOSED EITHER ORALLY OR BY INHALATION. THE NATIONAL TOXICOLOGY PROGRAM (NTP) HAS INCLUDED HYDRAZINE IN THEIR LIST OF "SUBSTANCES OR GROUPS OF SUBSTANCES THAT MAY REASONABLY BE ANTICIPATED TO BE CARCINOGENS". EPIDEMIOLOGICAL STUDIES PERFORMED TO DATE ON HYDRAZINE PRODUCTION WORKERS HAVE NOT IDENTIFIED ANY ASSOCIATION BETWEEN HYDRAZINE EXPOSURE AND AN INCREASED RISK OF CANCER.
HUMAN EFFECTS OF OVEREXPOSURE: DIRECT SKIN CONTACT WILL CAUSE LOCAL IRRITATION EFFECTS. EYE CONTACT MAY RESULT IN PERMANENT DAMAGE. VAPORS WILL IRRITATE THE EYES, NOSE AND UPPER RESPIRATORY TRACT. HYDRAZINE IS ABSORBED THROUGH THE SKIN AND CAUSES SYSTEMIC INJURY IF EXPOSURE IS EXTENSIVE, PROLONGED OR REPEATED. MAY CAUSE DERMATITIS IN SOME INDIVIDUALS.
THRESHOLD LIMIT VALUE: 0.1 PPM (ACGIH; 1984-85) BASED ON THE RESULTS OF ANIMAL STUDIES, THE ACGIH HAS LISTED HYDRAZINE IN ITS A2 CATEGORY (INDUSTRIAL SUBSTANCES SUSPECTS & CARCINOGENIC POTENTIAL IN MAN).

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****
| 07 - VI. EMERGENCY & FIRST AID PROCEDURES |
****

EYE CONTACT: FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES. CONSULT A PHYSICIAN, PREFERABLY AN EYE SPECIALIST IMMEDIATELY.
SKIN CONTACT: REMOVE CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER. CONSULT A PHYSICIAN IMMEDIATELY. WASH CONTAMINATED CLOTHING BEFORE REUSE.
INHALATION: REMOVE TO FRESH AIR. ADMINISTER OXYGEN IF BREATHING IS DIFFICULT. CONSULT A PHYSICIAN IMMEDIATELY.
INGESTION: CONTACT A PHYSICIAN! IF PERSON IS CONSCIOUS, GIVE A LARGE AMOUNT OF MILK, EGG WHITES OR WATER AND INDUCE VOMITING.

****
| 08 - VII. EMPLOYEE PROTECTION RECOMMENDATIONS |
****

EYE PROTECTION: CHEMICAL WORKER SPLASH GOGGLES
SKIN PROTECTION: VINYL OR VINYL COATED GLOVES, SPLASH SUIT AND BOOTS SHOULD BE WORN AS APPROPRIATE FOR THE EXPOSURE CONDITIONS.
RESPIRATORY PROTECTION: SELF CONTAINED OR SUPPLIED AIR SHOULD BE WORN IN AREAS OF EXCESSIVE AIRBORNE HYDRAZINE CONCENTRATIONS.
VENTILATION: USE LOCAL EXHAUST OR OTHER MEANS TO MAINTAIN AIRBORNE N2H4 CONCENTRATION BELOW 0.1 PPM.
OTHER: SAFETY SHOWERS AND EYEWASH STATIONS SHOULD BE READILY AVAILABLE. DO NOT STORE OR TRANSFER HYDRAZINE SOLUTIONS IN OPEN CONTAINERS.

****
| 09 - VIII. REACTIVITY DATA |
****

STABILITY: STABLE AT NORMAL TEMPERATURES
POLYMERIZATION: WILL NOT OCCUR
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS, CATALYTIC METALS

(PB, CU, ZN, CD, CO, MO, AU, AG) AND CERTAIN ALLOYS OF THESE METALS.
HAZARDOUS DECOMPOSITION PRODUCTIONS: UNDER CATALYTIC INFLUENCE OR ELEVATED TEMPERATURES, H2, NH3 AND N2 CAN BE FORMED.

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****
| 10 - IX. SPILL OR LEAK PROCEDURES |
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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: PUT ON APPROPRIATE PROTECTIVE EQUIPMENT. CONTAIN SMALL SPILLS BY DIKING OR DIGGING A CONTAINMENT PIT SUFFICIENTLY LARGE TO HOLD AT LEAST 10 TIMES THE SPILL VOLUME. DILUTE TO APPROXIMATELY 10 TIMES THE VOLUME WITH WATER. ADD SUFFICIENT DRY COMMERCIAL CALCIUM HYPOCHLORITE (DRY CHLORINE, HTHR, DRY BLEACH) TO COMPLETELY OXIDIZE THE HYDRAZINE. USE 7-10 LBS PER POUND OF HYDRAZINE. IN THE EVENT OF LARGER SPILLS, CONTAIN PRODUCT, SECURE AREA AND NOTIFY MOBAY OR CHEMTREC.
WASTE DISPOSAL METHOD: OXIDIZE OR INCINERATE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. WASTE HYDRAZINE IS A RCRA LISTED HAZARDOUS WASTE (40 CFR 261.33(F)). IN ADDITION SOIL, WATER OR DEBRIS RESULTING FROM HYDRAZINE SPILLS IS ALSO A HAZARDOUS WASTE.

