

ENVIRONMENTAL HEALTH SURVEY

FOR 1981

CHLORINATED METHANES PLANT

LOUISIANA DIVISION

Submitted by: R. J. Bordelon

DO 097465
CONFIDENTIAL

**CHLORINATED METHANES PLANT
INDUSTRIAL HYGIENE JOB ANALYSIS**

A. Introduction

The Plaquemine, Louisiana Chlorinated Methanes Plant was monitored during 1981 in a routine and continual survey of the chemicals and noise present in this block. Listed below are the chemicals plus noise with their respective standards:

<u>Chemical</u>	<u>Standard (TLV)</u>
Methyl Chloride	50 ppm
Vinyl Chloride	1 ppm
Methylene Chloride	100 ppm
Chloroform	10 ppm
Carbon Tetrachloride	5 ppm
Methanol	200 ppm
Ethylene Dichloride	10 ppm
B-trichloroethane	10 ppm
1,1 Dichloroethane	200 ppm
Dimethyl Ether	400 ppm
1,1,1 Trichloroethane (degreaser)	350 ppm
Chlorine	3 mg/m-3
Hydrochloric Acid	7 mg/m-3
Sulfuric Acid	1 mg/m-3
Noise	85 dBA

B. Conclusion from 1981 Survey

All employees in the CMP block were monitored using personnel monitors. Most were monitored two or three times during the year and all jobs were covered. As in the previous year the data reflects that employees are within the threshold limits when performing their routine jobs. People are provided with and required to wear proper protective equipment when a job has the potential of exposing them to levels which may exceed the standards. To keep a closer watch on such jobs there will be more excursion samples in the 1982 monitoring program. An example of such a job is that of the loader.

The HCl purification area demands some monitoring attention at times when exchanger leaks develop and bottoms lines plug up.

There continues to be a decline in the use of CHLOROTHENE to clean pump parts. Much of the cleaning can be accomplished by using low pressure steam and water. A problem does exist, however, when pumps such as the P-1's and P-819 (T-809 pump) are not properly decontaminated. This came to light when the material controller (while wearing a monitor) helped a millwright repair a P-1 pump. The exposure level readings were higher than normal for the routine material controller job. The P-1 pump had not been sufficiently decontaminated. As a result, a procedure will be written covering the proper way to decontaminate a pump used in this type of service.

Noise - A breakdown of exposure levels by job reveals little change from the 1980 survey, except for the OT and SOT jobs where both showed lower levels in 1981.

C. Additional Comments

There was one change in the standards for 1981 which affects this block. The TLV for methylene chloride was lowered to 100 ppm.

The performance of the waste heat boiler in 1981 was substantially better than in 1980 after the installation of a new liquid feed flow meter, a liquid feed nozzle, a liquid feed control valve and a new blower. This increase in performance naturally provided less downtime, which means less venting of M-1 filters to atmosphere for recharging. This improved performance also means a reduction in the need for storing waste materials in drums and honeywagons.

A new and more rigid respirator policy is now in effect. It spells out the care and cleaning of respirators as well as their uses. Additionally, all personnel in this block underwent fit-testing of the Scott-O-Vista and Scott Air masks during 1980 and 1981 thus complying with government regulations covering respirators.

D. Monitoring Results

Personnel monitoring using charcoal adsorption tubes was employed to cover all the jobs for the following chemicals: methyl chloride, vinyl chloride, dimethyl ether, methylene chloride, chloroform, carbon tetrachloride, ethylene dichloride, 1,1 dichloroethane, 1,1,1 trichloroethane, B-trichloroethane, and methanol. The samples revealed the following results in ppm based on TWA.

D. Monitoring Results (cont'd)

Chemical	Standard	High/Job Average		High/Indiv. Sample	
Methyl Chloride	50	OT	0.5	EDO	3.4
Vinyl Chloride	1	Lab	0.04	EDO	0.34
Dimethyl Ether	400	All Samples	<0.1	All Samples	<0.1
Methylene Chloride	100	EDO	0.4	EDO	2.5
Chloroform	10	EDO	0.1	EDO	0.7
Carbon Tetrachloride	5	SS	0.5	SS	1.9
Ethylene Dichloride	10	Technical	0.1	Technical	0.4
B-Trichloroethane	10	All Samples	<0.1	All Samples	<0.1
1,1 Trichloroethane	350	All Samples	<0.1	All Samples	<0.1
1,1 Dichloroethane	200	All Samples	<0.1	All Samples	<0.1
Methanol	200	Fitter	1.0	Fitter	3.5

D. Monitoring Results (cont'd)

Some excursion monitoring was done on certain jobs of short duration with the potential of high exposure levels.
(Numbers shown are high readings in ppm)

Job: OT catching samples in distillation area (15-30 min.)

<u>M-1</u>	<u>M-2</u>	<u>M-3</u>	<u>M-4</u>	<u>EDC</u>	<u>B-tri</u>
3.5	<0.1	2.0	1.9	<0.1	<0.1

Job: Millwright

<u>M-1</u>	<u>M-2</u>	<u>M-3</u>	<u>M-4</u>	<u>EDC</u>	<u>B-tri</u>
3.9	18.6	<0.1	3.7	<0.1	0.4

Job: Loader

<u>M-1</u>	<u>M-2</u>	<u>M-3</u>	<u>M-4</u>	<u>EDC</u>	<u>B-tri</u>
0.5	<0.1	<0.1	<0.1	<0.1	<0.1

Job: OS - Draining E-300B (50 min)

<u>M-1</u>	<u>M-2</u>	<u>M-3</u>	<u>M-4</u>	<u>EDC</u>	<u>B-tri</u>
0.9	<0.1	<0.1	0.2	<0.1	<0.1

Job: Material Controller - working on P-1 pump in shop
(30 min.)

<u>M-1</u>	<u>M-2</u>	<u>M-3</u>	<u>M-4</u>	<u>EDC</u>	<u>B-tri</u>
1.7	0.2	4.1	0.2	<0.1	1.8

D. Monitoring Results (cont'd)

Monitoring for chlorine, hydrochloric acid, and sulfuric acid was conducted by scrubbing air with distilled water for HCl and sulfuric acid and with 1.0 N NaOH for chlorine for 7-8 hours per sample. A total of 21 samples were taken.

Highs in mg/m³

Chemical	Standard	High/Job Average		High/Area Reading	
Chlorine	3mg/m3	All	<0.001	All	<0.005
Hydrochloric Acid	7mg/m3	SS	0.08	K-350	0.30
Sulfuric Acid	1mg/m3	All	<0.10	R-200,300	0.70

INDUSTRIAL HYGIENE JOB ANALYSIS

VERSUS

% OF HYGIENE STANDARD

Standard						
		100%	50-100%	25-50%	10-25%	<10%
Methyl Chloride	50 ppm	-	-	-	-	13
Vinyl Chloride	1 ppm	-	-	-	-	13
Methylene Chloride	100 ppm	-	-	-	-	13
Chloroform	10 ppm	-	-	-	-	13
Carbon Tetrachloride	5 ppm	-	-	-	1	12
Methanol	200 ppm	-	-	-	-	13
Ethylene Dichloride	10 ppm	-	-	-	-	13
B-trichloroethane	10 ppm	-	-	-	-	13
1,1 Dichloroethane	200 ppm	-	-	-	-	13
Dimethyl Ether	400 ppm	-	-	-	-	13
1,1,1 Trichloroethane	350 ppm	-	-	-	-	13
Chlorine	3 mg/M-3	-	-	-	-	13
Hydrochloric Acid	7 mg/M-3	-	-	-	-	13
Sulfuric Acid	1 mg/M-3	-	-	-	1	12
Noise	85 dBA	-	-	4	4	5
TOTAL		0	0	4	6	185
% of TOTAL JOBS		0.00	0.00	2.05	3.08	94.87

Data Based on TWA

ENVIRONMENTAL HEALTH SURVEY

(NOISE BY JOB)

Dosimeter Reading (A Scale)

<u>Job</u>	<u>Avg. 8</u>
Operations Technician	37
Sr. Operations Technician	27
Operations Specialist	06
Shift Supervisor	08
EDO	17
Clerical (includes Computer Tech)	01
Instrument Technician	14
Laborer	35
Contract Maintenance	41
Material Controller	02
Technical	10
Chemist	04
Loading	12

ENVIRONMENTAL HEALTH SURVEY

NOISE BY AREA

OCTOBER, 1981

<u>Area</u>	<u>dBA</u>
Office	50
Control Room	60
Lab	65
Instrument Shop	60
Warehouse	72
Distillation, ground	84-91
Distillation, upper	78-91
V-800's (filters)	84-87
Acid area	87-89
K-350 area	88-90
Lewis Unit deck	86-92
Levels above Lewis Unit	72-88
Waste Heat Boiler & D-1 area	80-90
R-200 & R-300	84-85
E-200 & E-300 deck	deck 79
	fans 92-93
River Water pump area	84
Check Tanks (T-804's & T-806's)	84-89
Check Tanks (T-104's & T-101)	78-86
T/C Load Rack	70-75
T/T Load Rack (front)	80
T/T Load Rack (back)	76
K-1002 (outside chain area)	90-98

E. Monitoring Equipment Used in the Survey

1. For Chemicals

a. Personnel Monitoring

MDA Pump, model 808

DuPont pump, model P-200

Sipin pump, model SP-1

DuPont constant flow sample calibrator for checking
flow rates

b. Area Monitoring

Science pump, model D-200

Bendix pump, model C-115

2. For Noise

a. Personnel Monitoring

DuPont dosimeter, model D-100 (modified for 85 dBA)

DuPont dosimeter, model D-285

b. Area Monitoring

Edmont-Wilson dosimeter, model 60-510

Dosimeters calibrated on DuPont Audio Dosimeter Cali-
brator model C-114

F. Analytical Equipment and Methods Used in Survey:

1. For organic vapors collected on charcoal and desorbed with CS-2.

Instruments - Varian 3700 with auto-sampler and CDS-111 data system

Conditions

a. Temperatures

1. injector - 150°C
2. detector - 240°C
3. column - initial of 80°C programmed to 145°C

b. Carrier gas flow - 40 cc/min

c. Column - 16' x 1/8" OD 20% SP-2100 plus 0.1% Carbon-wax 1500 on 100/120 Supelcoport

d. Range setting - 10-12

e. Sample size - 1.5 μ l

f. Calibrated weekly, blanks prepared daily

2. For methanol vapors collected on alumina and desorbed in distilled water

Instruments: Hewlett Packard 5730A gas chromatograph with 3380A reporting integrator

Conditions

a. Temperatures:

1. injector - 200°C
2. detector - 300°C
3. column - of 160°C operator isothermally

b. Carrier gas flow - 50 cc/min

c. Column - 16' x 1/8" OD Porapak Q 50/80

d. "A" controls

e. Range setting - 1

f. Sample size - 1.1 μ l

g. Calibrated weekly

CLOSED-DOME LOADING STUDY

	CLEAN T/T's	CLEAN T/C's	LAST CONTAINED T/C's
M ₂	22 lbs/98° 25 lbs/102°	27 lbs/99°	39 lbs/87°
M ₃		<1 lb/90°	16 lbs/84°
Crude		9 lbs M ₂ / 8 lbs M ₃ /	94 lbs M ₂ / 6 lbs M ₃ /
			76 lbs M ₂ / 2 lbs M ₃ /

Conditions:

- 1 - Loading with dome closed and taking a vent off the top
- 2 - Loading time was approximately 90 minutes for 20,000 gal T/C
- 3 - All T/C's were painted light gray. Black cars would most probably have yielded higher losses.
- 4 - Loading was done in A.M. Afternoon loading would probably have also contributed to higher losses.
- 5 - T/T's were stainless steel.

Observations:

Temperature of product being loaded has great bearing on amount of product vented off.

Purpose of Study:

The purpose of this study was to measure approximate losses to atmosphere while loading M₂ and M₃ products in an attempt to design a vent-recovery system to handle this problem and was not part of the Industrial Hygiene study.

88
(3)
27

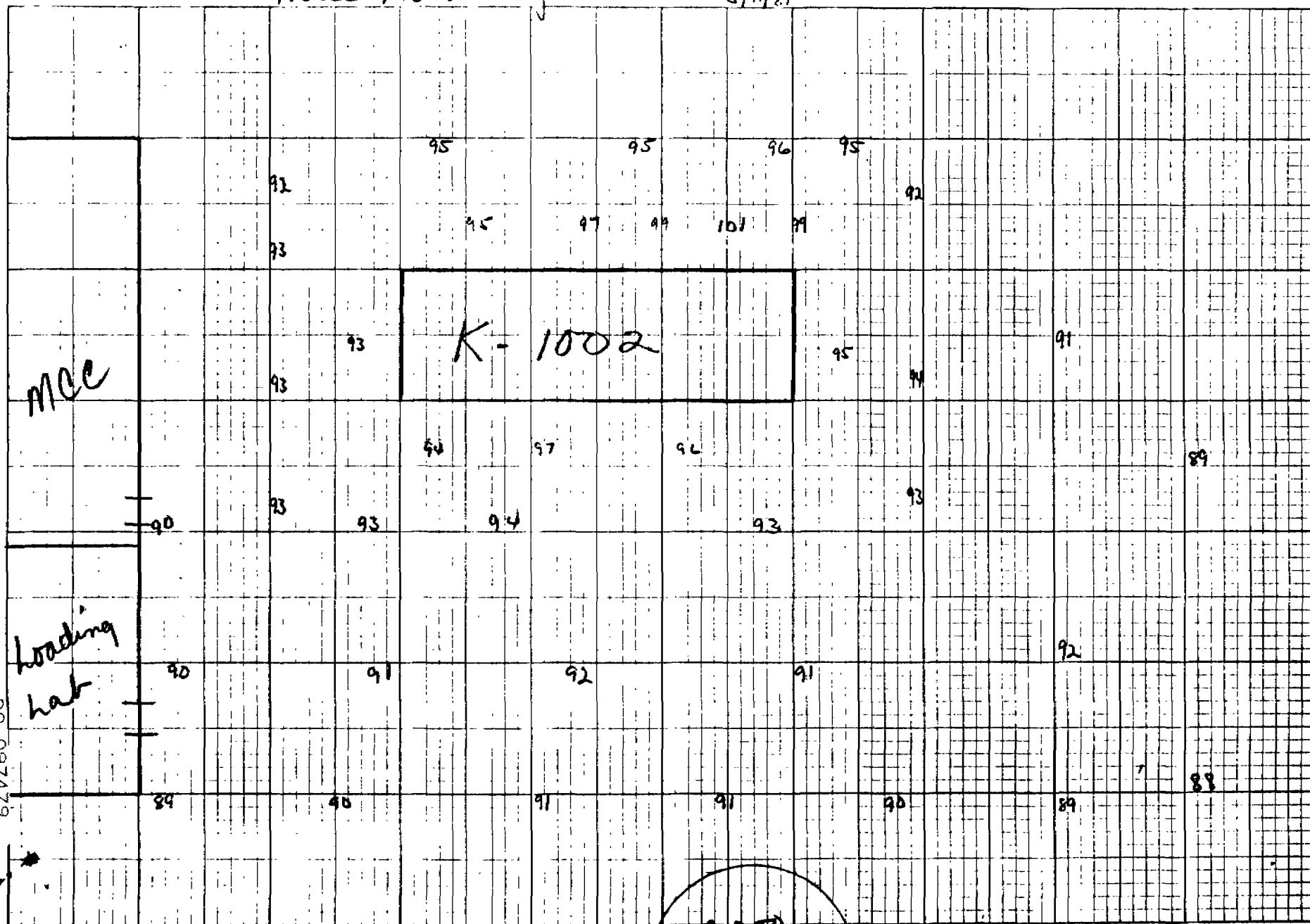
Raw

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Noise Monitoring

5/11/81

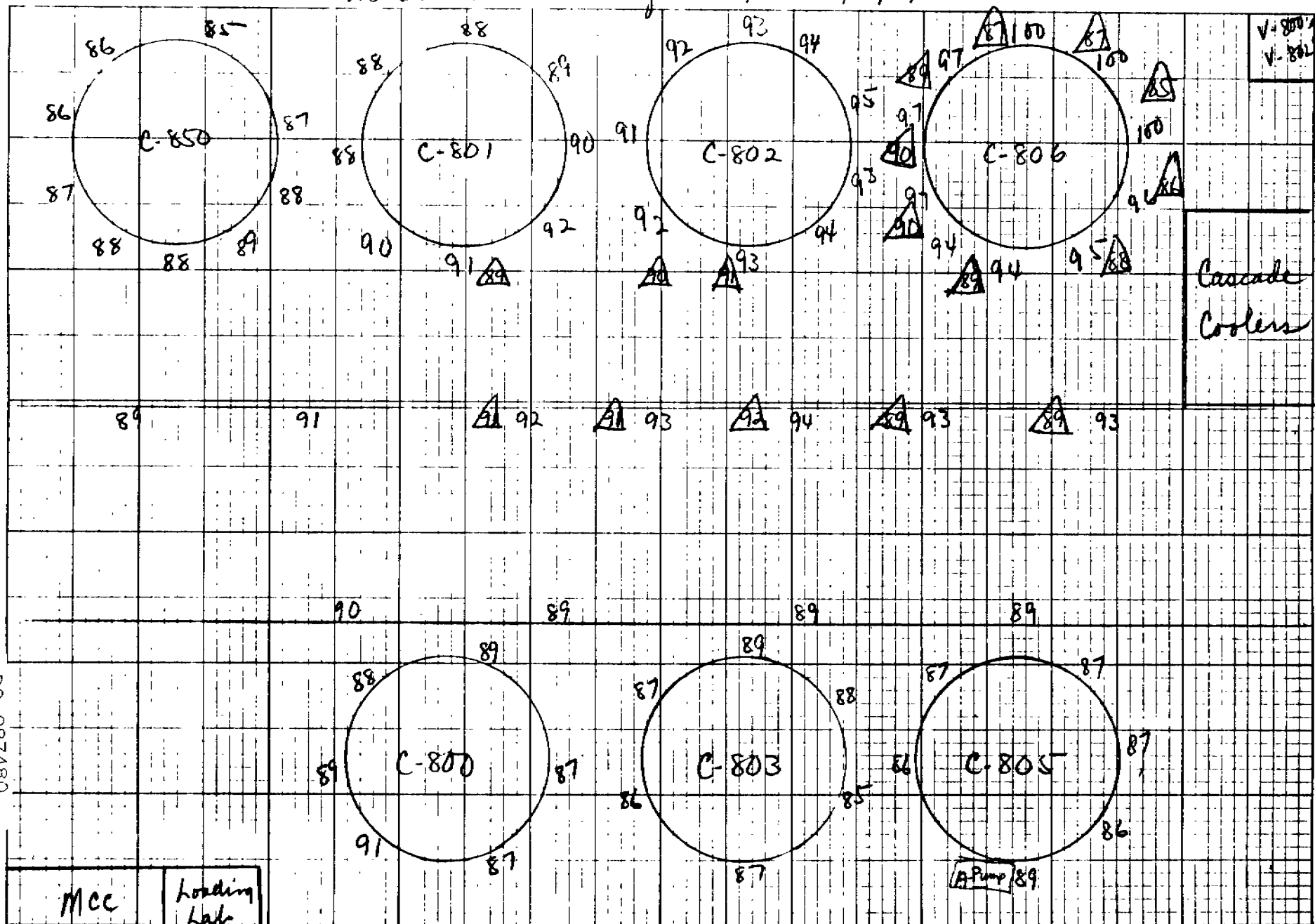
1 square (small) = 1 ft.