****
| 11 - X. SPECIAL PRECAUTIONS & STORAGE DATA |
****

STORAGE TEMPERATURE (MIN./MAX.): AMBIENT/AMBIENT
AVERAGE SHELF LIFE: UNLIMITED
SPECIAL SENSITIVITY (HEAT, LIGHT, MOISTURE): EXTREME HEAT OR OXIDIZING MATERIALS.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: STORE SEPARATE FROM FOOD AND BEVERAGE. KEEP AWAY FROM COMBUSTIBLES OR STRONG OXIDIZERS.

****
| 12 - XI. SHIPPING DATA |
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TECHNICAL SHIPPING NAME: HYDRAZINE SOLUTION 35%
D.O.T. HAZARD CLASSIFICATION: NON REGULATED
REPORTABLE QUANTITY: NONE
FRT. CLASS BULK: HYDRAZINE SOLUTION
FRT. CLASS PKG: CHEMICALS, NOI (HYDRAZINE SOLUTION), NMFC 60000
REASON FOR ISSUE: UPDATE/REVISE
APPROVED BY: R. C. CAMPBELL
TITLE: REGULATORY AFFAIRS SPECIALIST
DATE APPROVED: 12/14/84

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10. HAZARDOUS REACTIVITY
11. SPILL, LEAK, AND DISPOSAL PROCEDURES
12. SPECIAL PRECAUTIONS

01 - GENERAL INFORMATION

AMMONIUM HYDROXIDE
REVISION DF: 02 14 86
07081
EI#729127
COMMONWEALTH EDISON
ORDER NO: REVISION
4450 NO GERMANCHURCH
BYRON
IL 61010
MCKESSON CHEMICAL COMPANY
ONE POST STREET
SAN FRANCISCO, CA 94104
EMERGENCY ASSISTANCE: FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800) 424-9300.
FOR PRODUCT AND SALES INFORMATION: CONTACT YOUR LOCAL MCKESSON CHEMICAL COMPANY SERVICE CENTER
FOR ADDITIONAL INFORMATION:
CONTACT DOUGLAS EISNER, TECHNICAL DIRECTOR, MCKESSON CHEMICAL COMPANY DURING BUSINESS HOURS, PACIFIC TIME (415)993-9214
NOTICE: ALL INFORMATION, RECOMMENDATIONS, AND SUGGESTIONS APPEARING HEREIN CONCERNING THIS PRODUCT ARE BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES; HOWEVER, MCKESSON

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REVISION: 0000002

02/86: REVISED FIRST AID MEASURES.

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02 - PRODUCT IDENTIFICATION

PRODUCT NAME: AMMONIUM HYDROXIDE

COMMON NAMES/SYNONYMS: AQUA AMMONIA; AMMONIA SOLUTION

FORMULA: NH4 OH

HAZARD RATING (NFPA 704)

HEALTH: 3

CAS NO.: 1336-21-6

MCKESSON CODE: T1049

DATE ISSUED: 02/86

SUPERCEDES: 11/85

HAZARD RATING SCALE:

TYPE: 0

REACTIVITY: 0

SPECIAL: NONE

0 = MINIMAL

1 = SLIGHT

2 = MODERATE

3 = SERIOUS

4 = SEVERE

03 - HAZARD INGREDIENTS

		EXPOSURE LIMITS, PPM			
		OSHA	ACGIH	OTHER	
COMPONENT	%	PEL	TLV	LIMIT	HAZARD
AMMONIA	28-30	50	25	NONE	CORROSIVE;TOXIC
WATER	BALANCE	NONE	NONE	NONE	NONE

04 - PHYSICAL PROPERTIES

BOILING POINT, DEG F: 82

MELTING POINT, DEG F: N/A

SPECIFIC GRAVITY (WATER=1): 0.90

APPEARANCE AND ODOR: CLEAR
WATER-WHITE LIQUID, STRONG PUNGENT AMMONIA ODOR
VAPOR PRESSURE, MM HG/20 DEG C: 560
VAPOR DENSITY (AIR=1): 0.60
R SOLUBILITY, %: 100
EVAPORATION RATE (BUTYL ACETATE=1): >1

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****
| 05 - FIRST AID MEASURES |
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IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.
IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 30 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.
IN CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING WATER FOR 30 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.
IF SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

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| 06 - HEALTH HAZARD INFORMATION |
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PRIMARY ROUTES OF EXPOSURE: INHALATION, SKIN OR EYE CONTACT.
SIGNS AND SYMPTOMS OF EXPOSURE:
INHALATION: VAPORS AND MISTS ARE EXTREMELY CORROSIVE TO THE NOSE, THROAT, AND MUCOUS MEMBRANES. BRONCHITIS, PULMONARY EDEMA, AND CHEMICAL PNEUMONITIS MAY OCCUR. IRRITATION, COUGHING, CHEST PAIN, AND DIFFICULTY IN BREATHING MAY OCCUR WITH BRIEF EXPOSURE WHILE PROLONGED EXPOSURE MAY RESULT IN MORE SEVERE IRRITATION AND TISSUE DAMAGE. BREATHING HIGH CONCENTRATIONS MAY RESULT IN DEATH.
EYE CONTACT: VAPORS, LIQUID, AND MISTS ARE EXTREMELY CORROSIVE TO THE EYES. BRIEF CONTACT OF THE VAPORS WILL BE SEVERELY IRRITATING. BRIEF CONTACT OF THE LIQUID OR MISTS WILL SEVERELY DAMAGE THE EYES AND PROLONGED CONTACT MAY CAUSE PERMANENT EYE INJURY WHICH MAY BE FOLLOWED BY BLINDNESS.
SKIN CONTACT: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE SKIN. VAPORS WILL SEVERELY IRRITATE THE SKIN AND LIQUID AND MISTS WILL SEVERELY BURN THE SKIN. PROLONGED LIQUID CONTACT WILL BURN OR DESTROY SURROUNDING TISSUE AND DEATH MAY ACCOMPANY BURNS WHICH EXTEND OVER LARGE PORTIONS OF THE BODY.
SWALLOWED: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE MOUTH AND THROAT. SWALLOWING THE LIQUID BURNS THE TISSUES, CAUSES SEVERE ABDOMINAL PAIN, NAUSEA, VOMITING, AND COLLAPSE. SWALLOWING LARGE QUANTITIES CAN CAUSE DEATH.
CHRONIC EFFECTS OF EXPOSURE: NO SPECIFIC INFORMATION AVAILABLE.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PERSONS WITH PRE-EXISTING EYE OR PULMONARY DISEASE MAY BE SUSCEPTIBLE TO AGGRAVATION FROM EXPOSURE.

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I 07 - TOXICITY DATA I

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ORAL: HUMAN LDLO=43 MG/KG; RAT LD50=350 MG/KG
DERMAL: NO DATA AVAILABLE
INHALATION: HUMAN LDLO=1000 PPM/3HR; MOUSE LC50=4637 PPM/1HR
CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OTHER DATA: HUMAN INHALATION TCLO=408 PPM. ODOR IS PERCEPTIBLE AT 5 PPM, CAUSES DISCOMFORT AT 150-200 PPM, IS SEVERELY IRRITATING AT 400-700 PPM, AND MAY BE FATAL WITHIN 30 MIN AT 2000-3000 PPM.

****

I 08 - PERSONAL PROTECTION I

****

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL.
RESPIRATORY PROTECTION: NIOSH-APPROVED CANNISTER RESPIRATOR IN THE ABSENCE OF ADEQUATE ENVIRONMENTAL CONTROLS AT THE POINT OF USE.
EYE PROTECTION: CHEMICAL GOGGLES AND FULL FACE SHIELD.
PROTECTIVE CLOTHING: ALKALI-RESISTANT SLICKER SUIT WITH RUBBER APRON, RUBBER BOOTS WITH PANTS OUTSIDE, AND RUBBER GLOVES WITH GAUNTLETS.
OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

****

I 09 - FIRE AND EXPLOSION INFORMATION I

****

FLASH POINT, DEG F: NONE
METHOD USE: N/A
EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL OR CO2.
FLAMMABLE LIMITS IN AIR, %:
LOWER: 16
UPPER: 25
SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.
UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE AMMONIA GAS WILL BE LIBERATED AT ALL TEMPERATURES WHICH CAN BE EXPLOSIVE UNDER SOME CONDITIONS.

****

I 10 - HAZARDOUS REACTIVITY I

****

STABILITY: STABLE
CONDITIONS TO AVOID: HEAT, SPARKS, AND OPEN FLAMES.
POLYMERIZATION: WILL NOT OCCUR
MATERIALS TO AVOID: ACIDS, OXIDIZING MATERIALS.
HAZARDOUS DECOMPOSITION PRODUCTS: AMMONIA GAS

****

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10. SECTION IX - STORAGE AND HANDLING PRECAUTIONS
11. SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

****
| 01 - GENERAL INFORMATION |
****

MATERIAL SAFETY DATA SHEET
J. T. BAKER CHEMICAL CO.
222 RED SCHOOL LANE PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE
(201) 859-2151
CHEMTREC #
(800) 424-9300
NATIONAL RESPONSE CENTER #
(800) 424-8802
SODIUM HYDROXIDE
EFFECTIVE:
10/08/85
ISSUED:
01/24/86

(TM) AND (R) DESIGNATE TRADEMARKS.
N/A = NOT APPLICABLE OR NOT AVAILABLE

THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND DATA PRESENTED IN VARIOUS TECHNICAL PUBLICATIONS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS

PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.