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C-800

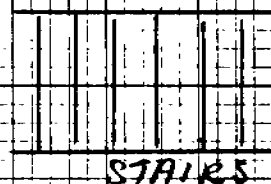
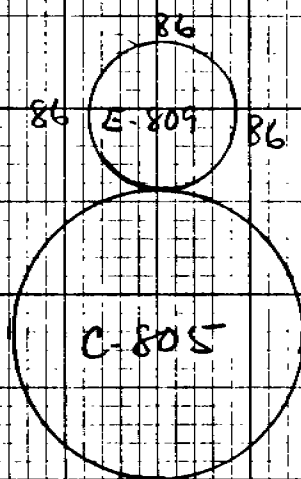
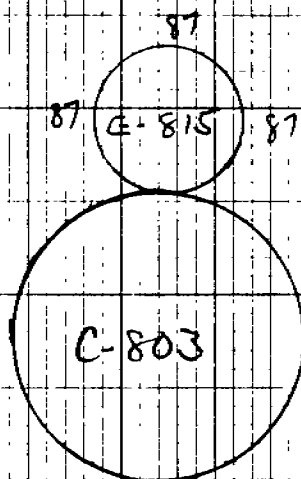
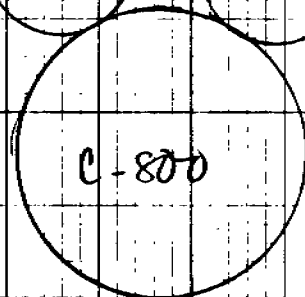
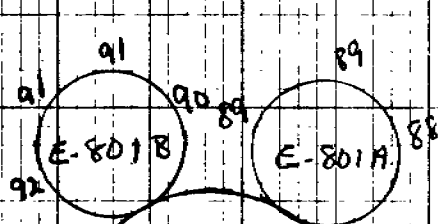
Noise Monitoring 5/11 + 5/12/81



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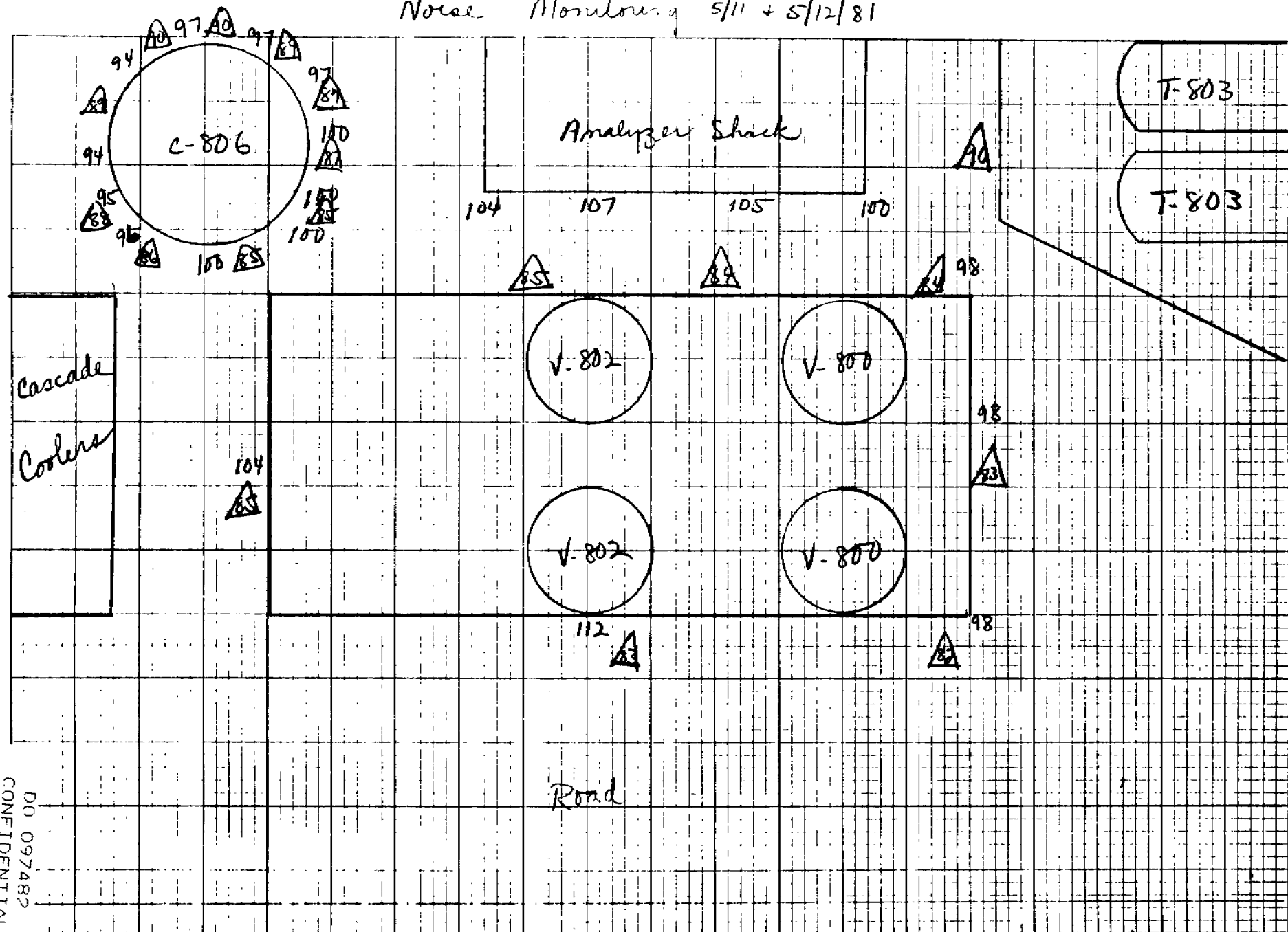
Noise Monitoring 5/11/81

1st deck



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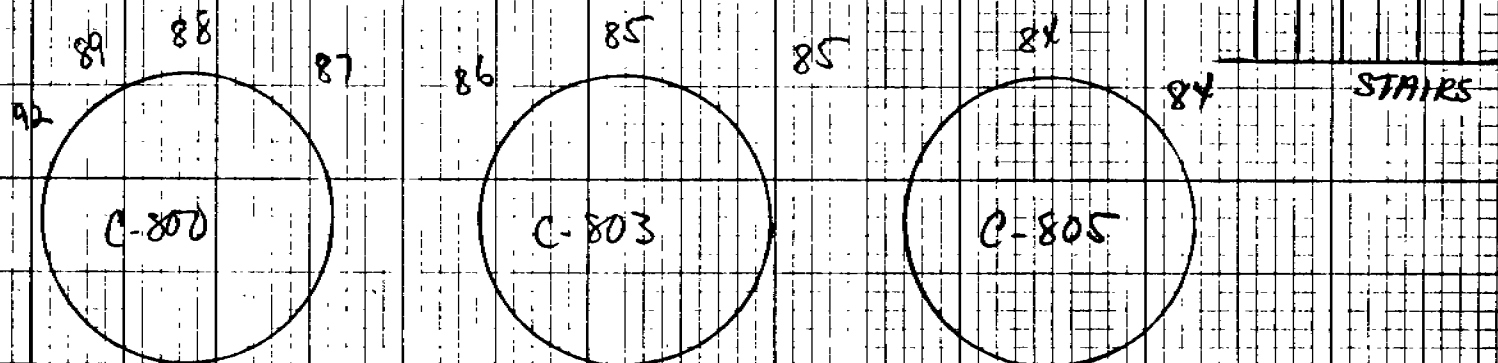
Noise Monitoring 5/11 + 5/12/81



Δ numbers from 5/12 when steam was off V-802's

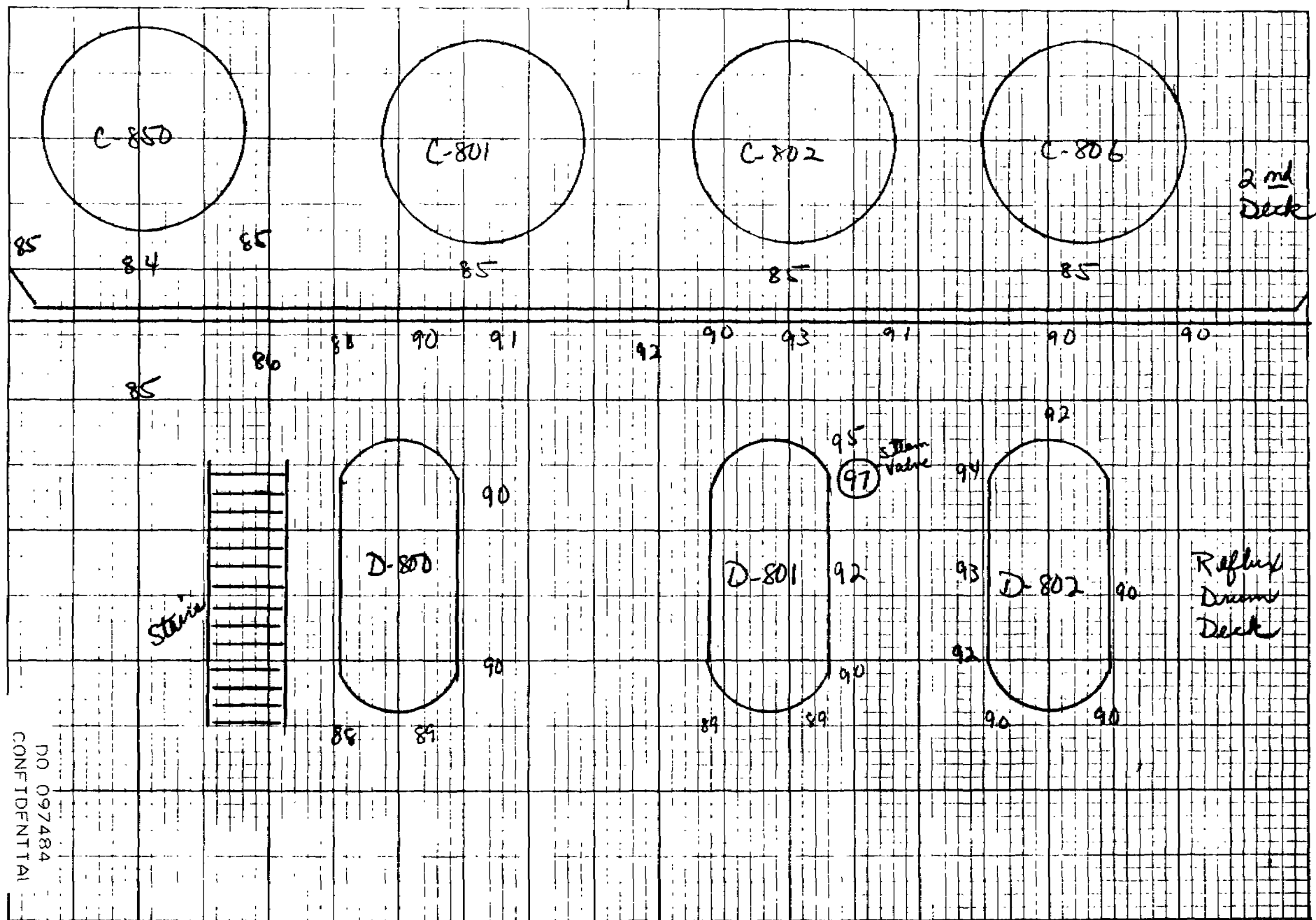
Noise Monitoring 5/11/81

2nd deck

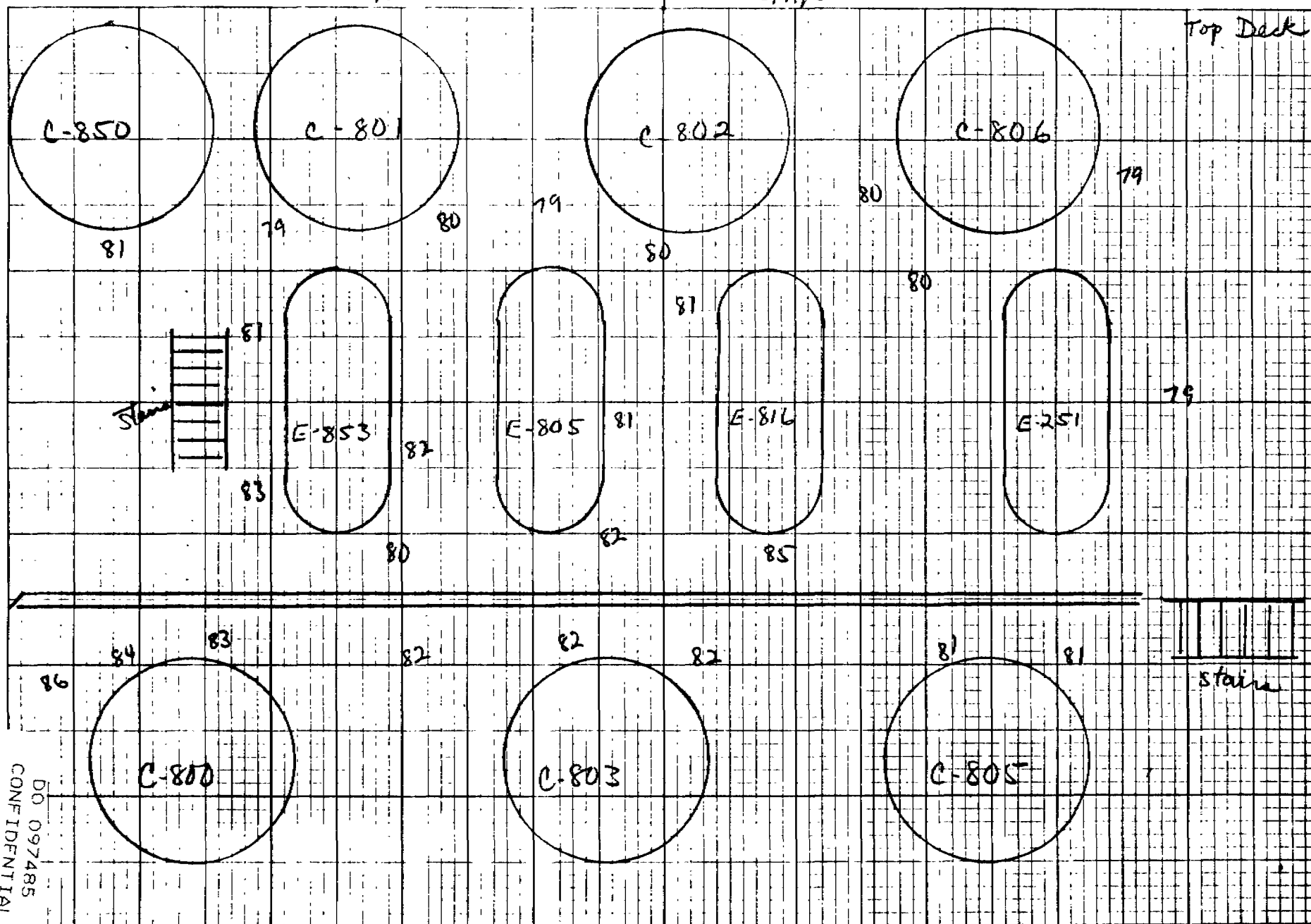


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Noise Monitoring 5/11/81



Noise Monitoring 5/11/81



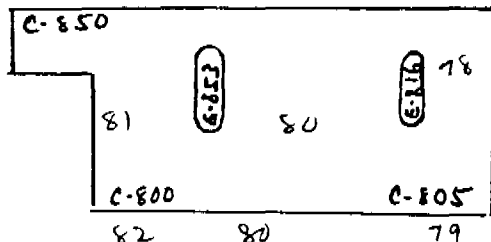
AREA SOUND LEVEL READINGS

11/18/81

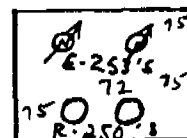
OFFICE - 50
CONTROL ROOM - 50
LAB - 65
INST. SHOP - 60
WAREHOUSE - 72 + 73

REACTION

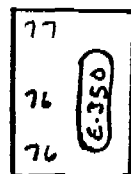
DISTILLATION
TOP DECK



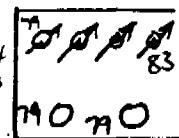
FRONT T/T LOAD RACK - 80
REAR T/T LOAD RACK - 76
T/C LOAD RACK - 75, 72, 70
T-814 - 71
T-103 - 81
T-104's - 79, 74
T-100 + T-101 - 78
CHECK TANKS - 78, 84, 86, 87
E-200 DECK - 79
E-300 DECK - 79
FANS - 93 + 92



TOP DECK



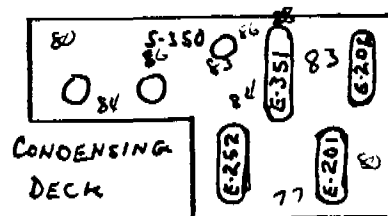
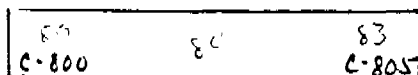
E-3
DG



E-254, E-257
DECK

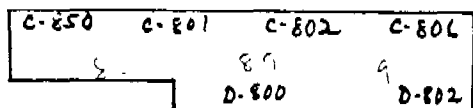


DECK ABOVE REBOILERS

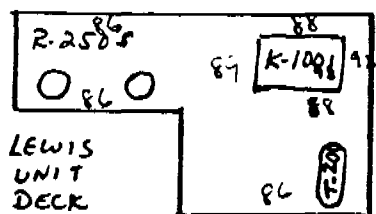
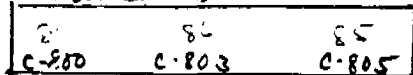


CONDENSING
DECK

R/W Pumps



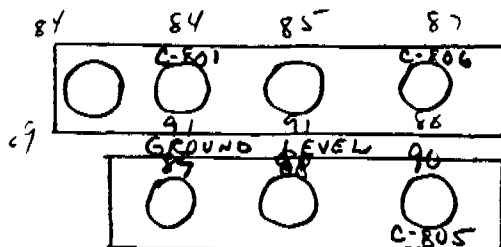
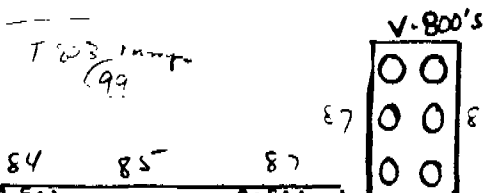
REBOILER DECK



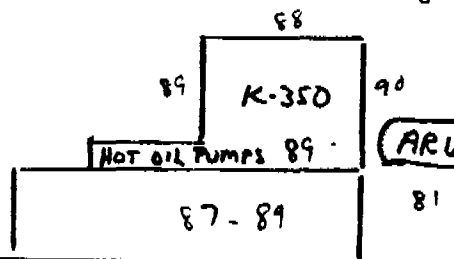
LEWIS
UNIT
DECK

88
K-100

80



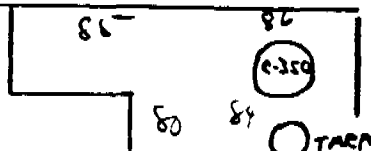
GROUND LEVEL



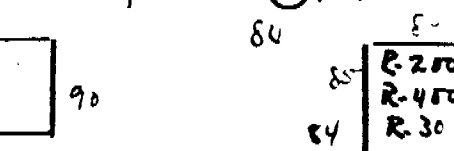
HOT OIL PUMPS

89

81



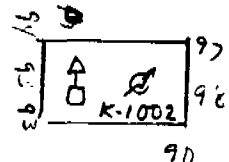
TARGET



WHB

E-200
R-400
R-30

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K-1002

90

Personnel Monitoring

	RC's	Noise		RC's	Noise
Shively			Davis	HH	
Bullman			London		
Joseph			Johnson		
Heurterant			Jackson, R.		
Didier, J.			Baggett		
Sauke			Barbier		
Smith			Breaux		
Clebert			Donatto		
Bateman			Barbay		
Trice			Jackson, T.		
Michel			Laurent		
Danerover			Montgomery		
Mack			Garner		
Koenig			Pourgeois		
Pickham			Dugas		
Didier, M			Alonzo		
Grent			Bordelon		
Rizzo			Simonsen		
Noah			Battle		
Thibodeaux	HH		Erwin		
Millender			LeBlanc		
Doucet			Creel		
Cook			Zumo		
Rivet			Canazaro		
			Hoffman		

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ENVIRONMENTAL HEALTH NOISE SURVEY

DATE	TIME	NAME	JOB	DOSIMETER CELL NO.	HEABA TEST	% EXPOSURE
7-02-81	0700-1500	G. Barbay	Loader		Neg.	27
7-02-81	0700-1500	R. Brown	OT		Neg.	36
7-02-81	0700-1500	B. Donatto	SOT		Neg.	24
10-14-81	0700-1500	L. Bourgeois	Loader		Neg.	03
10-14-81	0700-1500	R. Bodelon	Emvr.		Neg.	03
10-16-81	0730-1530	A. Bullman	Tech		Neg.	08
10-21-81	0730-1530	W. Thibodeaux	OS		Neg.	07
10-21-81	0730-1530	D. Bateman	SS		Neg.	05
10-21-81	0730-1530	T. Zuno	Instr.		Pos.	34
10-30-81	0730-1530	A. Michel	SS		Pos.	08
10-30-81	0730-1530	C. Davis	EDO		Pos.	17
10-30-81	0730-1530	G. Baggett	SOT		Neg.	09
11-11-81	0730-1530	F. Cook	EDO		Neg.	15
11-11-81	0730-1530	L. London	EDO		Neg.	09
11-11-81	0730-1530	T. Noah	OS		Neg.	04
11-13-81	0730-1530	D. Canegaro	Instr.		Neg.	28
11-13-81	0730-1530	B. Hoffman	Instr.		Neg.	14
11-13-81	0730-1530	C. Grant	EDO		Neg.	19
11-14-81	0730-1530	C. Bickham	OS		Neg.	02
11-16-81	0730-1530	R. Millender	OS		Neg.	17
11-16-81	0730-1530	G. Battle	Instr.		Neg.	02
11-17-81	0730-1530	R. Breany	SOT		Neg.	63
11-17-81	0730-1530	D. Montgomery	OT		Pos.	65
11-17-81	0730-1530	K. Doucet	OS		Neg.	01

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ENVIRONMENTAL HEALTH NOISE SURVEY

DATE	TIME	NAME	JOB	DOSIMETER CELL No.	115dBA TEST	% EXPOSURE
12-10-81	0730-1530	V. Shively	Technical		Neg.	01
12-10-81	0730-1530	P. Smith	Technical		Neg.	08
12-10-81	0730-1530	W. Nijon	laborer		Neg.	58
12-11-81	0730-1530	F. Simonson	SAC		Neg.	03
12-11-81	0730-1530	E. Garner	loading Coord.		Neg.	06
12-11-81	0730-1530	R. Delatte	Electrician		Neg.	18
12-15-81	0730-1530	R. Riet	OS		Neg.	07
12-15-81	0730-1530	L. Mack	SS		Neg.	03
12-15-81	0730-1530	J. Clibert	Secretary		Neg.	01
12-16-81	0730-1530	R. Bodelon	Env.		Neg.	08
12-16-82	0730-1530	D. Dugas	CAT		Neg.	01
12-16-82	0730-1530	D. Alonzo	Mtl. Controller		Neg.	02
12-17-82	0730-1530	W. Nijon	laborer		Neg.	46

ENVIRONMENTAL HEALTH NOISE SURVEY

DATE	TIME	NAME	JOB	DOSIMETER CELL No.	115dBA TEST	% EXPOSURE
11-18-81	0730-1530	J. Daneshmand	SS (200)		Neg.	03
11-18-81	0730-1530	J. Erwin	Instr.		Neg.	02
11-18-81	0730-1530	F. Simonson	sr. Asst. Chem.		Neg.	03
11-19-81	0730-1530	B. Koenig	SS		Neg.	25
11-19-81	0730-1530	L. Creel	Instr.		Neg.	02
11-19-81	0730-1530	L. Johnson	SOT		Neg.	12
11-20-81	0730-1530	M. Didier	EDO		Neg.	27
11-20-81	0730-1530	G. Riggo	OS		Neg.	01
11-20-81	0730-1530	R. Arnold	Laborer		Neg.	01
12-01-81	0730-1530	E. Garner	Loading Cond.		Neg.	10
12-01-81	0730-1530	C. Jennings	Fitter		Pos.	73
12-01-81	0730-1530	J. Albert	Fitter		Neg.	69
12-02-81	0730-1530	A.J. Adams	Fitter		Pos.	44
12-02-81	0730-1530	E. Coupel	Fitter		Neg.	39
12-02-81	0730-1530	R. Landry	Fitter		Neg.	42
12-03-81	0730-1530	G. Sauls	Tech.		Neg.	02
12-03-81	0730-1530	P. Joseph	Tech.		Neg.	38
12-03-81	0730-1530	J. Didier	Tech.		Neg.	09
12-04-81	0730-1530	K. Trice	SS		Neg.	04
12-04-81	0730-1530	M. Barbier	SOT		Neg.	25
12-04-81	0730-1530	C. Laurent	OT		Neg.	23
12-05-81	0730-1530	R. Delatte	Electrician		Neg.	05
12-08-81	0730-1530	Hackson, R.	SOT		Neg.	28
12-08-81	0730-1530	Hackson, T.	OT		Neg.	22
12-09-81	0730-1530	D. Alonzo	Mxl. Contr.		Neg.	01
12-09-81	0730-1530	D. Dugas	CAT		Neg.	01
12-09-81	0730-1530	C. Heurtevant	Tech.		Neg.	02

DO 097490
CONFIDENTIAL

Noise by Job

		<u>A</u>
Technical	08, 02, 38, 09, 02, 01, 08,	1
✓ SS	05, 08, 25, 04, 03	0
OS	07, 04, 02, 17, 01, 01, 07,	0
SOT	24, 09, 63, 12, 25, 28	2
OT	36, 65, 23, 22,	3
✓ EDO SS	03	0
EDO Millwright.	17, 15, 09, 19, 27	1
EDO Misc. Maint.		
Load. Coord.	10, 06,	0
Loader	27, 03,	1
Mtl. Cont.	01, 02	0
✓ Envir.	03, 08,	0
✓ Asst. Chem	03, 03,	0
Instr.	34, 28, 14, 02, 02, 02,	1
✓ Fitters	73, 69, 44, 39, 42,	5
✓ Elect.	05, 18,	1.
Laborer	01, 58, 46.	3
Sect.	01,	0
Comp. Tech.	01, 01,	0