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****
| 02 - SECTION I - PRODUCT IDENTIFICATION |
****

PRODUCT NAME:
SODIUM HYDROXIDE
FORMULA:
NAOH
FORMULA WT:
40.00
CAS NO.:
01310-73-2
NIOSH/RTECS NO.:
WB4900000
COMMON SYNONYMS:
CAUSTIC SODA; SODIUM HYDRATE; LYE
PRODUCTS CODES:
3730, 3722, 5312, 5104, 3729, 3734, 3726, 5045, 3728, 3723, 5022, 3736
PRECAUTIONARY LABELLING
BAKER SAF-T-DATA(TM) SYSTEM
HEALTH - 3 (POISON)
FLAMMABILITY - 0
REACTIVITY - 2
CONTACT - 4 (CORROSIVE)
LABORATORY PROTECTIVE EQUIPMENT
GOGGLES; LAB COAT, VENT HOOD; PROPER GLOVES
PRECAUTIONARY LABEL STATEMENTS
POISON DANGER
CAUSE SEVERE BURNS MAY BE FATAL IF SWALLOWED
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID BREATHING DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH
ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

****
| 03 - SECTION II - HAZARDOUS COMPONENTS |
****

COMPONENT	%	CAS NO.
SODIUM HYDROXIDE	90-100	1310-73-2

****
| 04 - SECTION III - PHYSICAL DATA |
****

BOILING POINT:
1390 C (2534 F)
MELTING POINT:
318 C (604 F)
SPECIFIC GRAVITY: (H2O=1)

2.13
SOLUBILITY (H2O):
APPRECIABLE (MORE THAN 10%)
APPEARANCE & ODOR:
WHITE, ODORLESS SOLID (FLAKES).
VAPOR PRESSURE (MM HG):
0
VAPOR DENSITY (AIR=1):
N/A
EVAPORATION RATE: (BUTYL ACETATE=1)
N/A
% VOLATILES BY VOLUME:
0

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****
| 05 - SECTION IV - FIRE AND EXPLOSION HAZARD DATA |
****

FLASH POINT:
N/A
NFPA 704M RATING:
3-0-1
FIRE EXTINGUISHING MEDIA
USE WATER SPRAY.
UNUSUAL FIRE & EXPLOSION HAZARDS
CONTACT WITH MOISTURE OR WATER MAY GENERATE SUFFICIENT HEAT TO IGNITE COMBUSTIBLE MATERIALS.
REACTS VIOLENTLY WITH WATER LIBERATING AND IGNITING HYDROGEN.

****
| 06 - SECTION V - HEALTH HAZARD DATA |
****

THRESHOLD LIMIT VALUE (TLV/TWA):
2 MG/M3 (PPM)

EFFECTS OF OVEREXPOSURE
INGESTION MAY RESULT IN SEVERE INTESTINAL IRRITATION WITH BURNS TO MOUTH.
CONTACT WITH SKIN OR EYES MAY CAUSE SEVERE IRRITATION OR BURNS.

EMERGENCY AND FIRST AID PROCEDURES
CALL A PHYSICIAN.
IF SWALLOWED, DO NOT INDUCE VOMITING; IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. FOLLOW WITH DILUTED VINEGAR, FRUIT JUICE OR WHITES OF EGGS, BEATEN WITH WATER.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
WASH CLOTHING BEFORE RE-USE.

****
| 07 - SECTION VI - REACTIVITY DATA |
****

STABILITY:
STABLE
CONDITIONS TO AVOID:
MOISTURE
INCOMPATIBLES:
WATER, STRONG ACIDS, MOST COMMON METALS
HAZARDOUS POLYMERIZATION:
WILL NOT OCCUR

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****
| 08 - SECTION VII - SPILL AND DISPOSAL PROCEDURES |
****

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

J. T. BAKER NEUTRACIT-2(R) CAUSTIC NEUTRALIZER IS RECOMMENDED FOR SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER:
D002, D003, (CORROSIVE, REACTIVE WASTE)

****
| 09 - SECTION VIII - PROTECTIVE EQUIPMENT |
****

VENTILATION:
USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION:
RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 60 PPM, A HIGH-EFFICIENCY PARTICULATE RESPIRATOR IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION:
SAFETY GOGGLES, UNIFORM, APRON, RUBBER GLOVES ARE RECOMMENDED.

****
| 10 - SECTION IX - STORAGE AND HANDLING PRECAUTIONS |
****

SAF-T-DATA(TM) STORAGE COLOR CODE:
WHITE STRIPE
SPECIAL PRECAUTIONS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA.

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****
| 11 - SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION |
****

DOMESTIC (D.O.T.)
PROPER SHIPPING NAME
SODIUM HYDROXIDE, DRY SOLID
HAZARD CLASS
CORROSIVE MATERIAL (SOLID)
UN/NA
UN1823
LABELS
CORROSIVE
REPORTABLE QUANTITY
1000 LBS.
INTERNATIONAL (I.M.O.)
ROPER SHIPPING NAME
SODIUM HYDROXIDE, SOLID
HAZARDS CLASS
8
UN/NA
UN1823
LABELS
CORROSIVE

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| 01 - GENERAL INFORMATION |

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24-HOUR EMERGENCY TELEPHONE
(201) 859-2151
CHEMTREC #
(800) 424-9300
NATIONAL RESPONSE CENTER #
(800) 424-8802
SULFURIC ACID
EFFECTIVE:
05/01/89
ISSUED:
05/17/89

N/A = NOT APPLICABLE OR NOT AVAILABLE
N/E = NOT ESTABLISHED

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEC.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE

MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.
BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. IF YOU HAVE ANY QUESTIONS, PLEASE CALL CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE.