Group SS + EDO SS — avg. — 08

✓ Envir. + Asst. Chem — avg. — 04

✓ Fitters + Elect. — avg. — 41

✓ Load Coord. + Loader — avg. — 12

✓ Secretary + Comp. Tech. — avg. — 01

ENVIRONMENTAL HEALTH SURVEY

CMP

NOISE BY AREA LBA

11/12/81
RJ

(AREA	
Office	50
Control room	60
Lab	65
Instrument shop	60
Warehouse	72
Distillation, ground	84 - 91
Distillation, upper	78 - 91
V-800's (Filters)	84 - 87
Acid area	87 - 89
K-350 area	88 - 90
Lewis Unit deck	86 - 92
Levels above Lewis unit	72 - 88
Waste Heat Boiler + D-1 area	80 - 90
R-200 + R-300	84 - 85
E-200 + E-300 deck	79
Fans	92 - 93
Riverwater pump area	84
Check tanks (T-804's + T-806's)	84 - 89
Check Tanks (T-104's + T-101)	78 - 86
T/C Load Rack	70 - 75
(T/T Load Rack (front)	80
T/T Load Rack (back)	76
K-1002 (outside chain area)	90 - 98

DO 097492
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

CHEMICAL, mg/m³ BY AREA

AREA	No. of Samples	Cl ₂			HCl			H ₂ SO ₄		
		HIGH	AVG.	LOW	HIGH	AVG.	LOW	HIGH	AVG.	LOW
Office	0	—	—	—	—	—	—	—	—	—
Control room	0	—	—	—	—	—	—	—	—	—
Lab	0	—	—	—	—	—	—	—	—	—
Instrument shop	0	—	—	—	—	—	—	—	—	—
Warehouse	0	—	—	—	—	—	—	—	—	—
Distillation, ground.	6	0.010	0.005	<0.001	0.30	0.20	0.10	<0.60	<0.30	<0.1
Distillation, upper	0	—	—	—	—	—	—	—	—	—
V-800's (filters)	3	<0.002	<0.002	<0.002	0.20	0.20	0.20	<0.20	<0.20	<0.1
Acid area	3	<0.003	<0.003	<0.003	0.20	0.20	0.20	<0.20	<0.15	<0.1
K-350 area	3	<0.003	<0.003	<0.003	0.30	0.30	0.30	<0.10	<0.10	<0.1
Lewis Unit deck	0	—	—	—	—	—	—	—	—	—
Lewis above Lewis U.	0	—	—	—	—	—	—	—	—	—
Waste Heat Boiler	3	<0.003	<0.002	<0.001	0.10	0.10	0.10	0.60	0.60	0.6
R-200 + R-300	3	<0.003	<0.003	<0.002	0.20	0.20	0.20	0.70	0.70	0.7
E-200 + E-300 deck	0	—	—	—	—	—	—	—	—	—
Riverwater pump area	0	—	—	—	—	—	—	—	—	—
Check tanks (T-804 + T-805)	0	—	—	—	—	—	—	—	—	—
Check tanks (T-104 + T-101)	0	—	—	—	—	—	—	—	—	—
T/C Load rack	0	—	—	—	—	—	—	—	—	—
T/T Load rack (front)	0	—	—	—	—	—	—	—	—	—
T/T Load rack (rear)	0	—	—	—	—	—	—	—	—	—

ENVIRONMENTAL HEALTH SURVEY

Job: Operations Technician

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.05	0.00	0.00	0.00
Control room	0	-	-	-	0.70	0.00	0.00	0.00
Lab	0	-	-	-	3.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.00	0.00	0.00	0.00
Warehouse	0	-	-	-	0.50	0.00	0.00	0.00
Distillation, grd.	6	0.005	0.20	<0.30	0.80	0.00	0.02	0.03
Distillation, upper	0	-	-	-	0.10	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.50	0.00	0.01	0.01
Acid area	3	<0.003	0.20	<0.15	0.30	0.00	0.01	0.01
K-350 area	3	<0.003	0.30	<0.10	0.05	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.05	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.05	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.05	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.10	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-80's + T-20's)	0	-	-	-	0.20	0.00	0.00	0.00
Check tanks (T-10's + T-10's)	0	-	-	-	0.20	0.00	0.00	0.00
T/H load rack	0	-	-	-	0.70	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.30	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.30	0.00	0.00	0.00
	21				8.00	0.00	0.04	0.00

DO 097494
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Sr. Operations Technician

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric Acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.10	0.00	0.00	0.00
Control room	0	-	-	-	1.00	0.00	0.00	0.00
Lab	0	-	-	-	0.90	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.00	0.00	0.00	0.00
Warehouse	0	-	-	-	0.90	0.00	0.00	0.00
Distillation, grid.	6	0.005	0.20	<0.30	0.50	0.00	0.01	0.02
Distillation, upper	0	-	-	-	0.10	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.80	0.00	0.02	0.02
Acid area	3	<0.003	0.20	<0.15	0.10	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.30	0.00	0.01	0.00
Lewis Unit deck	0	-	-	-	0.30	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.20	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.10	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.20	0.00	0.01	0.00
E-200 deck	0	-	-	-	0.20	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-804's, T-806's)	0	-	-	-	0.80	0.00	0.00	0.00
Check tanks (T-104's, T-106's)	0	-	-	-	0.40	0.00	0.00	0.00
T/H Load rack	0	-	-	-	0.60	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.20	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.20	0.00	0.00	0.00
	21				8.00	0.00	0.05	0.00

DO 097495
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Operations Specialist

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.40	0.00	0.00	0.00
Control room	0	-	-	-	6.10	0.00	0.00	0.00
Lab	0	-	-	-	0.20	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.05	0.00	0.00	0.00
Warehouse	0	-	-	-	0.25	0.00	0.00	0.00
Distillation, grd.	6	0.005	0.20	<0.30	0.20	0.00	0.01	0.01
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (filters)	3	<0.002	0.20	<0.20	0.30	0.00	0.01	0.01
Acid area	3	<0.003	0.20	<0.15	0.05	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.05	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.05	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.40	0.60	0.05	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.00	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-804's, T-806's)	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-104's, T-106's)	0	-	-	-	0.05	0.00	0.00	0.00
TH load rack	0	-	-	-	0.10	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.05	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.05	0.00	0.00	0.00
	21				8.00	0.00	0.02	0.00

DO 097496
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Shift Supervisor

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area	No. of SAMPLES	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.80	0.00	0.00	0.00
Control room	0	-	-	-	3.40	0.00	0.00	0.00
Lab	0	-	-	-	0.70	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.10	0.00	0.00	0.00
Warehouse	0	-	-	-	0.60	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.50	0.00	0.01	0.02
Distillation, upper	0	-	-	-	0.10	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.40	0.00	0.01	0.01
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.10	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.40	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.05	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.20	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.10	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-804's, T-805)	0	-	-	-	0.30	0.00	0.00	0.00
Check tanks (T-104's, T-101)	0	-	-	-	0.10	0.00	0.00	0.00
TA load rack	0	-	-	-	0.05	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
21					8.00	0.00	0.02	0.00

DO 097497
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Not: EDO Supervisor

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	3.20	0.00	0.00	0.00
Control room	0	-	-	-	0.80	0.00	0.00	0.00
Lab	0	-	-	-	0.30	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.40	0.00	0.00	0.00
Warehouse	0	-	-	-	1.40	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.30	0.00	0.01	0.01
Distillation, upper	0	-	-	-	0.05	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.20	0.00	0.01	0.01
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.30	0.00	0.01	0.00
Lewis Unit deck	0	-	-	-	0.20	0.00	0.00	0.00
Lewis above Lewis U.	0	-	-	-	0.05	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.30	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.20	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.05	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-800's + T-800's)	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-100's + T-100's)	0	-	-	-	0.05	0.00	0.00	0.00
TK Load rack	0	-	-	-	0.05	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
21					8.00	0.00	0.03	0.00

DO 097498
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Not: EDO Millwright

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.20	0.00	0.00	0.00
Control room	0	-	-	-	0.40	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.10	0.00	0.00	0.00
Warehouse	0	-	-	-	4.00	0.00	0.00	0.00
Distillation, qnd.	6	0.005	0.20	<0.30	0.50	0.00	0.01	0.02
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.25	0.00	0.01	0.01
Acid area	3	<0.003	0.20	<0.15	1.00	0.00	0.03	0.00
K-350 area	3	<0.003	0.30	<0.10	0.70	0.00	0.03	0.01
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.00
Level above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.20	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.20	0.00	0.01	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.30	0.00	0.00	0.00
Check tanks (T-80's, T-80's)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-10's, T-10's)	0	-	-	-	0.05	0.00	0.00	0.00
TK load rack	0	-	-	-	0.00	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
21					8.00	0.00	0.09	0.10

DO 097499
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Not: EDO
Misc. Maintenance

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.50	0.00	0.00	0.00
Control room	0	-	-	-	0.40	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.50	0.00	0.00	0.00
Warehouse	0	-	-	-	3.30	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.25	0.00	0.01	0.01
Distillation, upper	0	-	-	-	0.10	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.60	0.00	0.02	0.02
Acid area	3	<0.003	0.20	<0.15	0.30	0.00	0.01	0.01
K-350 area	3	<0.003	0.30	<0.10	0.30	0.00	0.01	0.00
Lewis Unit deck	0	-	-	-	0.20	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.30	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.30	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.30	0.00	0.01	0.00
E-200 deck	0	-	-	-	0.20	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-804's, T-204's)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-104's, T-101)	0	-	-	-	0.10	0.00	0.00	0.00
T/H load rack	0	-	-	-	0.10	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.05	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.05	0.00	0.00	0.00
	21				8.00	0.00	0.06	0.00

DO 097500
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Secretary

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	7.65	0.00	0.00	0.00
Control room	0	-	-	-	0.25	0.00	0.00	0.00
Lab	0	-	-	-	0.10	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.00	0.00	0.00	0.00
Warehouse	0	-	-	-	0.00	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.00	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.00	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.00	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.00	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.00	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-804's + T-805)	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-104's + T-101)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
	21				8.00	0.00	0.00	0.00

DO 097501
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Instrument Specialist

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area	No. of SAMPLES	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.10	0.00	0.00	0.00
Control room	0	-	-	-	1.50	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	3.50	0.00	0.00	0.00
Warehouse	0	-	-	-	0.15	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.50	0.00	0.01	0.01
Distillation, upper	0	-	-	-	0.15	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.05	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.05	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.10	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.20	0.00	0.00	0.0
Levels above Lewis U.	0	-	-	-	0.10	0.00	0.00	0.0
Waste Heat Boiler	3	<0.002	0.10	0.60	0.30	0.00	0.00	0.0
R-200 + R-300	3	<0.003	0.20	0.70	0.70	0.00	0.02	0.0
E-200 deck	0	-	-	-	0.20	0.00	0.00	0.0
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.0
Check tanks (T-804's + T-805)	0	-	-	-	0.10	0.00	0.00	0.0
Check tanks (T-104's + T-101)	0	-	-	-	0.10	0.00	0.00	0.0
T/H Load rack	0	-	-	-	0.05	0.00	0.00	0.0
T/H Load rack (front)	0	-	-	-	0.05	0.00	0.00	0.0
T/H Load rack (back)	0	-	-	-	0.05	0.00	0.00	0.0
	21				8.00	0.00	0.03	0.0

DO 097502
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: *Labore*

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of SAMPLES	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	3.00	0.00	0.00	0.00
Control room	0	-	-	-	0.50	0.00	0.00	0.00
Lab	0	-	-	-	0.10	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.20	0.00	0.00	0.00
Warehouse	0	-	-	-	1.70	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.40	0.00	0.01	0.02
Distillation, upper	0	-	-	-	0.05	0.00	0.00	0.00
V-800 ¹ / ₂ (Filters)	3	<0.002	0.20	<0.20	0.10	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.30	0.00	0.01	0.00
Lewis Unit deck	0	-	-	-	0.10	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.10	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.30	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.30	0.00	0.01	0.00
E-200 deck	0	-	-	-	0.50	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-80 ¹ / ₂ + T-80 ¹ / ₂)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-10 ¹ / ₂ + T-10 ¹ / ₂)	0	-	-	-	0.05	0.00	0.00	0.00
TH Load rack	0	-	-	-	0.05	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.05	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.05	0.00	0.00	0.00
21					8.00	0.00	0.03	0.00

DO 097503
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Computer Analyst

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

Area	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	7.00	0.00	0.00	0.00
Control room	0	-	-	-	1.00	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.00	0.00	0.00	0.00
Warehouse	0	-	-	-	0.00	0.00	0.00	0.00
Distillation, gnd.	0	0.005	0.20	<0.30	0.00	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (Filters)		<0.002	0.20	<0.20	0.00	0.00	0.00	0.00
Acid area		<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area		<0.003	0.30	<0.10	0.00	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler		<0.002	0.10	0.60	0.00	0.00	0.00	0.00
R-200 + R-300		<0.003	0.20	0.70	0.00	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-80's + T-80's)	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-10's + T-10's)	0	-	-	-	0.00	0.00	0.00	0.00
TK Load rack	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
		DO 097504 CONFIDENTIAL			8.00	0.00	0.00	0.00

ENVIRONMENTAL HEALTH SURVEY

Job: Fitters & Ironworkers

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.15	0.00	0.00	0.00
Control room	0	-	-	-	0.30	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.05	0.00	0.00	0.00
Warehouse	0	-	-	-	3.40	0.00	0.00	0.00
Distillation, ground.	6	0.005	0.20	<0.30	0.50	0.00	0.01	0.02
Distillation, upper	0	-	-	-	0.50	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.10	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.20	0.00	0.01	0.01
K-350 area	3	<0.003	0.30	<0.10	0.75	0.00	0.03	0.0
Lewis Unit deck	0	-	-	-	0.20	0.00	0.00	0.0
Levels above Lewis U.	0	-	-	-	0.20	0.00	0.00	0.0
Waste Heat Boiler	3	<0.002	0.10	0.60	0.50	0.00	0.01	0.0
R-200 + R-300	3	<0.003	0.20	0.70	0.70	0.00	0.02	0.0
E-200 deck	0	-	-	-	0.20	0.00	0.00	0.0
Riverwater pump area	0	-	-	-	0.10	0.00	0.00	0.0
Check tanks (T-80's & T-80's)	0	-	-	-	0.05	0.00	0.00	0.0
Check tanks (T-10's & T-10's)	0	-	-	-	0.05	0.00	0.00	0.0
T/H load rack	0	-	-	-	0.05	0.00	0.00	0.0
T/H load rack (front)	0	-	-	-	0.00	0.00	0.00	0.0
T/H load rack (back)	0	-	-	-	0.00	0.00	0.00	0.0
	21	DO 097505 CONFIDENTIAL			8.00	0.00	0.08	0.1

ENVIRONMENTAL HEALTH SURVEY

Job: Electrician

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.70	0.00	0.00	0.00
Control room	0	-	-	-	1.50	0.00	0.00	0.00
Lab	0	-	-	-	0.05	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.60	0.00	0.00	0.00
Warehouse	0	-	-	-	2.05	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.70	0.00	0.02	0.03
Distillation, upper	0	-	-	-	0.05	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.05	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.05	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.60	0.00	0.02	0.01
Lewis Unit deck	0	-	-	-	0.60	0.00	0.00	0.00
Level above Lewis U.	0	-	-	-	0.05	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.30	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.50	0.00	0.01	0.00
E-200 deck	0	-	-	-	0.05	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-804's, T-805's)	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-104's, T-105's)	0	-	-	-	0.05	0.00	0.00	0.00
T/H Load rack	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
	21				8.00	0.00	0.05	0.00

DO 097506
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Material Controller

CHEMICALS:

Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.15	0.00	0.00	0.00
Control room	0	-	-	-	0.40	0.00	0.00	0.00
Lab	0	-	-	-	0.00	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.05	0.00	0.00	0.00
Warehouse	0	-	-	-	7.00	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.05	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (filters)	3	<0.002	0.20	<0.20	0.00	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.05	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.00
Lewis above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.00	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.05	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-804's + T-805)	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-104's + T-101)	0	-	-	-	0.20	0.00	0.00	0.00
T/H load rack	0	-	-	-	0.00	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
	21				8.00	0.00	0.00	0.00

DO 097507
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Not: Technical

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	4.90	0.00	0.00	0.00
Control room	0	-	-	-	1.50	0.00	0.00	0.00
Lab	0	-	-	-	0.20	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.10	0.00	0.00	0.00
Warehouse	0	-	-	-	0.20	0.00	0.00	0.00
Distillation, gond.	6	0.005	0.20	<0.30	0.10	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.10	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.10	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.10	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.10	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.20	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.10	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-80's + T-80's)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-10's + T-10's)	0	-	-	-	0.10	0.00	0.00	0.00
T/H Load rack	0	-	-	-	0.10	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.00	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.00	0.00	0.00	0.00
	21	DO 097508 CONFIDENTIAL			8.00	0.00	0.00	0.00

ENVIRONMENTAL HEALTH SURVEY

Job: Environmental Specialist

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	2.00	0.00	0.00	0.00
Control room	0	-	-	-	0.25	0.00	0.00	0.00
Lab	0	-	-	-	4.30	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.10	0.00	0.00	0.00
Warehouse	0	-	-	-	0.10	0.00	0.00	0.00
Distillation, ground.	6	0.005	0.20	<0.30	0.10	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.05	0.00	0.00	0.00
V-800's (filters)	3	<0.002	0.20	<0.20	0.05	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.05	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.05	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.05	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.10	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.10	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.05	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.05	0.00	0.00	0.00
Check tanks (T-804's + T-805)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-104's + T-101)	0	-	-	-	0.10	0.00	0.00	0.00
TH load rack	0	-	-	-	0.20	0.00	0.00	0.00
T/H load rack (front)	0	-	-	-	0.10	0.00	0.00	0.00
T/H load rack (back)	0	-	-	-	0.10	0.00	0.00	0.00
	21				8.00	0.00	0.00	0.00

DO 097509
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Sr. Asst. Chemist

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

Area	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs.)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.50	0.00	0.00	0.00
Control room	0	-	-	-	0.50	0.00	0.00	0.00
Lab	0	-	-	-	5.80	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.05	0.00	0.00	0.00
Warehouse	0	-	-	-	0.10	0.00	0.00	0.00
Distillation, grid.	6	0.005	0.20	<0.30	0.05	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800 ¹ / ₂ (Filters)	3	<0.002	0.20	<0.20	0.05	0.00	0.00	0.00
Acid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.00	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.00
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.00
Waste Heat Boiler	3	<0.002	0.10	0.60	0.00	0.00	0.00	0.00
R-200 + R-300	3	<0.003	0.20	0.70	0.05	0.00	0.00	0.00
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.00
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.00
Check tanks (T-80 ¹ / ₂ & T-80 ¹ / ₂)	0	-	-	-	0.10	0.00	0.00	0.00
Check tanks (T-100 ¹ / ₂ & T-100)	0	-	-	-	0.10	0.00	0.00	0.00
T/H Load rack	0	-	-	-	0.50	0.00	0.00	0.00
T/H Load rack (front)	0	-	-	-	0.10	0.00	0.00	0.00
T/H Load rack (back)	0	-	-	-	0.10	0.00	0.00	0.00
	21				8.00	0.00	0.00	0.00

DO 097510
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

Job: Loading Coordinator

CHEMICALS: Chlorine
Hydrochloric acid
Sulfuric acid

(Area)	No. of Samples	Avg. mg/m ³ in area			Avg. time Spent in Area (Hrs)	TWA, mg/m ³		
		Cl ₂	HCl	H ₂ SO ₄		Cl ₂	HCl	H ₂ SO ₄
Office	0	-	-	-	0.60	0.00	0.00	0.00
Control room	0	-	-	-	0.80	0.00	0.00	0.00
Lab	0	-	-	-	4.10	0.00	0.00	0.00
Instrument shop	0	-	-	-	0.00	0.00	0.00	0.00
Warehouse	0	-	-	-	0.10	0.00	0.00	0.00
Distillation, gnd.	6	0.005	0.20	<0.30	0.00	0.00	0.00	0.00
Distillation, upper	0	-	-	-	0.00	0.00	0.00	0.00
V-800's (Filters)	3	<0.002	0.20	<0.20	0.00	0.00	0.00	0.00
Apid area	3	<0.003	0.20	<0.15	0.00	0.00	0.00	0.00
K-350 area	3	<0.003	0.30	<0.10	0.00	0.00	0.00	0.00
Lewis Unit deck	0	-	-	-	0.00	0.00	0.00	0.0
Levels above Lewis U.	0	-	-	-	0.00	0.00	0.00	0.0
Waste Heat Boiler	3	<0.002	0.10	0.60	0.00	0.00	0.00	0.0
R-200 + R-300	3	<0.003	0.20	0.70	0.00	0.00	0.00	0.0
E-200 deck	0	-	-	-	0.00	0.00	0.00	0.0
Riverwater pump area	0	-	-	-	0.00	0.00	0.00	0.0
Check tanks (T-80's + T-80's)	0	-	-	-	0.30	0.00	0.00	0.0
Check tanks (T-10's + T-10's)	0	-	-	-	0.20	0.00	0.00	0.0
TH Load rack	0	-	-	-	1.10	0.00	0.00	0.0
TH Load rack (front)	0	-	-	-	0.30	0.00	0.00	0.0
TH Load rack (back)	0	-	-	-	0.40	0.00	0.00	0.0
	21				8.00	0.00	0.00	0.0

DO 097511
CONFIDENTIAL

FILLED IN RA EMPLOYEE EXPOSURE SUMMARY DR# 9999-0215 QUARTER 350 YEAR 198
 PLANT CMP BLOCK 46 STRESS Trichloroethane MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1235		4	<0.1	<0.1		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		1235		5	<0.1	<0.1											
04	OS		1235		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		1235		6	<0.1	<0.1											
06	EDO		12345		10	<0.1	<0.1		0.5 to 2.0 hr	5	<0.1	<0.1						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	<0.1											
10	INSTR		12.5		7	<0.1	<0.1											
11	LABORER		1235		4	<0.1	<0.1											
13	CONT MAINT		12345		8	<0.1	<0.1											
16	MATL CONT		65		2	<0.1	<0.1		0.5 hr	1	<0.1	<0.1						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		12.5		7	<0.1	<0.1											
28	CHEMIST		12.5		6	<0.1	<0.1											
29	SET SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		12345		5	<0.1	<0.1		0.8 to 1.5 hr	2	<0.1	<0.1						