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****
| 02 - SECTION I - PRODUCT IDENTIFICATION |
****

PRODUCT NAME:
SULFURIC ACID
COMMON SYNONYMS:
OIL OF VITRIOL; HYDROGEN SULFATE; SULPHURIC ACID
CHEMICAL FAMILY:
INORGANIC ACIDS
FORMULA:
H_2SO_4
FORMULA WT.:
98.08
CAS NO.:
7664-93-9
NIOSH/RTECS NO.:
WS5600000
PRODUCT USE:
LABORATORY REAGENT
PRODUCT CODES:
9674, 9685, 5137, 5374, 9673, 5030, 9680, 9675, 9688, 9686, 4802, 5643, 9683, 9679, 9687, 5340, 9691, 9684, 9694, 5432, 9681, 9681
PRECAUTIONARY LABELING
BAKER SAF-T-DATA* SYSTEMS
HEALTH - 3 SEVERE (POISON)

FLAMMABILITY - 0 NONE
REACTIVITY - 3 SEVERE (WATER REACTIVE)
CONTACT - 4 EXTREME (CORROSIVE)
LABORATORY PROTECTIVE EQUIPMENT
GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

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U.S. PRECAUTIONARY LABELING
POISON DANGER
CAUSES SEVERE BURNS. REACTS VIOLENTLY WITH WATER. HARMFUL IF SWALLOWED OR INHALED. CONTACT WITH OTHER MATERIALS MAY CAUSE FIRE. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. LOOSEN CLOSURE CAUTIOUSLY. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF SPILL NEUTRALIZE WITH SODA ASH OR LIME AND PLACE IN DRY CONTAINER.

INTERNATIONAL LABELING
AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE:
WHITE (CORROSIVE)

****
| 03 - SECTION II - COMPONENTS |
****

COMPONENT	CAS NO.	WEIGHT %	MG/M3	MG/M3
SULFURIC ACID	7664-93-9	90-98	1	1
ATER	7732-18-5	2-10	N/E	N/E

****
| 04 - SECTION III - PHYSICAL DATA |
****

BOILING POINT: (AT 760 MM HG)
327 C (620 F)
MELTING POINT: (AT 760 MM HG)
- 2 C (28 F)
SPECIFIC GRAVITY: (H2O=1)
1.84
SOLUBILITY (H2O):
COMPLETE (100%)
PH:
1.0
(0.1M SOLUTION)
ODOR THRESHOLD (P.P.M.):
N/A
COEFFICIENT WATER/OIL DISTRIBUTION:
N/A
APPEARANCE & ODOR:
CLEAR, COLORLESS TO YELLOW VISCOUS LIQUID. ODORLESS.
VAPOR PRESSURE (MMHG) (20 C):

<0.3
VAPOR DENSITY (AIR=1):
3.4
EVAPORATION RATE: (BUTYL ACETATE = 1)

VOLATILES BY VOLUME (21 C):
N/A
PHYSICAL STATE:
LIQUID

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****
| 05 - SECTION IV - FIRE AND EXPLOSION HAZARD DATA |
****

FLASH POINT (CLOSED CUP):
N/A
NFPA 704M RATING:
3-0-2 W
AUTOIGNITION TEMPERATURE:
N/A
FLAMMABLE LIMITS:
UPPER - N/A
LOWER - N/A

FIRE EXTINGUISHING MEDIA
USE DRY CHEMICAL OR CARBON DIOXIDE. DO NOT USE WATER.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. DO NOT GET WATER INSIDE CONTAINERS.

UNUSUAL FIRE & EXPLOSION HAZARDS
REACTS WITH MOST METALS TO PRODUCE HYDROGEN GAS, WHICH CAN FORM AN EXPLOSIVE MIXTURE WITH AIR. A VIOLENT EXOTHERMIC REACTION OCCURS WITH WATER. SUFFICIENT HEAT MAY BE PRODUCED TO IGNITE COMBUSTIBLE MATERIALS.

TOXIC GASES PRODUCED
SULFUR DIOXIDE, HYDROGEN

EXPLORATION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

****
| 06 - SECTION V - HEALTH HAZARD DATA |
****

THRESHOLD LIMIT VALUE (TLV/TWA):
1 MG/M3
SHORT-TERM EXPOSURE LIMIT (STEL):