DO 097513
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (Use reverse side)

DO 097513
CONFIDENTIAL

FILLED IN RGJ EMPLOYEE EXPOSURE SUMMARY QUARTER 198 YEAR 198
 PLANT CMP BLOCK 46 DR# 0001-5849 IHG 100 ppm
 STRESS Methylene Chloride MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		123.5		4	0.2	0.7		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		123.5		5	<0.1	0.2											
04	OS		123.5		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		123.5		6	<0.1	<0.1											
06	EDO		123.5		10	0.4	2.5		0.5 to 2.0 hr	5	4.0	18.6						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	0.1											
10	INSTR		12.5		7	<0.1	<0.1											
11	LABORER		123.5		4	<0.1	<0.1											
13	CONT MAINT		123.5		8	<0.1	0.1											
16	MATL CONT		1.5		2	<0.1	<0.1		0.5 hr	1	0.2	0.2						
19	MGRS/NON-OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		12.5		7	<0.1	<0.1											
28	CHEMIST SET		12.5		6	0.1	0.5											
29	SUPV.	-	-	-	-	-	-	-										
30	SLEEP/Loading COORD.		124.5		5	<0.1	0.2		0.5 to 1.5 hr	2	<0.1	<0.1						

DO 097514
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RA CMPC PLANT CMPC BLOCK 46 B-trichloroethane DR# DD2-3687 QUARTER 10 YEAR 198
 STRESS MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm IHG 10 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		12,3,5		4	<0.1	<0.1		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		12,3,5		5	<0.1	<0.1											
04	OS		12,3,5		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		12,3,5		6	<0.1	<0.1											
06	EDO		123,4,5		10	<0.1	<0.1		0.5 to 2.0 hr	5	0.2	0.4						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	<0.1											
10	INSTR		1,2,5		7	<0.1	<0.1											
11	LABORER		1,2,3,5		4	<0.1	<0.1											
13	CONT MAINT		123,4,5		8	<0.1	<0.1											
16	MATL CONT		1,5		2	<0.1	<0.1		0.5 hr	1	1.8	1.8						
19	MGRS/NON-OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		1,2,5		7	<0.1	<0.1											
28	CHEMIST SET		1,2,3,5		6	<0.1	<0.1											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		1,2,4,5		5	<0.1	<0.1		0.5 to 1.5 hr	2	<0.1	<0.1						

DO 097515
CONFIDENTIAL

DO 097515
 CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RJB EMPLOYEE EXPOSURE SUMMARY
 PLANT CMP BLOCK 46 DR# 0002-3654 QUARTER 5 YEAR 198
 STRESS Carbon tetrachloride MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm IHC 5 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1,2,3,5		4	<0.1	<0.1		0.25 to 0.5 hr	2	1.0	1.9						
03	SOT		1,2,3,5		5	0.1	0.2											
04	OS		1,2,3,5		6	0.3	1.5		0.8 hr	1	0.2	0.2						
05	SS		1,2,3,5		6	0.5	1.9											
06	EDO		1,2,3,4,5		10	0.3	1.4		0.5 to 2.0 hr	5	1.0	3.7						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	0.1	0.2											
10	INSTR		1,2,5		7	0.1	0.5											
11	LABORER		1,2,3,5		4	0.2	0.5											
13	CONT MAINT		1,2,3,4,5		8	<0.1	<0.1											
16	MATL CONT		1,5		2	<0.1	<0.1		0.5 hr	1	0.2	0.2						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		1,2,5		7	<0.1	0.1											
28	CHEMIST SET		1,2,5		6	0.3	1.3											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		1,2,4,5		5	0.1	0.5		0.8 to 1.5 hr	2	<0.1	<0.1						

DO 097516
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (Use reverse side)

DO 097516
CONFIDENTIAL

FILLED IN RG EMPLOYEE EXPOSURE SUMMARY
 PLANT CMP BLOCK 46 STRESS Chlorine DR# 0006-7834 QUARTER 3 YEAR 198
 MINIMAL DETECTABLE LIMIT AND UNIT 0.001 mg/m³ IHG 3 mg/m³ C

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-						7-8 hrs	12			
02	OT		12,35													<0.001	0.005	
03	SOT		12,35													<0.001	0.005	
04	OS		12,35													<0.001	0.005	
05	SS		12,35													<0.001	0.005	
06	EDO		12,35													<0.001	0.005	
07	LAB	-	-	-	-	-	-	-								-	-	
09	CLER.		1													<0.001	<0.001	
10	INSTR		12,5													<0.001	0.005	
11	LABORER		12,35													<0.001	0.005	
13	CONT MAINT		12,35													<0.001	0.005	
16	MATL CONT		1,5													<0.001	0.005	
19	MGRS/NON-OP	-	-	-	-	-	-	-								-	-	
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-								-	-	
24	MFG.	-	-	-	-	-	-	-								-	-	
26	TECH		12,5													<0.001	0.005	
28	CHEMIST		12,5													<0.001	0.005	
29	SET SUPV.	-	-	-	-	-	-	-								-	-	
30	SHIP Loading COORD.		12,45													<0.001	<0.001	

DO 097517
 CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RA EMPLOYEE EXPOSURE SUMMARY QUARTER 198
 PLANT CMP BLOCK 46 STRESS Chloroform DR# 0002-3609 IHG 10 ppm
 MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		12,3,5		4	<0.1	<0.1		0.25 to 0.5 hr	2	1.0	2.0						
03	SOT		12,3,5		5	<0.1	0.2											
04	OS		12,3,5		6	<0.1	0.1		0.8 hr	1	<0.1	<0.1						
05	SS		12,3,5		6	<0.1	0.1											
06	EDO		12,3,4,5		10	0.1	0.7		0.5 to 2.0 hr	5	<0.1	<0.1						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	0.1											
10	INSTR		12,5		7	<0.1	0.1											
11	LABORER		12,3,5		4	<0.1	0.1											
13	CONT		12,3,4,5		8	<0.1	0.1											
16	MAINT		1,5		2	<0.1	<0.1		0.5 hr	1	4.1	4.1						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG.	-	-	-	-	-	-	-										
26	MFG TECH		12,3,5		7	<0.1	0.1											
28	CHEMIST		12,3,5		6	<0.1	0.1											
29	SET SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		12,3,5		5	<0.1	0.1		0.5 to 1.5 hr	2	<0.1	<0.1						

DO 097518
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (Use reverse side)

DO 097518
CONFIDENTIAL

FILLED IN RG CMPC BLOCK 46 1,1-dichloroethane DR# 2999-0189 QUARTER 198 YEAR 198
 PLANT CMPC BLOCK 46 STRESS MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm IHG 200 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1235		4	<0.1	<0.1		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		1235		5	<0.1	<0.1											
04	OS		1235		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		1235		6	<0.1	<0.1											
06	EDO		12345		10	<0.1	<0.1		0.5 to 2.0 hr	5	<0.1	<0.1						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	<0.1											
10	INSTR		12,5		7	<0.1	<0.1											
11	LABORER		1235		4	<0.1	<0.1											
13	CONT MAINT		12345		8	<0.1	<0.1											
16	MATL CONT		1,5		2	<0.1	<0.1		0.5 hr	1	<0.1	<0.1						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		12,5		7	<0.1	<0.1											
28	CHEMIST SET		12,5		6	<0.1	<0.1											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		12,45		5	<0.1	<0.1		0.8 to 1.5 hr	2	<0.1	<0.1						

DO 097519
CONFIDENTIAL

DO 097519
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RA EMPLOYEE EXPOSURE SUMMARY DR. 0005-5481 QUARTER 198
 PLANT CMP BLOCK 46 STRESS Dimethyl Ethyl MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm IHG 400 ppm YEAR 198

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		12,35		4	<0.1	<0.1		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		12,35		5	<0.1	<0.1											
04	OS		12,35		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		12,35		6	<0.1	<0.1											
06	EDO		12,35		10	<0.1	<0.1		0.5 to 2.0 hr	5	<0.1	<0.1						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	<0.1											
10	INSTR		12,5		7	<0.1	<0.1											
11	LABORER		12,35		4	<0.1	<0.1											
13	CONT MAINT		12,35		8	<0.1	<0.1											
16	MATL CONT		1,5		2	<0.1	<0.1		0.5 hr	1	<0.1	<0.1						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		12,5		7	<0.1	<0.1											
28	CHEMIST SET		12,5		6	<0.1	<0.1											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		12,45		5	<0.1	<0.1		0.8 to 1.5 hr	2	<0.1	<0.1						

DO 097520
CONFIDENTIAL

DO 097520
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RAJ EMPLOYEE EXPOSURE SUMMARY QUARTER 198
 PLANT CMPV BLOCK 46 DR# 0001-8531 IHG 10 ppm
 STRESS Ethylene dichloride MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1,2,3,5		4	<0.1	<0.1		0.25 to 0.5 hr	2	<0.1	<0.1						
03	SOT		1,2,3,5		5	<0.1	<0.1											
04	OS		1,2,3,5		6	<0.1	<0.1		0.8 hr	1	<0.1	<0.1						
05	SS		1,2,3,5		6	<0.1	<0.1											
06	EDO		1,2,3,4,5		10	<0.1	<0.1		0.5 to 2.0 hr	5	<0.1	<0.1						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.1	<0.1											
10	INSTR		1,2,5		7	<0.1	<0.1											
11	LABORER		1,2,3,5		4	<0.1	<0.1											
13	CONT MAINT		1,2,3,4,5		8	<0.1	<0.1											
16	MATL CONT		1,5		2	<0.1	<0.1		0.5 hr	1	<0.1	<0.1						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		1,2,5		7	0.1	0.4											
28	CHEMIST		1,2,5		6	<0.1	<0.1											
29	SET SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		1,2,4,5		5	<0.1	<0.1		0.5 to 1.5 hr	2	<0.1	<0.1						

DO 097521
CONFIDENTIAL

DO 097521
 CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN of RYS EMPLOYEE EXPOSURE SUMMARY
 PLANT CMP BLOCK 46 STRESS Hydrochloric acid DR# 0004-3845 QUARTER 7 YEAR 19E
 MINIMAL DETECTABLE LIMIT AND UNIT 0.01 mg/m³ IHG 7 mg/m³

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-						7-8 hrs	9			
02	OT		1235													0.04	0.30	
03	SOT		1235													0.05	0.30	
04	OS		1235													0.02	0.30	
05	SS		1235													0.03	0.30	
06	EDO		1235													0.08	0.30	
07	LAB	-	-	-	-	-	-	-								-	-	
09	CLER.		1													<0.01	<0.01	
10	INSTR		125													0.03	0.30	
11	LABORER		1235													0.03	0.30	
13	CONT MAINT		1235													0.07	0.30	
16	MATL CONT		65													<0.01	0.30	
19	MGRS/NON- OP	-	-	-	-	-	-	-								-	-	
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-								-	-	
24	MFG. MGR.	-	-	-	-	-	-	-								-	-	
26	MFG TECH		125													<0.01	0.30	
28	CHEMIST SET		125													<0.01	0.30	
29	SUPV.	-	-	-	-	-	-	-								-	-	
30	SHIP Loading COORD.		1245													<0.01	<0.01	

DO 097522
CONFIDENTIAL

DO 097522
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*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RRB EMPLOYEE EXPOSURE SUMMARY
 PLANT CMPC BLOCK 46 STRESS Methanol DR# 0002-3938 QUARTER 200 YEAR 198
 MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1,2,3,5		4	0.3	0.5		0.25 to 0.5 hr	2	0.6	1.3						
03	SOT		1,2,3,5		5	0.5	0.8											
04	OS		1,2,3,5		6	0.3	0.7		0.8 hr	1	<0.1	<0.1						
05	SS		1,2,3,5		6	0.1	0.3											
06	EDO		1,2,3,5		10	0.4	0.7		0.5 to 2.0 hr	5	0.1	0.3						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	0.4	0.9											
10	INSTR		1,2,5		7	0.3	0.6											
11	LABORER		1,2,3,5		4	0.5	0.7											
13	CONT MAINT		1,2,3,5		8	1.0	3.5											
16	MATL CONT		1,5		2	0.4	0.4		0.5 hr	1	0.5	0.5						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		1,2,5		7	0.4	1.0											
28	CHEMIST SET		1,2,5		6	0.3	0.5											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		1,2,4,5		5	0.3	0.5		0.8 to 1.5 hr	2	<0.1	<0.1						

DO 097523
CONFIDENTIAL

DO 097523
 CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RJB EMPLOYEE EXPOSURE SUMMARY DR# 002-3734 QUARTER 50 ppm YEAR 1987
 PLANT CMPV BLOCK 46 STRESS Methyl chloride MINIMAL DETECTABLE LIMIT AND UNIT 0.1 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		1,2,3,5		4	0.5	1.7		0.25 to 0.5 hr	2	3.2	3.5						
03	SOT		1,2,3,5		5	0.1	0.3											
04	OS		1,2,3,5		6	0.0	0.0		0.8 hr	1	0.9	0.9						
05	SS		1,2,3,5		6	0.5	2.8											
06	EDO		1,2,3,4,5		10	0.4	3.4		0.5 to 2.0 hr	5	1.0	3.9						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	0.2	0.3											
10	INSTR		1,2,5		7	0.0	0.2											
11	LABORER		1,2,3,5		4	0.1	0.4											
13	CONT MAINT		1,2,3,4,5		8	0.0	0.3											
16	MATL CONT		1,5		2	0.1	0.2		0.5 hr	1	1.7	1.7						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		1,2,5		7	0.0	0.2											
28	CHEMIST SET		1,2,5		6	0.2	0.6											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		1,2,4,5		5	0.3	0.9		0.8 to 1.5 hr	2	0.4	0.5						

DO 097524
CONFIDENTIAL

DO 097524
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS (Use reverse side)

FILLED IN RGJ EMPLOYEE EXPOSURE SUMMARY DR# 4999-0006 QUARTER 85 dBA YEAR 198
 PLANT CMP BLOCK 46 STRESS Noise MINIMAL DETECTABLE LIMIT AND UNIT 1% of 85 dBA

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		5		4	37	65											
03	SOT		5		6	27	63											
04	OS		5		7	06	17											
05	SS		5		6	08	25											
06	EDO		5		5	17	21											
07	LAB	-	-	-	-	-	-	-										
09	CLER.		5		3	01	01											
10	INSTR		5		6	14	34											
11	LABORER		5		3	35	58											
13	CONT MAINT		5		7	41	73											
16	MATL CONT		5		2	02	02											
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		5		7	10	38											
28	CHEMIST SET		5		4	04	08											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		5		4	12	27											

00 097525
CONFIDENTIAL

DO 097525
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (Use reverse side)

FILLED IN RJB
 PLANT CMP BLOCK 46

EMPLOYEE EXPOSURE SUMMARY

STRESS Sulfuric acid
 MINIMAL DETECTABLE LIMIT AND UNIT 0.1 mg/m³

QUARTER 1 YEAR 198
 IHG 1 mg/m³

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-						7-8 hrs	9			
02	OT		1235													0.1	0.7	
03	SOT		1235													0.1	0.7	
04	OS		1235													<0.1	0.7	
05	SS		1235													0.1	0.7	
06	EDO		1235													0.1	0.7	
07	LAB	-	-	-	-	-	-	-								-	-	
09	CLER.		1													<0.1	<0.1	
10	INSTR		125													0.1	0.7	
11	LABORER		1235													0.1	0.7	
13	CONT MAINT		1235													0.1	0.7	
16	MATL CONT		15													<0.1	<0.1	
19	MGRS/NON-OP	-	-	-	-	-	-	-								-	-	
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-								-	-	
24	MFG. MGR.	-	-	-	-	-	-	-								-	-	
26	MFG TECH		125													<0.1	0.7	
28	CHEMIST SET		125													<0.1	0.7	
29	SUPV. SLP Loading	-	-	-	-	-	-	-								-	-	
30	COORD.		1245													<0.1	<0.1	

DO 097526
 CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (Use reverse side)

FILLED IN RGTS EMPLOYEE EXPOSURE SUMMARY QUARTER 1 YEAR 1986
 PLANT CMPV BLOCK 46 DR# 0114-1986 IHG 1 ppm
 STRESS Vinyl Chloride MINIMAL DETECTABLE LIMIT AND UNIT 0.01 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT	-	-	-	-	-	-	-										
02	OT		123.5		4	0.01	0.03		0.25 to 0.5 hr	2	<0.01	<0.01						
03	SOT		123.5		5	<0.01	<0.01											
04	OS		12.5		6	0.03	0.20		0.8 hr	1	0.09	0.09						
05	SS		123.5		6	0.01	0.03											
06	EDO		123.45		10	0.03	0.34		0.5 to 2.0 hr	5	0.04	0.19						
07	LAB	-	-	-	-	-	-	-										
09	CLER.		1		4	<0.01	<0.01											
10	INSTR		12.5		7	0.01	0.05											
11	LABORER		123.5		4	<0.01	<0.01											
13	CONT MAINT		123.45		8	<0.01	0.03											
16	MATL CONT		6.5		2	<0.01	<0.01		0.5 hr	1	0.97	0.97						
19	MGRS/NON- OP	-	-	-	-	-	-	-										
20	AREA SAMP (NO JC)	-	-	-	-	-	-	-										
24	MFG. MGR.	-	-	-	-	-	-	-										
26	MFG TECH		12.5		7	0.01	0.05											
28	CHEMIST SET		12.5		6	0.04	0.23											
29	SUPV.	-	-	-	-	-	-	-										
30	SHIP Loading COORD.		12.45		5	<0.01	<0.01		0.8 to 1.5 hr	2	0.64	1.28						

DO 097527
CONFIDENTIAL

DO 097527
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 COMMENTS (Use reverse side)

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 1

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - INSTRUMENT 10
 NO. OF EMPLOYEE(S) - 6 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET# 1 2
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-1

RAW MATERIALS

CHLORINE	0006-7834	1 PPM-C	II	3	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	3	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES

ADDITIVES

AMYLENE	0137-3406	>18 % OXY	II	4	YES	YES
BETZ PHOSPHATE	9999-0134		II	4	NO	NO
BETZ SULFITE 3	0178-2009		II	4	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	II	4	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4	YES	YES

PRODUCTS & BY PRODUCTS

1,1 DICHLOROETHANE	0001-5894		II	4	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4	YES	YES
HEXACHLOROENZENE	0002-5310		II	3	NO	NO

 DO 097528
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 2*

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 INSTRUMENT 10

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
HYG. GUIDEDEG
OF
EXPHAZARD
RATINGDATA
SHEET*
1 2

PRODUCTS & BY PRODUCTS

HEXACHLOROBUTADIENE	0009-2375			II	3	NO	NO
HEXACHLOROETHANE	0002-3643	10	PPM	II	3	NO	NO
PHOSGENE	0006-2215	0.1	PPM	II	4	YES	YES
POLYETHYLENE POWDER	9999-0118	10	MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100	PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1	PPM	II	3	YES	YES
VINYLIENE CHLORIDE	0002-0611	10	PPM	II	4	YES	YES

PHYSICAL STRESSES

HEAT STRESS	9999-0007			II	4	NO	YES
NOISE	9999-0006	85	DBA	III	3	NO	YES

LAB

AMMONIA	0006-6342	25	PPM	I	5	YES	YES
CARBON DISULFIDE	9999-0037	10	PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036			I	5	YES	YES
METHANOL	0002-3938	200	PPM-S	II	4	YES	YES
ETHYLENE	0002-0779	5	PPM	I	5	YES	YES

PRODUCT

CHLOROFORM	0002-3609	10	PPM	II	3	YES	YES
METHYL CHLORIDE	0002-3734	50	PPM	II	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200	PPM(V)	II	3	NO	NO
ASBESTOS	0027-0713	2	FIBER	I	5	NO	NO
CARBON DIOXIDE	0015-9364	5000	PPM	II	4	YES	YES
CARBON MONOXIDE	0006-7867	50	PPM	II	4	NO	NO
CAUSTIC SODA	0007-9914	2	MG/M3	II	4	YES	YES
CHLOROTHENE NU	0124-2462	350	PPM	III	3	YES	YES
DOWTHERM G	0111-5384	1	PPM	II	4	YES	YES
FREON 12	0002-0575	1000	PPM	II	4	YES	YES
METHANE	0003-0206	18	%O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18	%O2	II	4	YES	YES
SULFURIC ACID	0009-3583	1	MG/M3	II	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MFI=MANUFACTURERS PRODUCT INFORMATION

DO 097529
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 3

AS OF: 06-81

 PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - LABORER/JANITORIAL 11
 NO. OF EMPLOYEE(S) - 2 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET# 1 2
RAW MATERIALS				
CHLORINE	0006-7834	1 PPM-C	II	3 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	3 YES YES
METHANOL	0002-3938	200 PPM-S	II	4 YES YES
ADDITIVES				
AMYLENE	0137-3406	>18 % OXY	II	4 YES YES
BETZ PHOSPHATE	9999-0134		II	4 NO NO
BETZ SULFITE 3	0178-2009		II	4 NO NO
CYCLOHEXANE	0002-0097	300 PPM	II	4 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4 YES YES
PRODUCTS & BY PRODUCTS				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4 NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4 NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	III	2 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	3 YES YES
HEXACHLOROBENZENE	0002-5310		III	2 NO NO
HEXACHLOROBUTADIENE	0009-2375		III	2 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	III	2 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

DO 097530
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 4

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 LABORER/JANITORIAL 11

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
 HYG. GUIDE

DEG
 OF
 EXP

HAZARD
 RATING

DATA
 SHEET*
 1 2

PRODUCTS & BY PRODUCTS

POLYETHYLENE POWDER	9999-0118	10	MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100	PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1	PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10	PPM	II	4	YES	YES

PHYSICAL STRESSES

HEAT STRESS	9999-0007			III	3	NO	YES
NOISE	9999-0006	85	DBA	III	3	NO	YES

LAB

AMMONIA	0006-6342	25	PPM	I	5	YES	YES
CARBON DISULFIDE	9999-0037	10	PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036			I	5	YES	YES
METHANOL	0002-3938	200	PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5	PPM	I	5	YES	YES

PRODUCT

CHLOROFORM	0002-3609	10	PPM	III	2	YES	YES
METHYL CHLORIDE	0002-3734	50	PPM	III	2	YES	YES
METHYLENE CHLORIDE	0001-5849	200	PPM(V	III	2	NO	NO
ASBESTOS	0027-0713	2	FIBER	III	3	NO	NO
CARBON DIOXIDE	0015-9364	5000	PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50	PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2	MG/M3	III	3	YES	YES
CHLOROTHENE NU	0124-2462	350	PPM	III	4	YES	YES
DOWTHERM G	0111-5384	1	PPM	II	4	YES	YES
FREON 12	0002-0575	1000	PPM	II	4	YES	YES
METHANE	0003-0206	18	%O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18	%O2	III	4	YES	YES
SULFURIC ACID	0009-3583	1	MG/M3	III	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 5

AS OF: 06-81

 PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - MAINTENANCE CONTRACT 13
 NO. OF EMPLOYEE(S) - 6 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*
				1 2
RAW MATERIALS -----				
CHLORINE	0006-7834	1 PPM-C	III	3 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	III	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	III	3 YES YES
METHANOL	0002-3938	200 PPM-S	III	4 YES YES
ADDITIVES -----				
AMYLENE	0137-3406	>18 % OXY	II	4 YES YES
BETZ PHOSPHATE	9999-0134		II	4 NO NO
BETZ SULFITE 3	0178-2009		II	4 NO NO
CYCLOHEXANE	0002-0097	300 PPM	II	4 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4 YES YES
PRODUCTS & BY PRODUCTS -----				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4 NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4 NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	III	3 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	III	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4 YES YES
HEXACHLOROBENZENE	0002-5310		III	3 NO NO
HEXACHLOROBUTADIENE	0009-2375		III	3 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	III	3 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

DO 097532
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 6

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - MAINTENANCE CONTRACT 13

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II	4	YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		III	4	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAB						
AMMONIA	0006-6342	25 PPM	I	4	YES	YES
CARBON DISULFIDE	9999-0037	10 PPM-S	I	4	YES	YES
KARL FISCHER REAGENT	9999-0036		I	4	YES	YES
METHANOL	0002-3938	200 PPM-S	III	4	YES	YES
PYRIDINE	0002-0779	5 PPM	I	4	YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	III	3	YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	III	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	III	3	NO	NO
ASBESTOS	0027-0713	2 FIBER	II	4	NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50 PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	II	4	YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	III	3	YES	YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES	YES
FREON 12	0002-0575	1000 PPM	II	4	YES	YES
METHANE	0003-0206	18 %O2>=	II	5	YES	YES
NITROGEN	0099-5755	>18 %O2	III	5	YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	III	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097533
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 7.

AS OF: 06-81

 PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - MATERIAL CONTROLLER 16
 NO. OF EMPLOYEE(S) - 1 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
RAW MATERIALS						
CHLORINE	0006-7834	1 PPM-C	II	4	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	4	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
ADDITIVES						
AMYLENE	0137-3406	>18 % OXY	III	4	YES	YES
BETZ PHOSPHATE	9999-0134		III	4	NO	NO
BETZ SULFITE 3	0178-2009		III	4	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	III	4	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	III	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4	YES	YES
PRODUCTS & BY PRODUCTS						
1,1 DICHLOROETHANE	0001-5894		II	4	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4	YES	YES
HEXACHLOROBENZENE	0002-5310		II	4	NO	NO
HEXACHLOROBUTADIENE	0009-2375		II	4	NO	NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	4	NO	NO
PHOSGENE	0006-2215	0.1 PPM	II	4	YES	YES

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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 8-

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 MATERIAL CONTROLLER 16

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II	4	YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		I	5	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAB						
AMMONIA	0006-6342	25 PPM	I	5	YES	YES
CARBON DISULFIDE	9999-0037	10 PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036		I	5	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5 PPM	I	5	YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	II	3	YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	II	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	II	3	NO	NO
ASBESTOS	0027-0713	2 FIBER	I	4	NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50 PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	III	3	YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	III	3	YES	YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES	YES
FREON 12	0002-0575	1000 PPM	II	4	YES	YES
METHANE	0003-0206	18 %O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18 %O2	II	5	YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	II	4	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSER. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097535
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 9

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - MFG TECHNICAL 26
 NO. OF EMPLOYEE(S) - 7 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
HYG. GUIDEDEG
OF
EXPHAZARD
RATINGDATA
SHEET*
1 2

RAW MATERIALS

CHLORINE	0006-7834	1	PPM-C	II	3	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400	PPM	II	4	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5	PPM-C	II	4	YES	YES
METHANOL	0002-3938	200	PPM-S	II	4	YES	YES

ADDITIVES

AMYLENE	0137-3406	>18 %	OXY	II	4	YES	YES
BETZ PHOSPHATE	9999-0134			II	4	NO	NO
BETZ SULFITE 3	0178-2009			II	4	NO	NO
CYCLOHEXANE	0002-0097	300	PPM	II	4	YES	YES
FERRIC CHLORIDE	0004-7143	1	MG/M3	II	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20	PPM	II	4	YES	YES

PRODUCTS & BY PRODUCTS

1,1 DICHLOROETHANE	0001-5894			II	4	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100	PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10	PPM-S	II	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1	PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200	PPM	II	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001	PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10	PPM-S	II	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1	PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10	PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400	PPM	II	4	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10	PPM	II	4	YES	YES
HEXACHLOROBENZENE	0002-5310			II	3	NO	NO
HEXACHLOROBUTADIENE	0009-2375			II	3	NO	NO
HEXACHLOROETHANE	0002-3643	10	PPM	II	3	NO	NO
PHOSGENE	0006-2215	0.1	PPM	II	4	YES	YES

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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 10

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 MFG TECHNICAL 26

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II	4	YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		I	5	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAB						
AMMONIA	0006-6342	25 PPM	III	3	YES	YES
CARBON DISULFIDE	9999-0037	10 PPM-S	II	4	YES	YES
KARL FISCHER REAGENT	9999-0036		II	4	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5 PPM	II	4	YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	II	3	YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	II	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	II	3	NO	NO
ASBESTOS	0027-0713	2 FIBER	I	5	NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	4	YES	YES
CARBON MONOXIDE	0006-7867	50 PPM	II	4	NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	II	4	YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	II	4	YES	YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES	YES
FREON 12	0002-0575	1000 PPM	II	4	YES	YES
METHANE	0003-0206	18 %O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18 %O2	II	4	YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	II	4	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097537
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 11.

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - CHEMIST 28
 NO. OF EMPLOYEE(S) - 2 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
RAW MATERIALS						
CHLORINE	0006-7834	1 PPM-C	II	3	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	3	YES	YES
METHANOL	0002-3938	200 PPM-S	III	4	YES	YES
ADDITIVES						
AMYLENE	0137-3406	>18 % OXY	III	4	YES	YES
BETZ PHOSPHATE	9999-0134		II	5	NO	NO
BETZ SULFITE 3	0178-2009		II	5	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	III	4	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	III	4	YES	YES
PRODUCTS & BY PRODUCTS						
1,1 DICHLOROETHANE	0001-5894		III	4	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	III	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	III	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	III	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	III	3	YES	YES
HEXACHLOROBENZENE	0002-5310		II	4	NO	NO
HEXACHLOROBUTADIENE	0009-2375		II	4	NO	NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	4	NO	NO
PHOSGENE	0006-2215	0.1 PPM	II	4	YES	YES

 DO 097538
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 12

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - CHEMIST 28

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET# 1 2
PRODUCTS & BY PRODUCTS					
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO NO
TRICHLOROETHYLENE	0114-1997	100 PPM	III	4	YES YES
VINYL CHLORIDE	0114-1986	1 PPM	III	3	YES YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	III	4	YES YES
PHYSICAL STRESSES					
HEAT STRESS	9999-0007		I	5	NO YES
NOISE	9999-0006	85 DBA	III	3	NO YES
LAB					
AMMONTA	0006-6342	25 PPM	III	3	YES YES
CARBON DISULFIDE	9999-0037	10 PPM-S	III	2	YES YES
KARL FISCHER REAGENT	9999-0036		III	4	YES YES
METHANOL	0002-3938	200 PPM-S	III	4	YES YES
PYRIDINE	0002-0779	5 PPM	III	4	YES YES
PRODUCT					
CHLOROFORM	0002-3609	10 PPM	III	3	YES YES
METHYL CHLORIDE	0002-3734	50 PPM	III	3	YES YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	III	3	NO NO
ASBESTOS	0027-0713	2 FIBER	I	4	NO NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	5	YES YES
CARBON MONOXIDE	0006-7867	50 PPM	II	5	NO NO
CAUSTIC SODA	0007-9914	2 MG/M3	II	4	YES YES
CHLOROTHENE NU	0124-2462	350 PPM	III	4	YES YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES YES
FREON 12	0002-0575	1000 PPM	II	4	YES YES
METHANE	0003-0206	18 %O2>=	II	5	YES YES
NITROGEN	0099-5755	>18 %O2	III	4	YES YES
SULFURIC ACID	0009-3583	1 MG/M3	III	3	YES YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097539
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 13

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - SHIPPING COORDINATOR 30
 NO. OF EMPLOYEE(S) - 1 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
RAW MATERIALS						
CHLORINE	0006-7834	1 PPM-C	II	3	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	3	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
ADDITIVES						
AMYLENE	0137-3406	>18 % OXY	III	4	YES	YES
BETZ PHOSPHATE	9999-0134		II	4	NO	NO
BETZ SULFITE 3	0178-2009		II	4	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	III	4	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	III	4	YES	YES
PRODUCTS & BY PRODUCTS						
1,1 DICHLOROETHANE	0001-5894		III	3	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	III	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4	YES	YES
HEXACHLOROBENZENE	0002-5310		II	3	NO	NO
HEXACHLOROBUTADIENE	0009-2375		II	3	NO	NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	3	NO	NO
PHOSGENE	0006-2215	0.1 PPM	II	4	YES	YES

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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 14.

AS OF: 06-81

 PLANT NAME/BLDG, NO. - METHANES, 4601
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - SHIPPING COORDINATOR 30

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET* 1 2
PRODUCTS & BY PRODUCTS					
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II	4	YES YES
PHYSICAL STRESSES					
HEAT STRESS	9999-0007		II	4	NO YES
NOISE	9999-0006	85 DBA	III	3	NO YES
LAB					
AMMONIA	0006-6342	25 PPM	I	5	YES YES
CARBON DISLFIDE	9999-0037	10 PPM-S	II	4	YES YES
KARL FISCHER REAGENT	9999-0036		III	3	YES YES
METHANOL	0002-3938	200 PPM-S	II	4	YES YES
PYRIDINE	0002-0779	5 PPM	III	3	YES YES
PRODUCT					
CHLOROFORM	0002-3609	10 PPM	III	2	YES YES
METHYL CHLORIDE	0002-3734	50 PPM	III	2	YES YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	III	2	NO NO
ASBESTOS	0027-0713	2 FIBER	I	5	NO NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	4	YES YES
CARBON MONXIDE	0006-7867	50 PPM	II	4	NO NO
CAUSTIC SODA	0007-9914	2 MG/M3	II	4	YES YES
CHLOROTHENE NU	0124-2462	350 PPM	II	4	YES YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES YES
FREON 12	0002-0575	1000 PPM	II	4	YES YES
METHANE	0003-0206	18 %O2>=	II	4	YES YES
NITROGEN	0099-5755	>18 %O2	III	4	YES YES
SULFURIC ACID	0009-3583	1 MG/M3	II	4	YES YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097541
 CONFIDENTIAL

INDUSTRIAL HYGIENE INVENTORY

PAGE 15

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - OPERATIONS TECHNICIAN 02
 NO. OF EMPLOYEE(S) - 6 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*
				1 2
RAW MATERIALS				
CHLORINE	0006-7834	1 PPM-C	II	3 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	III	3 YES YES
METHANOL	0002-3938	200 PPM-S	II	4 YES YES
ADDITIVES				
AMYLENE	0137-3406	>18 % OXY	II	4 YES YES
BETZ PHOSPHATE	9999-0134		II	4 NO NO
BETZ SULFITE 3	0178-2009		II	4 NO NO
CYCLOHEXANE	0002-0097	300 PPM	II	4 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	III	4 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4 YES YES
PRODUCTS & BY PRODUCTS				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4 NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4 NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	III	3 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4 YES YES
HEXACHLOROBENZENE	0002-5310		II	3 NO NO
HEXACHLOROBUTADIENE	0009-2375		II	3 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	3 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

 DO 097542
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 16

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - OPERATIONS TECHNICIAN 02

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES	YES
VINYLDENE CHLORIDE	0002-0611	10 PPM	II	4	YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		III	3	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAB						
AMMONIA	0006-6342	25 PPM	III	3	YES	YES
CARBON DISLFIDE	9999-0037	10 PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036		III	3	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5 PPM	II	4	YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	III	2	YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	III	2	YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	III	2	NO	NO
ASBESTOS	0027-0713	2 FIBER	I	4	NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	4	YES	YES
CARBON MONXIDE	0006-7867	50 PPM	II	4	NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	III	3	YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	II	4	YES	YES
DOWTHERM G	0111-5384	1 PPM	II	4	YES	YES
FREON 12	0002-0575	1000 PPM	II	4	YES	YES
METHANE	0003-0206	18 %O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18 %O2	III	4	YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	III	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097543
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 17.

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - SR. OPERATIONS TECHNICIAN 03
 NO. OF EMPLOYEE(S) - 6 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*
				1 2
RAW MATERIALS				
CHLORINE	0006-7834	1 PPM-C	II	3 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	III	3 YES YES
METHANOL	0002-3938	200 PPM-S	II	4 YES YES
ADDITIVES				
AMYLENE	0137-3406	>18 % OXY	III	4 YES YES
BETZ PHOSPHATE	9999-0134		III	4 NO NO
BETZ SULFITE 3	0178-2009		III	4 NO NO
CYCLOHEXANE	0002-0097	300 PPM	III	4 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	III	4 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4 YES YES
PRODUCTS & BY PRODUCTS				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4 NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4 NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	3 YES YES
HEXACHLOROBENZENE	0002-5310		II	3 NO NO
HEXACHLOROBUTADIENE	0009-2375		II	3 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	3 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

 DO 097544
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 18

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 SR. OPERATIONS TECHNICIAN 03

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
 HYG. GUIDE

DEG
 OF
 EXP

HAZARD
 RATING

DATA
 SHEET*
 1 2

PRODUCTS & BY PRODUCTS

POLYETHYLENE POWDER	9999-0118	10	MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100	PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1	PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10	PPM	II	4	YES	YES

PHYSICAL STRESSES

HEAT STRESS	9999-0007			III	3	NO	YES
NOISE	9999-0006	85	DBA	III	3	NO	YES

LAB

AMMONIA	0006-6342	25	PPM	III	3	YES	YES
CARBON DISULFIDE	9999-0037	10	PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036			III	3	YES	YES
METHANOL	0002-3938	200	PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5	PPM	III	3	YES	YES

PRODUCT

CHLOROFORM	0002-3609	10	PPM	III	3	YES	YES
METHYL CHLORIDE	0002-3734	50	PPM	III	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200	PPM(V	III	3	NO	NO
ASBESTOS	0027-0713	2	FIBER	I	4	NO	NO
CARBON DIOXIDE	0015-9364	5000	PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50	PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2	MG/M3	III	3	YES	YES
CHLOROTHENE NU	0124-2462	350	PPM	II	4	YES	YES
DOWTHERM G	0111-5384	1	PPM	III	4	YES	YES
FREON 12	0002-0575	1000	PPM	III	4	YES	YES
METHANE	0003-0206	18	%O2>=	II	4	YES	YES
NITROGEN	0099-5755	>18	%O2	III	4	YES	YES
SULFURIC ACID	0009-3583	1	MG/M3	III	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097545
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 19

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - OPERATIONS SPECIALIST 04
 NO. OF EMPLOYEE(S) - 12 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*
				1 2
RAW MATERIALS				
CHLORINE	0006-7834	1 PPM-C	II	3 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	3 YES YES
METHANOL	0002-3938	200 PPM-S	II	4 YES YES
ADDITIVES				
AMYLENE	0137-3406	>18 % OXY	II	4 YES YES
BETZ PHOSPHATE	9999-0134		II	4 NO NO
BETZ SULFITE 3	0178-2009		II	4 NO NO
CYCLOHEXANE	0002-0097	300 PPM	II	4 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4 YES YES
PRODUCTS & BY PRODUCTS				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4 YES YES
HEXACHLOROBENZENE	0002-5310		II	3 NO NO
HEXACHLOROBUTADIENE	0009-2375		II	3 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	3 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

DO 097546
CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 20

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - OPERATIONS SPECIALIST 04

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II		YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II		YES	YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II		YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		II	4	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAR						
AMMONIA	0006-6342	25 PPM	II		YES	YES
CARBON DISLFIDE	9999-0037	10 PPM-S	I		YES	YES
KARL FISCHER REAGENT	9999-0036		II		YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5 PPM	II		YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	II		YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	II		YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	II		NO	NO
ASBESTOS	0027-0713	2 FIBER	I		NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II		YES	YES
CARBON MONOXIDE	0006-7867	50 PPM	II		NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	II		YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	II		YES	YES
DOWTHERM G	0111-5384	1 PPM	II		YES	YES
FREON 12	0002-0575	1000 PPM	II		YES	YES
METHANE	0003-0206	18 %O2>=	II		YES	YES
NITROGEN	0099-5755	>18 %O2	II		YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	II		YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097547
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 21

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - SHIFT SUPERVISOR 05
 NO. OF EMPLOYEE(S) - 6 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*
				1 2
RAW MATERIALS				
CHLORINE	0006-7834	1 PPM-C	II	4 YES YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	II	4 YES YES
METHANOL	0002-3938	200 PPM-S	II	4 YES YES
ADDITIVES				
AMYLENE	0137-3406	>18 % OXY	II	4 YES YES
BETZ PHOSPHATE	9999-0134		II	5 NO NO
BETZ SULFITE 3	0178-2009		II	5 NO NO
CYCLOHEXANE	0002-0097	300 PPM	II	5 YES YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	5 YES YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	5 YES YES
PRODUCTS & BY PRODUCTS				
1,1 DICHLOROETHANE	0001-5894		II	4 NO YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4 NO NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4 YES YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4 NO NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4 YES YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3 NO YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	3 YES YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4 YES YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4 YES NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	II	4 YES YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4 YES YES
HEXACHLOROBENZENE	0002-5310		II	4 NO NO
HEXACHLOROBUTADIENE	0009-2375		II	4 NO NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	4 NO NO
PHOSGENE	0006-2215	0.1 PPM	II	4 YES YES

DO 097548
CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 22

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 SHIFT SUPERVISOR 05

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
PRODUCTS & BY PRODUCTS						
POLYETHYLENE POWDER	9999-0118	10 MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100 PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1 PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10 PPM	II	4	YES	YES
PHYSICAL STRESSES						
HEAT STRESS	9999-0007		I	4	NO	YES
NOISE	9999-0006	85 DBA	III	3	NO	YES
LAB						
AMMONIA	0006-6342	25 PPM	III	3	YES	YES
CARBON DISULFIDE	9999-0037	10 PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036		I	5	YES	YES
METHANOL	0002-3938	200 PPM-S	II	4	YES	YES
PYRIDINE	0002-0779	5 PPM	I	5	YES	YES
PRODUCT						
CHLOROFORM	0002-3609	10 PPM	II	3	YES	YES
METHYL CHLORIDE	0002-3734	50 PPM	II	3	YES	YES
METHYLENE CHLORIDE	0001-5849	200 PPM(V	II	3	NO	NO
ASBESTOS	0027-0713	2 FIBER	I	4	NO	NO
CARBON DIOXIDE	0015-9364	5000 PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50 PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2 MG/M3	II	4	YES	YES
CHLOROTHENE NU	0124-2462	350 PPM	II	4	YES	YES
DOWTHERM C	0111-5384	1 PPM	II	4	YES	YES
FREON 12	0002-0575	1000 PPM	II	4	YES	YES
METHANE	0003-0206	18 %O2>=	II	5	YES	YES
NITROGEN	0099-5755	>18 %O2	II	5	YES	YES
SULFURIC ACID	0009-3583	1 MG/M3	II	4	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097549
 CONFIDENTIAL

DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 23

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - EXTENDED DAY OPERATIONS 06
 NO. OF EMPLOYEE(S) - 8 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYG. GUIDE	DEG OF EXP	HAZARD RATING	DATA SHEET*	
					1	2
RAW MATERIALS						
CHLORINE	0006-7834	1 PPM-C	III	3	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	III	3	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	III	2	YES	YES
METHANOL	0002-3938	200 PPM-S	III	3	YES	YES
ADDITIVES						
AMYLENE	0137-3406	>18 % OXY	II	4	YES	YES
BETZ PHOSPHATE	9999-0134		II	4	NO	NO
BETZ SULFITE 3	0178-2009		II	4	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	II	4	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	II	4	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	II	4	YES	YES
PRODUCTS & BY PRODUCTS						
1,1 DICHLOROETHANE	0001-5894		II	4	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	II	4	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	II	4	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	II	4	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	II	4	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	II	3	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	III	3	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	II	4	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	II	4	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	III	3	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	II	4	YES	YES
HEXACHLOROBENZENE	0002-5310		II	3	NO	NO
HEXACHLOROBUTADIENE	0009-2375		II	3	NO	NO
HEXACHLOROETHANE	0002-3643	10 PPM	II	3	NO	NO
PHOSGENE	0006-2215	0.1 PPM	II	4	YES	YES

DO 097550
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 24

AS OF: 06-81

PLANT NAME/BLDG, NO. -

METHANES, 4601

LAST REVISION DATE -

JUNE, '81

JOB CLASS/JOB CODE -

EXTENDED DAY OPERATIONS 06

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
HYG. GUIDEDEG
OF
EXPHAZARD
RATINGDATA
SHEET*
1 2

PRODUCTS & BY PRODUCTS

POLYETHYLENE POWDER	9999-0118	10	MG/M3	II	4	NO	NO
TRICHLOROETHYLENE	0114-1997	100	PPM	II	4	YES	YES
VINYL CHLORIDE	0114-1986	1	PPM	II	3	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10	PPM	II	4	YES	YES

PHYSICAL STRESSES

HEAT STRESS	9999-0007			III	3	NO	YES
NOISE	9999-0006	85	DRA	III	3	NO	YES

LAB

AMMONIA	0006-6342	25	PPM	II	4	YES	YES
CARBON DISULFIDE	9999-0037	10	PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036			II	4	YES	YES
METHANOL	0002-3938	200	PPM-S	III	3	YES	YES
PYRIDINE	0002-0779	5	PPM	II	4	YES	YES

PRODUCT

CHLOROFORM	0002-3609	10	PPM	III	2	YES	YES
METHYL CHLORIDE	0002-3734	50	PPM	III	2	YES	YES
METHYLENE CHLORIDE	0001-5849	200	PPM(V)	III	2	NO	NO
ASBESTOS	0027-0713	2	FIBER	II	4	NO	NO
CARBON DIOXIDE	0015-9364	5000	PPM	II	5	YES	YES
CARBON MONOXIDE	0006-7867	50	PPM	II	5	NO	NO
CAUSTIC SODA	0007-9914	2	MG/M3	III	3	YES	YES
CHLOROTHENE NU	0124-2462	350	PPM	III	3	YES	YES
DOWTHERM G	0111-5384	1	PPM	II	3	YES	YES
FREON 12	0002-0575	1000	PPM	II	4	YES	YES
METHANE	0003-0206	18	%O2>=	II	5	YES	YES
NITROGEN	0099-5755	>18	%O2	III	5	YES	YES
SULFURIC ACID	0009-3583	1	MG/M3	II	3	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097551
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 25