NOT ESTABLISHED
PERMISSIBLE EXPOSURE LIMIT (PEL):
1 MG/M3
TOXICITY OF COMPONENTS
ORAL RAT LD50 FOR SULFURIC ACID
2140 MG/KG
INHALATION-2HR MOUSE LC50 FOR SULFURIC ACID
320 MG/M3
INHALATION-2HR RAT LC50 FOR SULFURIC ACID
510 MG/M3
INTRAPERITONEAL MOUSE LD50 FOR WATER
190 G/KG
INTRAVENOUS MOUSE LD50 FOR WATER
25 G/KG
CARCINOGENICITY:
NTP: NO
IARC: NO
Z LIST: NO
OSHA REG: NO
CARCINOGENICITY
NONE IDENTIFIED.
REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE
INHALATION:
SEVERE IRRITATION OR BURNS OF RESPIRATORY SYSTEM, PULMONARY EDEMA, LUNG INFLAMMATION
SKIN CONTACT:
SEVERE BURNS
EYE CONTACT:
SEVERE BURNS
SKIN ABSORPTION:
NONE IDENTIFIED
INGESTION:
NAUSEA, VOMITING, SEVERE BURNS TO MOUTH, THROAT, AND STOMACH, KIDNEY DISFUNCTION
CHRONIC EFFECTS:
LUNG DAMAGE

TARGET ORGANS
RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, TEETH, KIDNEYS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
RESPIRATORY SYSTEM DISEASE

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES
INGESTION:
CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER.
INHALATION:
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL

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RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

SKIN CONTACT:

IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT:

IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES

CHRONIC: YES

FLAMMABILITY: NO

PRESSURE: NO

REACTIVITY: YES

EXTREMELY HAZARDOUS SUBSTANCE:

YES CONTAINS SULFUR ACID (RQ = 1,000 LBS, TPQ = 1,000 LBS)

CERCLA HAZARDOUS SUBSTANCE:

YES CONTAINS SULFURIC ACID (RQ = 1000 LBS)

TOXIC CHEMICALS:

YES CONTAINS SULFURIC ACID

GENERAL CLASS:

C16

TSCA INVENTORY:

YES

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07 - SECTION VI - REACTIVITY DATA

STABILITY:

STABLE

CONDITIONS TO AVOID:

MOISTURE, HEAT

INCOMPATIBLES:

WATER, MOST COMMON METALS, ORGANIC MATERIALS, STRONG REDUCING AGENTS, COMBUSTIBLE MATERIALS, STRONG BASES, CARBONATES, SULFIDES, CYANIDES, STRONG OXIDIZING AGENTS, CARBIDES

DECOMPOSITION PRODUCTS:

OXIDES OF SULFUR, HYDROGEN

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

08 - SECTION VII - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE

WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. DO NOT USE WATER. NEUTRALIZE SPILL AND/OR WASHINGS WITH SODA ASH OR LIME. WITH CLEAN SHOVEL, PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINER(S) FROM SPILL AREA.

J. T. BAKER NEUTRASORB(R) OR TEAM* 'LOW NA+' ACID NEUTRALIZERS ARE RECOMMENDED FOR SPILLS OF THIS PRODUCT.

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DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER:
D002, D003 (CORROSIVE, REACTIVE WASTE)

****
| 09 - SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT |
****

VENTILATION:
USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROJECTION:
NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION EXCEEDS TLV, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION:
SAFETY GOGGLES AND FACE SHIELD, UNIFORM, PROTECTIVE SUIT, RUBBER GLOVES ARE RECOMMENDED.

****
| 10 - SECTION IX - STORAGE AND HANDLING PRECAUTIONS |
****

SAF-T-DATA* STORAGE COLOR CODE:
WHITE (CORROSIVE)
STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. KEEP CONTAINERS OUT OF SUN AND AWAY FROM HEAT. ISOLATE FROM INCOMPATIBLE MATERIALS.

****
| 11 - SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION |
****

DOMESTIC (D.O.T.)
PROPER SHIPPING NAME:
SULFURIC ACID
HAZARD CLASS:
CORROSIVE MATERIAL (LIQUID)
UN/NA:
UN1830
REPORTABLE QUANTITY:
1000 LBS.
LABELS:

CORROSIVE
REGULATORY REFERENCES:
49 CFR 172.101; 173.272
INTERNATIONAL (I.M.O.)
PROPER SHIPPING NAME:
SULPHURIC ACID
HAZARD CLASS:
8
I.M.O. PAGE:
8220
UN:
UN1830
MARINE POLLUTANTS:
NO
PACKAGING GROUP:
II
LABELS:
CORROSIVE
REGULATORY REFERENCES:
49CFR 172.102; PART 176; IMO
AIR (I.C.A.O.)
PROPER SHIPPING NAME:
SULPHURIC ACID
HAZARD CLASS:
8
UN:
UN1830
PACKAGING GROUP:
II
LABELS:
CORROSIVE
REGULATORY REFERENCES:
49CFR 172.101; 173.6; PART 175; ICAO/IATA
U.S. CUSTOMS HARMONIZATION NUMBER:
2807000001

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01 - GENERAL INFORMATION

CE002832
SODIUM HYPOCHLORITE 12.5% ACT II
REVISION OF: 03-25-88
VAN WATERS & ROGERS INC. 1600 NORTON BLDG. SEATTLE, WA 98104-1564
EMERGENCY ASSISTANCE
FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800) 424-9300.
FOR PRODUCT AND SALES INFORMATION
CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE
PROD: 04186272 04:00:40 23 JUN 1988 CUST: 35059759 INVOICE: 359502538

02 - PRODUCT IDENTIFICATION

PRODUCT NAME: **SODIUM HYPOCHLORITE**
CAS NO.: MIXTURE
COMMON NAMES/SYNONYMS: LIQUID BLEACH, LIQUICHLOR; HYPOCHLOROUS ACID; SODIUM SALT; SODA BLEACH
VW&R CODE: P1147

FORMULA: NA O CL
DATE ISSUED: 02/88
SUPERCEDES: 07/87 AND 04/87 (OHS)
HAZARD RATING (NFPA 704 CRITERIA):
HEALTH: 2
FIRE: 0
REACTIVITY: 2
SPECIAL: OXY
HAZARD RATING SCALE:
0=MINIMAL
1=SLIGHT
2=MODERATE
3=SERIOUS
4=SEVERE

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03 - HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, MG/M3 OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
SODIUM HYPOCHLORITE	7681-52-9	7-16	NONE	NONE	NONE	CORROSIVE; OXIDIZER
SODIUM CHLORIDE	7647-14-5	5-13	NONE	NONE	NONE	NONE
SODIUM HYDROXIDE	1310-73-2	0.05-0.9	2	2	NONE	CORROSIVE; TOXIC
WATER	7732-18-5	BALANCE	NONE	NONE	NONE	NONE

04 - PHYSICAL PROPERTIES

BOILING POINT, DEG F: DECOMPOSES AT 125
VAPOR PRESSURE, MM HG/125 DEG F: 100
MELTING POINT, DEG F: 9.4-10.4
VAPOR DENSITY (AIR=1): 0.9
SPECIFIC GRAVITY (WATER=1): 1.1-1.3
WATER SOLUBILITY, %: 100
APPEARANCE AND ODOR: LIGHT YELLOW TO GREEN CLEAR LIQUID; CHLORINE ODOR.
EVAPORATION RATE (BUTYL ACETATE=1): AS WATER

05 - FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.
IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.
IN CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.
IF SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER OR

MILK, OR MILK OF MAGNESIA. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE BAKING SODA OR ACID ANTIDOTES. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

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06 - HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT, INHALATION.

SIGNS AND SYMPTOMS OF EXPOSURE:

INHALATION: INHALATION OF FUMES OR MISTS CAUSES RESPIRATORY TRACT IRRITATION AND IRRITATION OF MUCOUS MEMBRANES. IF SODIUM HYPOCHLORITE IS MIXED WITH AMMONIA OR OTHER CHEMICALS, EVOLUTION OF CHLORINE OR HYPOCHLOROUS ACID RESULTS. THESE GASES CAN PRODUCE PULMONARY EDEMA.

EYE CONTACT: LIQUID AND MISTS MAY SEVERELY IRRITATE OR DAMAGE THE EYES.

SKIN CONTACT: THE LIQUID WILL IRRITATE THE SKIN, CAUSING REDNESS AND POSSIBLY INFLAMMATION.

SWALLOWED: MISTS AND LIQUID ARE EXTREMELY CORROSIVE TO THE MOUTH AND THROAT, MUCOUS MEMBRANES AND STOMACH. SWALLOWING THE LIQUID BURNS THE TISSUES, CAUSES SEVERE ABDOMINAL PAIN, NAUSEA, VOMITING, CIRCULATORY COLLAPSE, CONFUSION, DELERIUM, COMA, AND COLLAPSE. SWALLOWING LARGE QUANTITIES CAN CAUSE DEATH.

CHRONIC EFFECTS OF EXPOSURE: IRRITATION EFFECTS INCREASE WITH STRENGTH OF SOLUTION AND TIME OF EXPOSURE. PROLONGED OR REPEATED EXPOSURE CAN LEAD TO CONSTANT IRRITATION OF EYES AND THROAT. PROLONGED OR REPEATED CONTACT MAY CAUSE DERMATITIS AND SENSITIZATION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

07 - TOXICITY DATA

ORAL: FOR 5% SOLUTION RAT LD50 = 13 G/KG
FOR 12.5% SOLUTION RAT LD50 = 5 G/KG

DERMAL: RAT LD50 >3.0 G/KG

INHALATION: NO DATA AVAILABLE

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE

08 - PERSONAL PROTECTION

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MINIMIZING EMISSIONS AT THE POINT OF USE.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THE VAPOR OR MIST CONCENTRATION AT THE POINT OF USE. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED FOR ACID GASES/MISTS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: CHEMICAL GOGGLES AND FULL FACESHIELD UNLESS A FULL FACEPIECE RESPIRATOR IS ALSO WORN. IT IS GENERALLY RECOGNIZED THAT

CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.
PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, RUBBER BOOTS, RUBBER GLOVES, AND RUBBER APRON.
OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

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09 - FIRE AND EXPLOSION INFORMATION

FLASH POINT, DEG F: NOT FLAMMABLE
METHOD USED: N/A
FLAMMABLE LIMITS IN AIR, %
LOWER: N/A
UPPER: N/A
EXTINGUISHING MEDIA: THIS MATERIAL IS NOT COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.
SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.
UNUSUAL FIRE AND EXPLOSION HAZARDS: CONTAINERS OF THIS MATERIAL CAN EXPLODE UNDER FIRE CONDITIONS. OXYGEN MAY BE LIBERATED UPON CONTACT WITH CERTAIN METALS. TOXIC FUMES ARE LIBERATED BY CONTACT WITH ACIDS OR HEAT. HIGHLY EXOTHERMIC REACTIONS WITH ORGANIC MATERIALS AND OXIDIZABLE MATERIALS MAY CAUSE FIRES.