AS OF: 06-81

PLANT NAME/BLDG, NO. - METHANES, 4601
 SUPERINTENDENT /IH CONTACT - JOHN SHIVELY/ RODNEY BORDELON
 INDUSTRIAL HYGIENIST - DANNIE KENNEDY
 LAST REVISION DATE - JUNE, '81
 JOB CLASS/JOB CODE - OFFICE/CLERICAL 09
 NO. OF EMPLOYEE(S) - 2 EMPLOYEE(S)

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
HYG. GUIDEDEG
OF
EXPHAZARD
RATINGDATA
SHEET*
1 2

RAW MATERIALS

CHLORINE	0006-7834	1 PPM-C	I	4	YES	YES
DME (DIMETHYL ETHER)	0005-5481	400 PPM	I	5	YES	YES
HYDROCHLORIC ACID, CONC	0004-3845	5 PPM-C	I	5	YES	YES
METHANOL	0002-3938	200 PPM-S	I	5	YES	YES

ADDITIVES

AMYLENE	0137-3406	>18 % OXY	I	5	YES	YES
BETZ PHOSPHATE	9999-0134		I	5	NO	NO
BETZ SULFITE 3	0178-2009		I	5	NO	NO
CYCLOHEXANE	0002-0097	300 PPM	I	5	YES	YES
FERRIC CHLORIDE	0004-7143	1 MG/M3	I	5	YES	YES
PO (PROPYLENE OXIDE)	0001-5827	20 PPM	I	5	YES	YES

PRODUCTS & BY PRODUCTS

1,1 DICHLOROETHANE	0001-5894		I	5	NO	YES
1,1,1,2 TETRACHLOROETHANE	0001-3412	100 PPM(V)	I	5	NO	NO
1,1,2 TRICHLOROETHANE	0002-3687	10 PPM-S	I	5	YES	YES
1,1,2,2 TETRACHLOROETHANE	0002-3632	0.1 PPM(V)	I	5	NO	NO
1,2 DICHLOROETHYLENE	0002-3665	200 PPM	I	5	YES	YES
BISCHLOROMETHYL ETHER	0001-5963	.001 PPM	I	5	NO	YES
CARBON TETRACHLORIDE	0002-3654	10 PPM-S	II	4	YES	YES
DIMETHYL SULFATE	0002-4113	0.1 PPM (	I	5	YES	YES
DIMETHYL SULFIDE	0010-2056	10 PPM	I	5	YES	NO
DME (DIMETHYL ETHER)	0005-5481	400 PPM	I	5	YES	YES
ETHYLENE DICHLORIDE (EDC)	0001-8531	10 PPM	I	5	YES	YES
HEXACHLOROBENZENE	0002-5310		I	5	NO	NO
HEXACHLOROBUTADIENE	0009-2375		I	5	NO	NO
HEXACHLOROETHANE	0002-3643	10 PPM	I	5	NO	NO
PHOSGENE	0006-2215	0.1 PPM	I	5	YES	YES

DO 097552
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DOW CHEMICAL U.S.A. - LOUISIANA DIVISION

INDUSTRIAL HYGIENE INVENTORY

PAGE 26.

AS OF: 06-81

PLANT NAME/BLDG, NO. -
 LAST REVISION DATE -
 JOB CLASS/JOB CODE -

METHANES, 4601
 JUNE, '81
 OFFICE/CLERICAL 09

MATERIALS OR PHYSICAL AGENTS

INDUSTRIAL
HYG. GUIDEDEG
OF
EXPHAZARD
RATINGDATA
SHEET*
1 2

PRODUCTS & BY PRODUCTS

POLYETHYLENE POWDER	9999-0118	10	MG/M3	I	5	NO	NO
TRICHLOROETHYLENE	0114-1997	100	PPM	I	5	YES	YES
VINYL CHLORIDE	0114-1986	1	PPM	I	5	YES	YES
VINYLDIENE CHLORIDE	0002-0611	10	PPM	I	5	YES	YES

PHYSICAL STRESSES

HEAT STRESS	9999-0007			I	5	NO	YES
NOISE	9999-0006	85	DBA	II	4	NO	YES

LAB

AMMONIA	0006-6342	25	PPM	I	5	YES	YES
CARBON DISULFIDE	9999-0037	10	PPM-S	I	5	YES	YES
KARL FISCHER REAGENT	9999-0036			I	5	YES	YES
METHANOL	0002-3938	200	PPM-S	I	5	YES	YES
PYRIDINE	0002-0779	5	PPM	I	5	YES	YES

PRODUCT

CHLOROFORM	0002-3609	10	PPM	II	4	YES	YES
METHYL CHLORIDE	0002-3734	50	PPM	II	4	YES	YES
METHYLENE CHLORIDE	0001-5849	200	PPM(V)	II	4	NO	NO
ASBESTOS	0027-0713	2	FIBER	I	5	NO	NO
CARBON DIOXIDE	0015-9364	5000	PPM	I	5	YES	YES
CARBON MONOXIDE	0006-7867	50	PPM	I	5	NO	NO
CAUSTIC SODA	0007-9914	2	MG/M3	I	5	YES	YES
CHLOROTHENE NU	0124-2462	350	PPM	I	5	YES	YES
DOWTHERM G	0111-5384	1	PPM	I	5	YES	YES
FREON 12	0002-0575	1000	PPM	I	5	YES	YES
METHANE	0003-0206	18	%O2>=	I	5	YES	YES
NITROGEN	0099-5755	>18	%O2	I	5	YES	YES
SULFURIC ACID	0009-3583	1	MG/M3	I	5	YES	YES

*1-INDUSTRIAL HYGIENE DATA SHEET 2-CONSEQ. OF EXPOSURE TO TOXIC AMOUNTS
 MSDS=MATERIAL SAFETY DATA SHEET MPI=MANUFACTURERS PRODUCT INFORMATION

DO 097553
 CONFIDENTIAL

TO: R. Bordelon
(NAME)CMP
(DEPARTMENT)#601
(BUILDING)

L-350.3

DOW CHEMICAL U.S.A.
LOUISIANA DIVISION

R&D ANALYTICAL SERVICES

ANALYTICAL SAMPLE NO. 8573DATA BOOK NO. 2851-37382DATE THIS REPORT Dec. 30, 1981CHARGE NO. 93ANALYSIS OF Scrubber Samples
BY KlettFOR HCl, H₂SO₄, Cl₂
METHOD

Sample		mg/m ³ HCl		mg/m ³ H ₂ SO ₄	
12-08-81	pump #1				
Distillation area		0.3		<0.6	
12-08-81	pump #2				
Distillation area		0.1		<0.1	
12-09-81					
acid area		0.2		<0.2	
12-10-81					
R-200, R-300		0.2		0.7	
12-11-81					
Distillation area		0.2		0.2	
12-15-81					
acid area		0.2		<1	
12-15-81					
H ₂ filter area		0.2		<0.2	
12-16-81					
W/B & P-1 area		0.1		0.6	
12-17-81					
K-350 area		0.3		<0.1	
Sample		mg/m ³ Cl ₂			
12-08-81	pump #3				
Distillation area		.01			
12-08-81	pump #4				
Distillation area		.004			
12-09-81					
K-350 area		<.003			
12-09-81					
acid area		<.003			

DO 097554
CONFIDENTIALANALYSIS BY Bryan
REVIEWED BY Glenn Bazayans

TO: R. Bordelon
(NAME)

CMP
(DEPARTMENT)

4601
(BUILDING)



DOW CHEMICAL U.S.A.
LOUISIANA DIVISION
R&D ANALYTICAL SERVICES

ANALYTICAL SAMPLE NO. 8573
DATA BOOK NO. 2851-37438
DATE THIS REPORT Dec. 30, 1981
CHARGE NO. 93

ANALYSIS OF Scrubber Samples
BY Klett

FOR Cl₂
METHOD

Sample	mg/m ³ Cl ₂			
12-10-81				
R-200, R-300	1.003			
12-10-81				
WHB + D-1 areas	1.001			
12-11-81				
Distillation Area	1.001			
12-15-81				
M, filter area	1.002			
12-16-81				
WHB + D-1 areas	1.003			
12-16-81				
R-200, R-300 area	1.002			
12-17-81				
M, filter area	1.002			
12-17-81				
K-350 area	1.003			

ANALYSIS BY J. Prejean
REVIEWED BY Wynne Gayaway

DO 097555
CONFIDENTIAL

Scrubber Area Monitoring

Date	Location	Pump No.	Amount Scrubbed (GCE)	Scrubbed In	Scrub For
12/08/81	Distillation Area	1	8	0.30	190 H ₂ O HCl+H ₂
12/08/81	Distillation Area	2	8	1.55	190 H ₂ O HCl+H ₂
12/08/81	Distillation Area	3	8	0.50	250 1.0N NaOH Cl ₂
12/08/81	Distillation Area	4	8	2.40	250 1.0N NaOH Cl ₂
12/09/81	K-350 Area	4	6	1.50	230 1.0N NaOH Cl ₂
12/09/81	Acid Area	2	8	1.10	190 H ₂ O HCl+H ₂
12/09/81	Acid Area	3	8	1.15	230 1.0N NaOH Cl ₂
12/10/81	R-200, R-300 Area	2	7	0.80	190 H ₂ O HCl+H ₂
12/10/81	R-200, R-300 Area	3	7	1.10	230 1.0N NaOH Cl ₂
12/10/81	WHB + D-1 Area	4	7	2.45	230 1.0N NaOH Cl ₂
12/11/81	Distillation Area	3	7	1.00	230 H ₂ O HCl+H ₂
12/11/81	Distillation Area	4	7	2.00	230 1.0N NaOH Cl ₂
12/15/81	Acid Area	2	7	1.35	190 H ₂ O HCl+H ₂
12/15/81	M ₁ Filter Area	3	7	1.05	230 H ₂ O HCl+H ₂
12/15/81	M ₁ Filter Area	4	7	1.80	230 1.0N NaOH Cl ₂
12/16/81	WHB + D-1 Area	2	8	0.90	190 H ₂ O HCl+H ₂
12/16/81	WHB + D-1 Area	3	8	0.90	230 1.0N NaOH Cl ₂
12/16/81	R-200, R-300 Area	4	8	1.85	230 1.0N NaOH Cl ₂
12/17/81	M ₁ Filter Area	4	8	1.60	230 1.0N NaOH Cl ₂
12/17/81	K-350 Area	3	8	1.00	230 1.0N NaOH Cl ₂
12/17/81	R-350 Area	2	8	1.20	190 H ₂ O HCl+H ₂

DO 097556
CONFIDENTIAL

RFB

F. Analytical Equipment and Methods Used in Survey:

1. For organic vapors collected on charcoal and desorbed with CS-2.

Instruments - Varian 3700 with auto-sampler and CDS-111 data system

Conditions

a. Temperatures

1. injector - 150°C
2. detector - 240°C
3. column - initial of 80°C programmed to 145°C

b. Carrier gas flow - 40 cc/min

c. Column - 16' x 1/8" OD 20% SP-2100 plus 0.1% Carbon-wax 1500 on 100/120 Supelcoport

d. Range setting - 10-12

e. Sample size - 1.5 μ l

f. Calibrated weekly, blanks prepared daily

2. For methanol vapors collected on alumina and desorbed in distilled water

Instruments: Hewlett Packard 5730A gas chromatograph with 3380A reporting integrator

Conditions

a. Temperatures:

1. injector - 200°C
2. detector - 300°C
3. column - of 160°C operator isothermally

b. Carrier gas flow - 50 cc/min

c. Column - 16' x 1/8" OD Porapak Q 50/80

d. "A" controls

e. Range setting - 1

f. Sample size - 1.1 μ l

g. Calibrated weekly

DO 097557
CONFIDENTIAL

CLOSED-DOME LOADING STUDY

	<u>CLEAN T/T's</u>	<u>CLEAN T/C's</u>	<u>LAST CONTAINED T/C's</u>
M ₂	22 lbs/98° 25 lbs/102°	27 lbs/99°	39 lbs/87°
M ₃		<1 lb/90°	16 lbs/84°
Crude		9 lbs M ₂ /95° 8 lbs M ₃ /	94 lbs M ₂ /95° 6 lbs M ₃ / 76 lbs M ₂ /99° 2 lbs M ₃ /

Conditions:

- 1 - Loading with dome closed and taking a vent off the top
- 2 - Loading time was approximately 90 minutes for 20,000 gal T/C
- 3 - All T/C's were painted light gray. Black cars would most probably have yielded higher losses.
- 4 - Loading was done in A.M. Afternoon loading would probably have also contributed to higher losses.
- 5 - T/T's were stainless steel.

Observations:

Temperature of product being loaded has great bearing on amount of product vented off.

Purpose of Study:

The purpose of this study was to measure approximate losses to atmosphere while loading M₂ and M₃ products in an attempt to design a vent-recovery system to handle this problem and was not part of the Industrial Hygiene study.

- MONITORING By VOR

Rel's

DO 097559
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

DATE	TIME	NAME	JOB	PUMP	START RATE	STOP RATE	PPM EXPOSURE (VOL.)										EDC	B-TU
					CC/MIN	CC/MIN	(MEAN)	M1	M2	M3	M4	M5	M6	M7	M8	M9		
3/27/81	0920-1120	C. Davis	Millwright	Dupont	65 (7800)	65	-	3.85	0.00	0.19	0.00	0.00	0.66	0.04	1.00	0.00	0.00	0.00
4/14/81	0730-1000	W. Thibodeaux	Millwright	Dupont	75 (11250)	75	-	0.58	0.00	0.34	0.00	0.00	2.52	0.68	0.00	0.00	0.00	0.00
5/10/81	1300-1500	W. Thibodeaux	Millwright	Dupont	65 (7800)	65	-	0.33	0.00	0.00	0.00	0.00	18.56	0.00	0.00	0.00	0.00	0.23
5/19/81	0745-0815	W. Thibodeaux	Millwright	MDA 1023	2176 CC		-	0.53	0.00	0.00	0.00	0.00	0.67	0.00	3.69	0.00	0.00	0.38
5/24/81	0800-1100	C. Davis	EDO	Dupont	60 (10800)	60	-	0.37	0.00	0.00	0.00	0.00	1.82	0.00	1.41	0.00	0.00	0.02
10/15/81	0730-1130	D. Montgomery	OT	MDA 1023	18370 CC	0.00		1.72	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	2.00
10/15/81	0730-1130	L. Bourgeois	Loader	MDA 1114	17423 CC	0.00		0.10	0.00	0.00	0.00	0.00	0.16	0.00	0.48	0.00	0.00	0.00
10/15/81	0730-1130	J. Johnson	EDO	MDA 1143	15499 CC	0.15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/15/81	0730-1130	R. Bordelon	Envr.	MDA 1144	15884 CC	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00
10/16/81	0730-1130	R. Breany	OT	MDA 1023	18649 CC	0.21		0.20	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
10/16/81	0730-1130	A. Michel	SS	MDA 1114	20951 CC	0.11		0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.81	0.00	0.00	0.00
10/16/81	0730-1130	C. Davis	OS	MDA 1144	16929 CC	0.11		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00
10/16/81	0730-1130	P. Joseph	Tech.	MDA 1143	15835 CC	0.20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00
10/21/81	1245-1645	G. Barbray	OT	MDA 1143	17215 CC	0.53		0.08	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
10/21/81	1245-1645	C. Grant	OS	MDA 1144	17875 CC	0.12		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
10/21/81	1245-1645	G. Baggett	SOT	MDA 1023	19600 CC	0.23		0.15	0.00	0.00	0.00	0.00	0.15	0.03	0.21	0.00	0.00	0.00
10/21/81	1245-1645	J. Clébert	Sect.	MDA 1114	17393 CC	0.00		0.29	0.00	0.00	0.00	0.00	0.06	0.01	0.10	0.00	0.00	0.00
10/28/81	1330-1730	J. Danehower	SS	MDA 1144	16885 CC	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00
10/28/81	1330-1730	R. Jackson	SOT	MDA 1023	18571 CC	0.69		0.10	0.00	0.00	0.00	0.00	0.03	0.00	0.09	0.00	0.00	0.00

ENVIRONMENTAL HEALTH SURVEY

DATE	TIME	NAME	JOB	PUMP	START RATE CC/MIN	STOP RATE CC/MIN	PPM EXPOSURE (VOL.)										EDC	B-TN
							M1	M2	M3	M4	M5	M6	M7	M8	M9	M10		
10/28/81	0730-1130	R. Landry	Fitter	MDA 1144	12045 CC	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/28/81	0730-1130	J. Albert	Fitter	MDA 1143	14190 CC	0.87	0.00	0.00	0.00	0.00	0.00	0.13	0.02	0.00	0.00	0.00	0.00	0.00
10/28/81	0730-1130	D. Canegaro	Instr.	MDA 1114	16874 CC	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/28/81	0730-1130	J. Creel	Instr.	MDA 1023	17493 CC	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/29/81	0730-1130	C. Jennings	Fitter	MDA 1114	16166 CC	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/29/81	0730-1130	A. Adams	Fitter	MDA 1023	8820 CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/29/81	0730-1130	J. Erwin	Instr.	MDA 1143	16060 CC	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/29/81	0730-1130	G. Battle	Instr.	MDA 1144	16280 CC	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/30/81	0730-1130	E. Garner	Lead. Cond.	MDA 1143	12375 CC	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/30/81	0730-1130	C. Bickham	EDO	MDA 1144	9680 CC	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/30/81	0730-1130	R. Millender	EDO	MDA 1023	16856 CC	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/30/81	0730-1130	B. Hoffman	Instr.	MDA 1114	15458 CC	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/11/81	0730-1130	G. Rizzo	OS	MDA 3226	19690 CC	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/11/81	0730-1130	D. Bateman	SS, EDO	MDA 1143	22165 CC	0.08	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85	0.00	0.00	0.00
11/11/81	0730-1130	P. Smith	Tech.	MDA 1023	22540 CC	0.13	0.21	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00
11/11/81	0730-0800	T.A. Jackson	OT	MDA 1144	1485 CC	1.28	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85	0.00	0.00	0.00
11/11/81	0730-1130	B. Koenig	SS	MDA 1114	22243 CC	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/13/81	0730-1100	B. Donatto	SOT	MDA 1114	13747 CC	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00
11/13/81	0730-1100	L. Mack	SS	MDA 3226	11825 CC	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00
11/13/81	0730-1030	M. Didier	OS (outside)	MDA 1143	9790 CC	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
11/13/81	0730-1000	T. Zumo	Instr.	MDA 1023	7350 CC	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00

DO 097561
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY

DATE	TIME	NAME	JOB	PUMP	START RATE cc/min	STOP RATE cc/min	PPM EXPOSURE (VOL.)									
							M1	M2	M3	M4	EDC	B-Tri				
11/12/81	1015-1115	W. Thibodeaux	Millwright (Excursion, T-602 pump)	MDA 1023	5635 CC	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
11/17/81	0730-1130	L. Landon	EDU (safety observ.)	MDA 3226	20350 CC	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/81	0730-1130	R. Rivet	EDO	MDA 1143	21395 CC	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/81	0730-1130	F. Cook	EDO	MDA 1114	22538 CC	0.56	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
11/18/81	0730-1130	J. Didier	Technical	MDA 1143	18700 CC	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/18/81	0730-1130	K. Doucet	OS	MDA 1114	16048 CC	0.65	0.00	0.00	0.20	0.00	0.00	0.00	0.14	1.53	0.00	0.00
11/18/81	0730-1130	C. Heurtevent	Technical	MDA 3226	18865 CC	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/19/81	0810-0900	C. Davis	OS (drained E-308 B) excursion	SIPIN 2081	6936 CC	—	0.94	0.00	0.09	0.00	0.00	0.00	0.00	0.17	0.00	0.00
11/19/81	0730-1130	T. Noah	OS	MDA 1114	17641 CC	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/19/81	0730-1130	A. Bullman	Tech.	MDA 1143	16665 CC	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/19/81	0730-1130	R. Arnold	Laborer	MDA 3226	16940 CC	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/19/81	0730-1130	R. Delatte	Electrician	SIPIN 2081	3900 CC	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
11/20/81	0730-1130	E. Coupel	Fitter	MDA 1114	15812 CC	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
11/20/81	0730-1130	W. Nijon	Laborer	MDA 3226	14575 CC	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/20/81	0730-1130	D. Alonzo	Mtl. Controller	MDA 1143	15785 CC	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/20/81	0730-1030	D. Dugas	CAT	SIPIN 2081	14640 CC	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
12/01/81	0730-1130	G. Baggett	SOT	MDA 1143	15840 CC	0.77	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/01/81	0730-1130	D. Montgomery	Loader	MDA 1114	21830 CC	0.45	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/01/81	0730-1130	T. Noah	EDO	MDA 3226	14300 CC	0.56	5.42	0.00	0.00	0.00	0.00	0.00	0.02	1.23	0.00	0.00

ENVIRONMENTAL HEALTH SURVEY

DATE	TIME	NAME	JOB	PUMP	START RATE cc/min	STOP RATE cc/min	PPM EXPOSURE (VOL.)									
							M1	M2	M3	M4	EDC	B-TN				
12-02-81	0730-1130	F. Simonson	S.A.C.	MDA 3226	14520 cc	0.41	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-02-81	0730-1130	C. Davis	EDO	MDA 1114	14756 cc	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-02-81	0730-1130	G. Saule	Tech.	MDA 1143	16940 cc	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-03-81	0730-1130	C. Laurent	OT	MDA 1114	14337 cc	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-03-81	0730-1130	M. Barbier	SOT	MDA 1143	16555 cc	0.40	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-03-81	0730-1130	K. Trice	SS	MDA 3226	18480 cc	0.28	0.09	0.00	1.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
12-04-81	0730-1130	R. Delatte	Elect.	MDA 1114	16048 cc	0.44	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
12-04-81	0730-1130	R. Arnold	labover	MDA 3226	13420 cc	0.35	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-04-81	0730-1130	W. Nifon	labover	MDA 1143	18535 cc	0.37	0.42	0.00	0.00	0.00	0.00	0.13	0.50	0.00	0.00	0.00
6x 12-04-81	1330-1345	C. Heurtavent (OT sample)	(charrier) Tech.	MDA 1144	792 cc	—	3.54	0.00	0.00	0.00	0.00	0.00	1.95	0.15	0.00	0.00
12-08-81	0730-1130	D. Dugas	C.A.T.	MDA 1114	16638 cc	0.37	0.18	0.00	0.00	0.00	0.00	0.05	0.16	0.00	0.00	0.00
12-08-81	0730-1130	D. Alonzo	Mtl. Controller	MDA 3226	14245 cc	0.43	1.65	0.00	0.97	0.00	0.00	0.18	4.13	0.20	0.00	1.76
12-08-81	0730-1130	F. Simonson	S.A.C.	MDA 1143	15510 cc	0.33	0.39	0.00	0.23	0.00	0.00	0.00	0.02	0.02	0.00	0.00
12-08-81	0730-1130	L. Bourgeois	Loader	MDA 1144	15235 cc	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
12-09-81	0730-1130	J. Shively	Tech.	MDA 3226	14520 cc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
12-09-81	0730-1130	J. Clébert	Secretary	MDA 1143	14960 cc	0.47	0.12	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
12-09-81	0730-1130	R. Bordelon	Envir.	MDA 1144	15407 cc	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-09-81	0730-1130	E. Garner	Load. Coord.	MDA 1114	18762 cc	0.20	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-10-81	0730-1130	W. Leblanc	Frater.	MDA 1144	13145 cc	0.55	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-10-81	0730-1130	D. Alonzo	Mtl. Cont.	MDA 1143	13695 cc	0.32	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-10-81	0730-1130	R. Delatte	Electrician	MDA 1114	13865 cc	0.40	0.29	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-10-81	0730-1130	F. Simonson	SAC	MDA 3226	16775 cc	0.49	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00