10 - HAZARDOUS REACTIVITY

STABILITY: STABLE
POLYMERIZATION: WILL NOT OCCUR
STABILITY DECREASES WITH CONCENTRATION, HEAT, LIGHT EXPOSURE, DECREASE IN PH AND CONTAMINATION WITH HEAVY METALS SUCH AS NICKEL, COBALT, COPPER AND IRON.
CONDITIONS TO AVOID: EXCESSIVE HEAT, EXPOSURE TO LIGHT, EXCESS ALKALINITY, AND CONTAMINATION OF ANY KIND.
MATERIALS TO AVOID: ETHER, AMMONIA ACIDS, REDUCING AGENTS, OXIDIZABLE MATERIALS, COMBUSTIBLE MATERIALS SUCH AS WOOD, CLOTH OR ORGANIC MATERIALS, HEAVY METALS SUCH AS IRON AND COPPER AND THEIR ALLOYS, AND DIRT. ALSO MAGNESIUM, ALUMINUM, TIN, OR MANGANESE.
HAZARDOUS DECOMPOSITION PRODUCTS: HOCL, CHLORINE, HCL, NACL, SODIUM CHLORATE, AND OXYGEN WHICH DEPEND ON PH, TEMPERATURE AND TIME.

11 - SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR ALKALI-RESISTANT SLICKER SUIT AND COMPLETE PROTECTIVE EQUIPMENT INCLUDING RUBBER GLOVES, RUBBER BOOTS, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED WITH ACID GASES/MISTS FILTERS MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. FOR SMALL

SPILLS OR DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WITH SOIL OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND CAREFULLY NEUTRALIZE WITH DILUTE HYDROCHLORIC ACID. KEEP NON-NEUTRALIZED MATERIAL OUT OF TOXIC TO AQUATIC LIFE.

COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

12 - SPECIAL PRECAUTIONS

STORAGE AND HANDLING PRECAUTIONS: STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. STORE IN ORIGINAL CONTAINERS ONLY AT TEMPERATURES BELOW 85 DEG. F. DO NOT STORE NEAR ACIDS, OXIDIZABLE MATERIALS, OR ORGANICS. DO NOT STORE ON WOODEN FLOORS, PALLETS, OR NEAR WOOD OF ANY KIND.

REPAIR AND MAINTENANCE PRECAUTIONS: NONE

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL. DO NOT MIX THIS PRODUCT WITH OTHER CLEANING AGENTS THAT MAY LIBERATE CHLORINE GAS VAPORS (I. E. ACIDIC AGENTS). THIS PRODUCT DEGRADES WITH AGE; USE IT WITHIN ONE MONTH OF RECEIPT. IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

13 - FOR ADDITIONAL INFORMATION

CONTACT DOUGLAS EISNER, TECHNICAL DIRECTOR, VAN WATERS & ROGERS INC. DURING BUSINESS HOURS, PACIFIC TIME (206)447-5911

14 - NOTICE

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02/88: ADDED SYNONYMS.

Rohm and Haas Company
Independence Mall West
Philadelphia, PA 19105

HEALTH EMERGEN : 215-592-3000
SPILL EMERGENCY : 215-592-3000
OTHER : 800-424-9300
CHEMTREC : 800-424-9300

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MATERIAL SAFETY DATA SHEET

ATTENTION ! This product is being newly introduced by Rohm and Haas. Manufacturer's information is under continuing review. Updates will be supplied as appropriate.
- Good until January 31, 1994 -

PRODUCT IDENTIFICATION

Sodium Bromide Biocide

Product Code	:	72384
Key	:	875611-6
MSDS Date	:	08/21/92
Supersedes	:	09/02/91

Rohm and Haas Hazard Rating		Scale
Toxicity	1	4=EXTREME
Fire	0	3=HIGH
Reactivity	0	2=MODERATE
Special	-	1=SLIGHT
		0=INSIGNIFICANT

COMPONENT INFORMATION

No.		CAS REG NO.	AMT.(%)
1	Sodium bromide	7647-15-6	> 98
2	Sodium chloride	7647-14-5	< 2

EMERGENCY RESPONSE INFORMATION

FIRST AID PROCEDURES

Inhalation

Move subject to fresh air. Give artificial respiration if breathing has stopped.

Eye Contact

Flush eyes with a large amount of water for at least 15 minutes. Consult a physician if irritation persists.

Skin Contact

Wash affected skin areas thoroughly with soap and water. Remove and wash contaminated clothing thoroughly. Consult a physician if irritation persists.

Ingestion

If swallowed, give 2 glasses of water to drink. Never give anything by mouth to an unconscious person. Consult a physician.

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(317) 842-8722

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