ENVIRONMENTAL HEALTH SURVEY

DATE	TIME	NAME	JOB	PUMP	START RATE cc/min	STOP RATE cc/min	M1	M2	M3	M4	PPM EXPOSURE (VOL.)						
											DM	M1	M2	M3	M4	EDC	B-TN
12-15-81	0730-1130	R. Bordelon	Envr.	MDA 3226	11935 cc	0.24	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.06	1.34	0.00	0.00
12-15-81	1040-1315	L. Bougeois (EXCURSION)	Loader	MDA 1143	11330 cc	0.00	0.34	0.00	1.28	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
12-15-81	1320-1340	E. Garner (EXCURSION)	Load. Coord.	MDA 1114	1239 cc	4.00	20.04	0.00	8.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00
12-15-81	1245-1345	W. T. DiLodeant	Midnight	MDA 1144	4895 cc	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-16-81	1440-1530	E. Garner (EXCURSION)	Load. Coord.	MDA 1143	2805 cc	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00

DO 097564
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DO 097565
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[illegible]

DO 097567
CONFIDENTIAL



31 301 30 SHEETS 3 SQUARE
31 302 100 SHEETS 3 SQUARE
31 303 200 SHEETS 3 SQUARE

	M1	V1	W.Tri	DME	αdi	M2	M3	M4	EDC	B.Tri	MEOH
	0.00	(0.03)	0.00	0.00	0.00	(0.04)	0.00	0.81	0.00	0.00	0.11
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00
	(2.79)	0.00	0.00	0.00	0.00	0.00	0.00	(1.85)	0.00	0.00	0.08
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	0.00	0.00	0.00	0.00	0.00	0.00	(0.11)	0.00	0.00	0.00	0.24
	0.09	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	(0.28)
Total	2.88	0.03	0.00	0.00	0.00	0.04	0.15	2.84	0.00	0.00	0.80
avg	0.48	0.01	0.00	0.00	0.00	0.01	0.03	0.47	0.00	0.00	0.13

DO 097568
CONFIDENTIAL



NO SHEETS 5 SQUARE
10 SHEETS 5 SQUARE
20 SHEETS 5 SQUARE

	M ₁	V ₁	H ₁ T ₁ i	D ₁ M ₁ E	α di	M ₂	M ₃	M ₄	EDC	B ₁ T ₁ i	MEOH
	0.57	0.00	0.00	0.00	0.00	1.82	0.00	(1.41)	0.00	(0.02)	0.00
	0.58	(0.34)	0.00	0.00	0.00	(2.52)	(0.68)	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.23
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.65)
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.56
	(3.42)	0.00	0.00	0.00	0.00	0.00	0.02	1.23	0.00	0.00	0.56
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
Total	4.37	0.34	0.00	0.00	0.00	4.37	0.71	2.64	0.00	0.02	3.65
avg.	0.47	0.03	0.00	0.00	0.00	0.44	0.07	0.26	0.00	0.00	0.37



	M ₁	V ₁	H ₁ T ₁	DME	α _{di}	M ₂	M ₃	M ₄	EDC	B-T ₁	MEOH
net.	0.29	0.00	0.00	0.00	0.00	0.06	0.01	0.10	0.00	0.00	0.00
ent	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.93
ent	0.18	0.00	0.00	0.00	0.00	0.00	0.05	0.16	0.00	0.00	0.37
net.	0.12	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.47
Total	0.59	0.00	0.00	0.00	0.00	0.06	0.13	0.26	0.00	0.00	1.77
avg.	0.15	0.00	0.00	0.00	0.00	0.02	0.03	0.07	0.00	0.00	0.44



42-301 20 SHEETS 3 SQUARE
42-302 100 SHEETS 3 SQUARE
42-303 200 SHEETS 3 SQUARE

	M1	V1	HITri	DME	αdi	M2	M3	M4	EDC	B-Tri	MEOH
	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.54	0.00	0.00	0.32
	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.13
	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.38
	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58
Totals	0.31	0.05	0.00	0.00	0.00	0.00	0.14	0.56	0.00	0.00	2.05
avg	0.04	0.01	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.00	0.29

DO 097571
CONFIDENTIAL

WIPDUM

45 382 100 SHEETS 1 SQUARE
25 382 200 SHEETS 1 SQUARE

	M ₁	V ₁	W ₁ Tri	DME	α di	M ₂	M ₃	M ₄	EDC	B-Tri	MeOH
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.39
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	(0.71)
	0.14	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.50	0.50	0.35
	(0.42)	0.50	0.50	0.50	0.50	0.50	(0.13)	(0.50)	0.50	0.50	0.37
total	0.56	0.50	0.50	0.50	0.50	0.50	0.13	0.58	0.50	0.50	1.82
avg.	0.14	0.50	0.50	0.50	0.50	0.50	0.03	0.15	0.50	0.50	0.46

DO 097572
CONFIDENTIAL

WATER TREATMENT



42 INCH 100 SHEETS 5 SQUARE
42 INCH 200 SHEETS 5 SQUARE

	M1	V1	W.Tri	DME	α di	M2	M3	M4	EDC	B-Tri	MeOH
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	(3.50)
	0.50	0.50	0.50	0.50	0.50	(0.13)	0.02	0.50	0.50	0.50	0.87
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	0.50	0.50	0.50	0.50	0.50	0.50	0.57	0.50	0.50	0.50	2.15
	0.50	0.50	0.50	0.50	0.50	0.50	0.01	0.50	0.50	0.50	0.60
	0.50	0.50	0.50	0.50	0.50	0.50	(0.09)	0.50	0.50	0.50	0.94
	(0.29)	(0.03)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.40
Totals	0.29	0.03	0.50	0.50	0.50	0.13	0.19	0.50	0.50	0.50	8.46
avg	0.04	0.50	0.50	0.50	0.50	0.02	0.02	0.50	0.50	0.50	1.06

DO 097574
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1 LCM


 42-301 30 SHEETS 5 SQUARE
 42-302 100 SHEETS 5 SQUARE
 42-303 200 SHEETS 5 SQUARE

	M1	V1	Wt Tri	DME	adi	M2	M3	M4	EDC	B-tri	MEOH
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.20
	0.21	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.13
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Totals	0.21	0.05	0.00	0.00	0.00	0.00	0.07	0.14	0.35	0.00	2.53
avg	0.03	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.05	0.00	0.36



	M1	V1	W.Tri	DME	α di	M2	M3	M4	EDC	B.Tri	MEOH
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.42	0.50	0.50	0.50
	0.10	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.41
	0.39	0.23	0.50	0.50	0.50	0.50	0.02	0.02	0.50	0.50	0.33
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.30
	0.50	0.50	0.50	0.50	0.50	0.52	0.50	0.50	0.50	0.50	0.49
	0.55	0.50	0.50	0.50	0.50	0.50	0.06	1.34	0.50	0.50	0.26
Total	1.04	0.23	0.50	0.50	0.50	0.52	0.08	1.78	0.50	0.50	1.79
avg	0.17	0.04	0.50	0.50	0.50	0.09	0.01	0.30	0.50	0.50	0.30

LOADING



42 481 50 SHEETS 3 SQUARE
42 312 100 SHEETS 3 SQUARE
42 316 200 SHEETS 3 SQUARE

	M ₁	V ₁	H ₁ Tri	DME	α di	M ₂	M ₃	M ₄	EDC	B-Tri	MEOH
	0.10	0.50	0.50	0.50	0.50	0.16	0.50	0.48	0.50	0.50	0.50
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.26
	0.91	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.45
	0.50	0.50	0.50	0.50	0.50	0.50	0.07	0.50	0.50	0.50	0.39
	0.24	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.20
Total	1.25	0.50	0.50	0.50	0.50	0.16	0.07	0.48	0.50	0.50	1.30
avg	0.25	0.50	0.50	0.50	0.50	0.03	0.01	0.10	0.50	0.50	0.26

DO 097577
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DO 097578
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Expansion OS drawing

47	101	50	544	15	2	507	10
48	102	51	545	15	2	508	10
49	103	52	546	15	2	509	10

[illegible]

EXCURSION

200 M. Ellwright



42 3M 30 SHEETS 5 SQUARE
42 3M 10 SHEETS 5 SQUARE
42 3M 20 SHEETS 5 SQUARE

	M1	V1	W.Tri	DME	α di	M2	M3	M4	EDC	B.Tri	MEOH
	(3.85)	(0.19)	0.00	0.00	0.00	0.66	(0.04)	1.00	0.00	0.36	0.00
	0.33	0.00	0.00	0.00	0.00	(18.56)	0.00	0.00	0.00	0.23	0.00
	0.53	0.00	0.00	0.00	0.00	0.67	0.00	(3.69)	0.00	(0.38)	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	(0.32)
	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals	5.21	0.19	0.00	0.00	0.00	19.89	0.04	4.73	0.00	0.97	0.32
avg.	1.04	0.04	0.00	0.00	0.00	3.98	0.01	0.95	0.00	0.19	0.06

DO 097581
CONFIDENTIAL

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>		FILE NO. NO. <i>Block 46</i>	
FILLED OUT BY <i>Redmy Bordon Donnie Kennedy</i>		DATE <i>6-3-81</i>			
JOB CLASSIFICATION <i>Senior Operations technician</i>		INDEX NUMBER <i>03</i>		NO. OF EMPLOYEES IN CLASSIFICATION <i>6</i>	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>Raw materials:</i>					
<i>Hydrochloric Acid</i>	TLV <i>7mg/m³ 5 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV <i>200 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400 ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i>	TLV <i>3mg/m³ 1 ppm (C)</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Aniline</i>	* <i>>18% Oxygen</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Betz phosphate</i>		<i>III</i>	<i>IV</i>		<i>yes</i>
<i>Betz Sulfate</i>		<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i>	TLV <i>300 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i>	TLV <i>1mg/m³ 20 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i>	TLV <i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV <i>200</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bischloromethyl ether</i>	TLV <i>.001 ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV <i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400 ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i>	TLV <i>0.1 ppm (C)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i>	TLV <i>150 ppb in blood</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorocyclopentadiene</i>	TLV <i>.05 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i>	TLV <i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogensulfate</i>	n.e.	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Pentachloroethane</i>	n.e.	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i>	TLV <i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

DO 097582
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1. Toxic Data Sheet
2. Consequences of overexposure

FORM 10-6771C PRINTED R-10-74

- * See Industrial Hygiene Data Sheet.
- ** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>Chlorinated Methanes</i>		BUILDING NO. <i>Block 76</i>	
FILLED OUT BY <i>Redney Bonkton</i> <i>Danire Kennedy</i>		DATE			
JOB CLASSIFICATION <i>Senior Operations Technician</i>		INDEX NUMBER		NO. OF EMPLOYEES IN CLASSIFICATION	

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
<i>By-products Control</i>						
<i>1,1,2 tetrachloroethane</i>	TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i>	IHG	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i>	TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i>	TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i>	TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>						
<i>Chloroform</i>	TLV	<i>10 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i>	IHG <i>Exposure</i>	<i>50 ppm</i> <i>200 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i>	TLV	<i>200 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>						
<i>Asbestos</i>	TLV	<i>2 fibers/cc</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i>	TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i>	TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i>	TLV	<i>2 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Nn III Trichloroethylene</i>	TLV	<i>350 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn G Diphenyl oxide</i>	IHG	<i>1 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i>	IHG	<i>1000 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>		<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>		<i>>18% OXYGEN</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i>	TLV	<i>1 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>						
<i>Ammonia</i>	TLV	<i>25 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i>	TLV	<i>10 ppm</i> <i>5 skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>			<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV	<i>200 ppm</i> <i>5 skin</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i>	TLV	<i>5 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>

1. Too data sheet
2. Consequences of overexposure

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

- 1 Tax data Sheet
- 2 Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

DO 097584
CONFIDENTIAL

CHEMICAL AND PHYSICAL AGENT INVENTORY

0460

SUPERINTENDENT NAME <i>John Shimley</i>	PLANT <i>Chlorinated Methanol</i>	BUILDING NO. <i>Block 46</i>
FILLED OUT BY <i>Redney Boudin</i> <i>Donnie Kennedy</i>	DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>DR numbers</i>	INDEX NUMBER <i>C</i>	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials: LKRW</i>				<i>1</i>	<i>2</i>
<i>Hydrochloric acid</i> TLV	<i>7mg/m³</i> <i>5 ppm</i>	<i>0004-3845</i>		<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>260 ppm</i>	<i>0002-3938</i>		<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400 ppm</i>	<i>0005-5481</i>			<i>yes</i>
<i>Chlorine</i> TLV	<i>3mg/m³</i> <i>1 ppm (C)</i>	<i>0006-7834</i>		<i>yes</i>	<i>yes</i>
<i>Additives: LADD</i>					
<i>Aniline</i> * *	<i>>18% Oxygen</i>	<i>9999-0218 7</i>		<i>yes</i>	<i>yes</i>
<i>Beta phosphate</i>		<i>9999-0134</i>			<i>yes</i>
<i>Beta Sulfate</i>		<i>9999-0053</i>		<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i> * TLV	<i>300 ppm</i>	<i>9999-0218</i>		<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i> IHL	<i>1mg/m³</i> <i>20 ppm</i>	<i>9999-0073</i>		<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i> IHL <i>Excesses →</i>	<i>100 ppm</i>	<i>0001-5827</i>		<i>yes</i>	<i>yes</i>
<i>By-products LPBP</i>					
<i>1,1 dichloroethane</i> TLV	<i>IHL</i> <i>200</i> <i>100 ppm</i>	<i>9999-0189</i>			<i>yes</i>
<i>1,1,2 trichloroethane</i> TLV	<i>10 ppm</i>	<i>0002-3687</i>		<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i> TLV	<i>10 ppm</i>	<i>0002-3654</i>		<i>yes</i>	<i>yes</i>
<i>9999-0219</i> <i>Bis chloromethyl ether</i> * TLV	<i>.001 ppm</i>	<i>9999-0002 219</i>			<i>yes</i>
<i>9999-0220</i> <i>1,2 Dichloroethylene (cis & trans)</i> * TLV	<i>200 ppm</i>	<i>9999-0002 220</i>		<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400 ppm</i>	<i>0005-5481</i>			<i>yes</i>
<i>Dimethyl sulfate</i> * TLV	<i>0.1 ppm (C)</i>	<i>9999-0002 222</i>		<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i> TLV	<i>10 ppm</i>	<i>0001-8531</i>		<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i> IHL	<i>150 ppb in blood</i>	<i>0002-5310</i>		<i>yes</i>	<i>yes</i>
<i>Hexachlorobutadiene</i> IHL	<i>.05 ppm</i>	<i>0009-2375</i>		<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i> TLV	<i>1 ppm</i>	<i>0002-3643</i>		<i>yes</i>	<i>yes</i>
<i>Methyl hydrogensulfate</i>	<i>n.e.</i>	<i>9999-0011</i>		<i>yes</i>	<i>yes</i>
<i>Pentachloroethane</i>	<i>n.e.</i>	<i>9999-0188</i>		<i>yes</i>	<i>yes</i>
<i>Phosgene</i> TLV	<i>0.1 ppm</i>	<i>9999-0225 2</i>		<i>yes</i>	<i>yes</i>

1. Toxic data sheet
2. Consequences of overexposure

FORM 10-7710 PRINTED 8-10-74

DO 097585
CONFIDENTIAL
* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME		F-4107		BUILDING NO.	
		Chlorinated methanes		Block 76	
FILLED OUT BY			DATE		
Rodney Borkelson Dannie Kennedy					
JOB CLASSIFICATION		INDEX NUMBER		NO. OF EMPLOYEES IN CLASSIFICATION	
MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
By-products Control					
1112 Tetrachloroethane TLV	100 ppm	0001-3412		yes	yes
1122 Tetrachloroethane IHC	0.1 ppm	0002-3632		yes	yes
Trichloroethylene TLV	100 ppm	9999-0222	0123	yes	yes
Vinyl chloride TLV	1 ppm	0114-1986		yes	yes
Vinylidene TLV	10 ppm	0002-0611		yes	yes
Products: LPRD					
Chloroform TLV	10 ppm	0002-3609		yes	yes
Methyl chloride IHC	50 ppm	0002-3734		yes	yes
Methylene chloride TLV	200 ppm	0001-5879		yes	yes
Miscellaneous:					
Asbestos TLV	2 fibers/cc	0027-0713		yes	yes
Carbon dioxide TLV	5000 ppm	9999-0090		yes	yes
Carbon monoxide TLV	50 ppm	0006-7867		yes	yes
Caustic TLV	2 mg/m ³	0007-9914		yes	yes
Chloroethane N ₁₁₁ Trichloroethylene TLV	350 ppm	0124-2462		yes	yes
Dowtherm G Diphenyl oxide IHC	1 ppm	9999-0022	4	yes	yes
Freon 12 Dichlorodifluoromethane IHC	1000 ppm	9999-0222	5	yes	yes
Methane	>18% OXYGEN	0003-0206		yes	yes
Nitrogen	>18% OXYGEN	9999-0003		yes	yes
Sulfuric acid TLV	1 mg/m ³	9999-0222	5	yes	yes
Lab Chemicals: LAB					
Ammonia TLV	25 ppm	0006-6342		yes	yes
Carbon disulfide TLV	10 ppm	9999-0037		yes	yes
Karl Fischer Reagent		9999-0036		yes	yes
Methanol TLV	200 ppm	0002-3938		yes	yes
Pyridine TLV	5 ppm	9999-0022	7	yes	yes

Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

FORM M-47712 PRINTED R-10-74

**** To be filled in by Industrial Hygiene.**

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>		BUILDING NO. <i>Block 76</i>	
FILLED OUT BY <i>Redmy Bordon</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>			
JOB CLASSIFICATION <i>Operational Technician 02</i>		INDEX NUMBER <i>6</i>		NO. OF EMPLOYEES IN CLASSIFICATION <i>6</i>	

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
<i>Raw materials:</i>						
<i>Hydrochloric acid</i>	TLV	<i>7mg/m³ 5ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV	<i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	IHL	<i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i>	TLV	<i>3mg/m³ 1ppm (C)</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>						
<i>Amylene</i>	*	<i>>18% Oxygen</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Bz₂ phosphate</i>			<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Bz₂ Sulfate</i>			<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i>	TLV	<i>300ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i>	IHL	<i>1mg/m³ 20ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i>	IHL Excursion →	<i>100ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products:</i>						
<i>1,1 dichloroethane</i>	TLV 200	<i>IHL 100ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i>	TLV	<i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i>	TLV	<i>10ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bischloromethyl ether</i>	TLV	<i>.001ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV	<i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	IHL	<i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i>	TLV	<i>skin 0.1ppm (C)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i>	TLV	<i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i>	IHL	<i>150ppb in blood</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobutadiene</i>	IHL	<i>.05ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i>	TLV	<i>skin 1ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogen sulfate</i>		<i>n.a.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Penta chloroethane</i>		<i>n.e.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i>	TLV	<i>0.1ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1. *See data sheet*
2. *Consequences of overexposure*

FORM 14-7711; PRINTED 8-15-74

- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

DO 097588
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CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME	AGENT	BUILDING NO.
	Chlorinated Methanes	Block 96

FILLED OUT BY	DATE
Redney Bonelson Dennis Kennedy	

JOB CLASSIFICATION	INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION
Operations Technician	8	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
By-products Control					
1,1,1,2 tetrachloroethane TLV	100 ppm	II	IV	yes	yes
1,1,2,2 tetrachloroethane IHC	0.1 ppm	II	IV	yes	yes
Trichloroethylene TLV	100 ppm	II	IV	yes	yes
Vinyl Chloride TLV	1 ppm	II	III	yes	yes
Vinylidene TLV	10 ppm	II	IV	yes	yes
Products:					
Chloroform TLV	10 ppm	III	II	yes	yes
Methyl Chloride IHC Exclusion	50 ppm 200 ppm	III	II	yes	yes
Methylene Chloride TLV	200 ppm	III	II	yes	yes
Miscellaneous:					
Asbestos TLV	2 f/lw/cc	I	IV	yes	yes
Carbon dioxide TLV	5000 ppm	II	IV	yes	yes
Carbon monoxide TLV	50 ppm	II	IV	yes	yes
Caustic TLV	2 mg/m ³	III	III	yes	yes
Chloroethene Nn 111 Trichloroethylene TLV	350 ppm	II	IV	yes	yes
Dewtherm G Diphenyl Oxide IHC	1 ppm	II	IV	yes	yes
Freon 12 Dichlorodifluoromethane IHC	1000 ppm	II	IV	yes	yes
Methane	>18% OXYGEN	II	IV	yes	yes
Nitrogen	>18% OXYGEN	III	IV	yes	yes
Sulfuric acid TLV	1 mg/m ³	III	III	yes	yes
Lab Chemicals:					
Ammonia TLV	25 ppm	III	III	yes	yes
Carbon disulfide TLV	5 skin 10 ppm	I	IV	yes	yes
Karl Fischer reagent		III	III	yes	yes
Methanol TLV	5 skin 200 ppm	III	III	yes	yes
Pyrindine TLV	5 ppm	II	IV	yes	yes

1. Tox Data Sheet
2. Consequences of overexposure

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

SUPERINTENDENT NAME

PLANT

Chlorinated Methanes

BUILDING NO.

4601

FILED OUT BY

FILLED OUT BY
Redney Bordelon
Dannie Kennedy

DATE

JOB CLASSIFICATION

Operations Technician

INDEX NUMBER

22

[illegible]

DO 097590
CONFIDENTIAL

- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shimsky</i>		PLANT <i>0461 Chlorinated Methanes</i>	FILE NO. <i>Block 46</i>
FILED OUT BY <i>Redney Boudon</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Operations Specialist 04</i>		INDEX NUMBER <i>1</i>	NO. OF EMPLOYEES IN CLASSIFICATION <i>12</i>

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
Raw materials :						
Hydrochloric acid	TLV	7mg/m ³ 5 ppm	II	III	yes	yes
Methanol	TLV	200 ppm	II	IV	yes	yes
Dimethyl ether	TLV	400 ppm	II	IV		yes
Chlorine	TLV	3mg/m ³ 1 ppm (C)	II	III	yes	yes
Additives :						
Aniline	*	>18% Oxygen	II	IV	yes	yes
Beta phosphate			II	IV		yes
Beta Sulfate			II	IV	yes	yes
Cyclohexane	TLV	300 ppm	II	IV	yes	yes
Ferric Chloride	TLV	1mg/m ³ 20 ppm	II	IV	yes	yes
Propylene Oxide	TLV Exposure →	100 ppm	II	IV	yes	yes
By-products						
1,1 dichloroethane	TLV 200	TLV 100 ppm	II	IV		yes
1,1,2 trichloroethane	TLV	10 ppm	II	IV	yes	yes
Carbon tetrachloride	TLV	10 ppm	II	III	yes	yes
Bis chloromethyl ether	TLV	.001 ppm	II	III		yes
1,2 Dichloroethylene (cis trans)	TLV	200 ppm	II	IV	yes	yes
Dimethyl ether	TLV	400 ppm	II	IV		yes
Dimethyl sulfate	TLV	0.1 ppm (C) skin	II	IV	yes	yes
Ethylene dichloride	TLV	10 ppm	II	IV	yes	yes
Hexachlorobenzene	TLV	150 ppb in blood	II	III	yes	yes
Hexachlorocyclopentadiene	TLV	.05 ppm	II	III	yes	yes
Hexachloroethane	TLV	1 ppm skin	II	III	yes	yes
Methyl hydroxy sulfates		n.e.	II	IV	yes	yes
Penta chloroethane		n.e.	II	IV	yes	yes
Phosgene	TLV	0.1 ppm	II	IV	yes	yes

1. Toxic Data Sheet
2. Consequences of overexposure

FORM 10-47710 PRINTED 8-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

DO 097591
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CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME		BUILDING NO.	
		Block 76	
FILLED OUT BY		DATE	
Rodney Bonkela Dannie Kennedy			
JOB CLASSIFICATION		INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION
Operator Specialist			

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<u>By-products Control</u>				1	2
1112 tetrachloroethane TLV	100 ppm	II	IV	yes	yes
1122 tetrachloroethane JHC	0.1 ppm	II	IV	yes	yes
Trichloroethylene TLV	100 ppm	II	IV	yes	yes
Vinyl Chloride TLV	1 ppm	II	III	yes	yes
Vinylidene TLV	10 ppm	II	IV	yes	yes
<u>Products:</u>					
Chloroform TLV	10 ppm	II	III	yes	yes
Methyl Chloride JHC Extension	50 ppm 200 ppm	II	III	yes	yes
Methylene Chloride TLV	200 ppm	II	III	yes	yes
<u>Miscellaneous:</u>					
Asbestos TLV	2 fibers/cc	I	IV	yes	yes
Carbon dioxide TLV	5000 ppm	II	V	yes	yes
Carbon monoxide TLV	50 ppm	II	V	yes	yes
Caustic TLV	2 mg/m ³	II	IV	yes	yes
Chloroethene Nn 111 Trichloroethylene TLV	350 ppm	II	IV	yes	yes
Dawthorn 6 Diphenyl oxide JHC	1 ppm	II	IV	yes	yes
Iron 12 Dichlorodifluoromethane JHC	1000 ppm	II	IV	yes	yes
Methane	>18% OXYGEN	II	V	yes	yes
Nitrogen	>18% OXYGEN	II	V	yes	yes
Sulfuric acid TLV	1 mg/m ³	II	IV	yes	yes
<u>Lab Chemicals:</u>					
Ammonia TLV	25 ppm	II	IV	yes	yes
Carbon disulfide TLV	10 ppm Skin	I	V	yes	yes
Karl Fischer reagent		II	IV	yes	yes
Methanol DO 097592 TLV	200 ppm Skin	II	IV	yes	yes
Pyridine CONFIDENTIAL TLV	5 ppm	II	IV	yes	yes

1. Tox data sheet
2. Consequences of overexposure

- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

[illegible]

1. Toxic data Sheet
2. Consequences of overexposure

FORM M-47710 PRINTED 8-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME John Shively PLANT 0461 Chlorinated Methanes RULE 116 NG Block 46

FILLED OUT BY Redney Borden DATE 6-3-81
Dennis Kennedy

JOB CLASSIFICATION Instrument Technician 10 INDEX NUMBER 6 NO. OF EMPLOYEES IN CLASSIFICATION 6

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
<u>Raw materials:</u>						
<u>Hydrochloric acid</u>	TLV	<u>7 mg/m³</u> <u>5 ppm</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Methanol</u>	TLV	<u>200 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Dimethyl ether</u>	IHL	<u>400 ppm</u>	<u>II</u>	<u>IV</u>		<u>yes</u>
<u>Chlorine</u>	TLV	<u>3 mg/m³</u> <u>1 ppm (c)</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Additives:</u>						
<u>Aniline</u>	*	<u>> 18% Oxygen</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Beta Phosphate</u>			<u>II</u>	<u>IV</u>		<u>yes</u>
<u>Beta Sulfate</u>			<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Cyclohexane</u>	TLV	<u>300 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Ferric Chloride</u>	IHL	<u>1 mg/m³</u> <u>20 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Propylene Oxide</u>	IHL <u>Cyclohexane</u>	<u>100 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>By-products</u>						
<u>1,1 dichloroethane</u>	TLV	<u>200</u> <u>100 ppm</u>	<u>II</u>	<u>IV</u>		<u>yes</u>
<u>1,1,2 trichloroethane</u>	TLV	<u>10 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Carbon tetrachloride</u>	TLV	<u>10 ppm</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Bis chloromethyl ether</u>	TLV	<u>.001 ppm</u>	<u>II</u>	<u>III</u>		<u>yes</u>
<u>1,2 Dichloroethylene (cis & trans)</u>	TLV	<u>200 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Dimethyl ether</u>	IHL	<u>400 ppm</u>	<u>II</u>	<u>IV</u>		<u>yes</u>
<u>Dimethyl sulfate</u>	TLV	<u>5 skin</u> <u>0.1 ppm (c)</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Ethylene dichloride</u>	TLV	<u>10 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Hexachlorobenzene</u>	IHL	<u>150 ppb in blood</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Hexachlorobutadiene</u>	IHL	<u>.05 ppm</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Hexachloroethane</u>	TLV	<u>5 skin</u> <u>1 ppm</u>	<u>II</u>	<u>III</u>	<u>yes</u>	<u>yes</u>
<u>Methyl hydrogen sulfate</u>		<u>n.e.</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Penta chloroethane</u>		<u>n.e.</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>
<u>Phosgene</u>	TLV	<u>0.1 ppm</u>	<u>II</u>	<u>IV</u>	<u>yes</u>	<u>yes</u>

DO 097594
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1. Toxic data sheet
2. Consequences of overexposure

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		BUILDING NO. <i>Block 76</i>	
FILED OUT BY <i>Redney Borden</i> <i>Dannie Kennedy</i>		DATE	
JOB CLASSIFICATION <i>Instrument technician</i>		INDEX NUMBER <i>10</i>	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>By-products Control</i>					
<i>1,1,2,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHC	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl chloride</i> IHC <i>Exclusion</i>	<i>50 ppm</i> <i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene chloride</i> TLV	<i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 f.k.u./cc</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Nm 111 Trichloroethylene</i> TLV	<i>350 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn 6 Diphenyl oxide</i> IHC	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHC	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Lab chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i> <i>skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i> <i>skin</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>

1. To be data sheet
2. Consequences of overexposure

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

FORM M-47710 PRINTED 8-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>	BUILDING NO. <i>Block 46</i>	
FILLED OUT BY <i>Redmy Borden</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>		
JOB CLASSIFICATION <i>Shift Supervisor 05</i>		INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION <i>6</i>	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>Raw materials:</i>					
<i>Hydrochloric Acid</i>	TLV <i>7mg/m³</i> <i>5ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV <i>260ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i>	TLV <i>3mg/m³</i> <i>1ppm (C)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Amylene</i>	* <i>>18% Oxygen</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Bely phosphate</i>		<i>II</i>	<i>V</i>		<i>yes</i>
<i>Bely Sulfate</i>		<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i>	TLV <i>300ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i>	TLV <i>1mg/m³</i> <i>20ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i>	TLV <i>100ppm</i> Excursion →	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV <i>200</i> TLV <i>100ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i>	TLV <i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i>	TLV <i>10ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bis chloromethyl ether</i>	TLV <i>.001ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV <i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i>	TLV <i>0.1ppm (C)</i> <i>5ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i>	TLV <i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i>	TLV <i>150ppb in blood</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorocyclopentadiene</i>	TLV <i>.05ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i>	TLV <i>1ppm</i> <i>5ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogen sulfate</i>	<i>N.R.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Penta chloroethane</i>	<i>N.R.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i>	TLV <i>0.1ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1. Toxic data sheet
2. Consequences of overexposure
FORM 14-7710 PRINTED 8-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

DO 097597
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CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>Chlorinated Methanes</i>	BUILDING NO. <i>Block 9601</i>
FILLED OUT BY <i>Redney Borden</i> <i>Dannie Kennedy</i>		DATE	
JOB CLASSIFICATION <i>Shift Supervisor</i>	INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>By-products Cont'd</i>				<i>1</i>	<i>2</i>
<i>1,1,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHC	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i> IHC <i>Exclusion</i> TLV	<i>50 ppm</i> <i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i> TLV	<i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 fibers/cc</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Nm III Trichloroethylene</i> TLV	<i>350 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn 6 Diphenyl oxide</i> IHC	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHC	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i> <i>5 skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i> <i>5 skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>

1. take data sheet
2. consequences of overexposure

FORM M-47710 PRINTED R-10-74

- * See Industrial Hygiene Data Sheet.
- ** To be filled in by Industrial Hygiene.

DO 097599
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- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>	PLANT <i>0461 Chlorinated Methanes</i>	BUCKET NO. <i>Black 76</i>
FILED OUT BY <i>Redney Borden</i> <i>Donnie Kennedy</i>	DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>EDU maintenance 06</i>	INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION <i>8</i>

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials:</i>				1	2
<i>Hydrochloric acid</i> TLV	<i>7mg/m³</i> <i>5ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400ppm</i>	<i>III</i>	<i>III</i>		<i>yes</i>
<i>Chlorine</i> TLV	<i>3mg/m³</i> <i>1ppm (c)</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Aniline</i> *	<i>>18% Oxygen</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Beta phosphate</i>		<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Beta Sulfate</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i> TLV	<i>300ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i> IHL	<i>1mg/m³</i> <i>20ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene oxide</i> IHL Excursion →	<i>100ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i> TLV	<i>IHL</i> <i>200</i> <i>100ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i> TLV	<i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i> TLV	<i>10ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bis chloromethyl ether</i> TLV	<i>.001ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i> TLV	<i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i> TLV	<i>3skin</i> <i>0.1ppm (c)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i> TLV	<i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i> IHL	<i>150ppb in blood</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorocyclopentadiene</i> IHL	<i>.05ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i> TLV	<i>3skin</i> <i>1ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogensulfate</i>	<i>n.a.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Penta chloroethane</i>	<i>n.a.</i>	<i>IV</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i> TLV	<i>0.1ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

DO 097600
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1. Toxic Data Sheet
2. Consequences of overexposure

FORM 14-7714 PRINTED 5-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>	DATE <i>Chlorinated methanes</i>	BUILDING NO. <i>Block 46</i>
FILLED OUT BY <i>Kidney Bonelson</i> <i>Danise Kennedy</i>	DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>EDO Maintenance</i>	INDEX NUMBER <i>2</i>	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>By-products Control</i>				<i>1</i>	<i>2</i>
<i>1,1,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHC	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i> IHC <i>Exposure</i> TLV	<i>50 ppm</i> <i>200 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i> TLV	<i>200 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 fbers/cc</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Na III Trichloroethylene</i> TLV	<i>350 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn 6 Diphenyl oxide</i> IHC	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHC	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>III</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> DO 097601 CONFIDENTIAL TLV	<i>200 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1. *not data sheet*
2. *Consequences of overexposure*

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

- 1 Tax data Sheet
- 2 Consequences of overexposure

FORM M-47710 PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>		BUILDING NO. <i>Blk 46</i>	
FILLED OUT BY <i>Redney Bordon Donnie Kennedy</i>		DATE <i>6-3-81</i>			
JOB CLASSIFICATION <i>(Clerical) Secretary and Computer Technician 09</i>		INDEX NUMBER <i>0</i>		NO. OF EMPLOYEES IN CLASSIFICATION <i>2</i>	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>Raw materials:</i>					
<i>Hydrochloric Acid</i>	TLV 7mg/m ³ 5ppm	I	V	yes	yes
<i>Methanol</i>	TLV 280ppm	I	V	yes	yes
<i>Dimethyl ether</i>	TLV 400ppm	I	V		yes
<i>Chlorine</i>	TLV 3mg/m ³ 1ppm (c)	I	IV	yes	yes
<i>Additives:</i>					
<i>Aniline</i>	* >18% Oxygen	I	V	yes	yes
<i>Beta phosphate</i>		I	V		yes
<i>Beta Sulfate</i>		I	V	yes	yes
<i>Cyclohexane</i>	TLV 300ppm	I	V	yes	yes
<i>Ferric Chloride</i>	TLV 1mg/m ³	I	V	yes	yes
<i>Propylene Oxide</i>	TLV 20ppm Excursion → 100ppm	I	V	yes	yes
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV 200 TLV 100ppm	I	V		yes
<i>1,1,2 trichloroethane</i>	TLV 10ppm	I	V	yes	yes
<i>Carbon tetrachloride</i>	TLV 10ppm	II	IV	yes	yes
<i>Bis chloromethyl ether</i>	TLV .001ppm	I	V		yes
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV 200ppm	I	V	yes	yes
<i>Dimethyl ether</i>	TLV 400ppm	I	V		yes
<i>Dimethyl sulfate</i>	TLV 0.1ppm (c) Skin	I	V	yes	yes
<i>Ethylene dichloride</i>	TLV 10ppm	I	V	yes	yes
<i>Hexachlorobenzene</i>	TLV 150ppb in blood	I	V	yes	yes
<i>Hexachlorobutadiene</i>	TLV .05ppm	I	V	yes	yes
<i>Hexachloroethane</i>	TLV 1ppm Skin	I	V	yes	yes
<i>Methyl hydrogen sulfate</i>	n.e.	I	V	yes	yes
<i>Penta chloroethane</i>	n.e.	I	V	yes	yes
<i>Phosgene</i>	TLV 0.1ppm	I	V	yes	yes

DO 097603
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1. Toxic Data Sheet
2. Consequences of overexposure

FORM 10471C PRINTED 6-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME		LAST		BUILDING NO.	
		Chlorinated methanes		Block 76	
FILLED OUT BY		DATE			
Rodney Bonkelen Dennis Kennedy					
JOB CLASSIFICATION		INDEX NUMBER		NO. OF EMPLOYEES IN CLASSIFICATION	
Secretary and Computer technician		8			
MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<u>By-products control</u>					
1,1,2,2 tetrachloroethane TLV	100 ppm	I	V	yes	yes
1,1,2,2 tetrachloroethane IHC	0.1 ppm	I	V	yes	yes
Trichloroethylene TLV	100 ppm	I	V	yes	yes
Vinyl chloride TLV	1 ppm	I	V	yes	yes
Vinylidene TLV	10 ppm	I	V	yes	yes
<u>Products:</u>					
Chloroform TLV	10 ppm	II	IV	yes	yes
Methyl chloride IHC Extension	50 ppm	II	IV	yes	yes
Methylene chloride TLV	200 ppm	II	IV	yes	yes
<u>Miscellaneous:</u>					
Asbestos TLV	2 f.k.u./cc	I	IV	yes	yes
Carbon dioxide TLV	5000 ppm	I	V	yes	yes
Carbon monoxide TLV	50 ppm	I	V	yes	yes
Caustic TLV	2 mg/m ³	I	IV	yes	yes
Chloroethene Na III Trichloroethylene TLV	350 ppm	I	IV	yes	yes
Dioxin 6 Diphthalic anhydride IHC	1 ppm	I	IV	yes	yes
Freon 12 Dichlorodifluoromethane IHC	1000 ppm	I	V	yes	yes
Methane	>18% OXYGEN	I	V	yes	yes
Nitrogen	>18% OXYGEN	I	V	yes	yes
Sulfuric acid TLV	1 mg/m ³	I	V	yes	yes
<u>Lab Chemicals:</u>					
Ammonia TLV	25 ppm	I	V	yes	yes
Carbon disulfide TLV	10 ppm	I	V	yes	yes
Karl Fischer reagent		I	V	yes	yes
Methanol TLV	200 ppm	I	V	yes	yes
Pyridine TLV	5 ppm	I	V	yes	yes

Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

DO 097605
CONFIDENTIAL

- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>Chlorinated Methanes</i>	BUILDING NO. <i>Block 46</i>
FILLED OUT BY <i>Redney Borden</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Laborer II</i>		INDEX NUMBER <i>1</i>	NO. OF EMPLOYEES IN CLASSIFICATION <i>2</i>

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials:</i>				1	2
<i>Hydrochloric Acid</i> TLV	<i>7mg/m³</i> <i>5ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i> TLV	<i>3mg/m³</i> <i>1ppm (C)</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Aniline</i> *	<i>>18% Oxygen</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Betz phosphate</i>		<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Betz Sulfate</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i> TLV	<i>300ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i> IHL	<i>1mg/m³</i> <i>20ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i> IHL <i>Excursion →</i>	<i>100ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i> TLV	<i>IHL</i> <i>200</i> <i>100ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i> TLV	<i>10ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i> TLV	<i>10ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Bischloromethyl ether</i> TLV	<i>.001ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylenes (cis & trans)</i> TLV	<i>200ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i> IHL	<i>400ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i> TLV	<i>skin</i> <i>0.1ppm (C)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i> TLV	<i>10ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i> IHL	<i>150ppm in blood</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorocyclopentadiene</i> IHL	<i>.05ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i> TLV	<i>skin</i> <i>1ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogen sulfate</i>	<i>n.e.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Penta chloroethane</i>	<i>n.e.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i> TLV	<i>0.1ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1. Tox data sheet
2. Consequences of overexposure

FORM 10-7711 PRINTED 8-10-74

- * See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

DO 097606
CONFIDENTIAL

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>	AGENT <i>Chlorinated Methanes</i>	BUILDING NO. <i>Block 96</i>
FILLED OUT BY <i>Ridney Borkelson</i> <i>Daniel Kennedy</i>	DATE	
JOB CLASSIFICATION <i>Labourer</i>	INDEX NUMBER <i>3</i>	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>By-products Cont'd</i>					
<i>1,1,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHC	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i> IHC <i>Extension</i>	<i>50 ppm</i> <i>200 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i> TLV	<i>200 ppm</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 fibers/cc</i>	<i>III</i>	<i>II</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Nn III Trichloroethylene</i> TLV	<i>350 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn G Diphenyl Oxide</i> IHC	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHC	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>IV</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i> <i>skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i> <i>skin</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>

1 Top data sheet
2 Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

SUPERINTENDENT NAME _____

PLANT

Chlorinated Methanes

BUILDING NO.

4601

FILED OUT BY

ILLED OUT BY
Radney Bordelon
Dannie Kennedy

DATE _____

JOB CLASSIFICATION

To be over

INDEX NUMBER

NO. OF EMPLOYEES IN CLASSIFICATION	
---------------------------------------	--

DO 097608
CONFIDENTIAL

- 1 Tax data Sheet
- 2 Consequences of overpayment

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

**** To be filled in by Industrial Hygiene.**

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>	FILE NO. <i>Blk 46</i>
FILLED OUT BY <i>Redney Bordon</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Pipefitters, Ironworkers & Electricians</i>		INDEX NUMBER <i>13</i>	NO. OF EMPLOYEES IN CLASSIFICATION <i>6</i>

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials:</i>				1	2
<i>Hydrochloric Acid</i>	TLV 7mg/m ³ 5ppm	III	IV	yes	yes
<i>Methanol</i>	TLV 260 ppm	III	IV	yes	yes
<i>Dimethyl ether</i>	TLV 400 ppm	III	IV		yes
<i>Chlorine</i>	TLV 3mg/m ³ 1 ppm (C)	III	III	yes	yes
<i>Additives:</i>					
<i>Aniline</i>	* >18% Oxygen	II	IV	yes	yes
<i>Buty phosphate</i>		II	IV		yes
<i>Buty Sulfate</i>		II	IV	yes	yes
<i>Cyclohexane</i>	TLV 300 ppm	II	IV	yes	yes
<i>Ferric Chloride</i>	TLV 1mg/m ³	II	IV	yes	yes
<i>Propylene Oxide</i>	Excursion → 20 ppm 100 ppm	II	IV	yes	yes
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV 200 TLV 100 ppm	II	IV		yes
<i>1,1,2 trichloroethane</i>	TLV 10 ppm	II	IV	yes	yes
<i>Carbon tetrachloride</i>	TLV 10 ppm	III	III	yes	yes
<i>Bischloromethyl ether</i>	TLV .001 ppm	II	III		yes
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV 200 ppm	II	IV	yes	yes
<i>Dimethyl ether</i>	TLV 400 ppm	II	IV		yes
<i>Dimethyl sulfate</i>	TLV 0.1 ppm (C)	II	IV	yes	yes
<i>Ethylene dichloride</i>	TLV 10 ppm	II	IV	yes	yes
<i>Hexachlorobenzene</i>	TLV 150 ppb in blood	III	III	yes	yes
<i>Hexachlorobutadiene</i>	TLV .05 ppm	III	III	yes	yes
<i>Hexachloroethane</i>	TLV 1 ppm	III	III	yes	yes
<i>Methyl hydroxy sulfate</i>	n.e.	II	IV	yes	yes
<i>Pentachloroethane</i>	n.e.	II	IV	yes	yes
<i>Phosgene</i>	TLV 0.1 ppm	II	IV	yes	yes

1. Tax data sheet
2. Consequences of overexposure

FORM 10-47710 PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

DO 097609
CONFIDENTIAL

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		FACILITY <i>Chlorinated Methanes</i>		BUILDING NO. <i>Block 76</i>	
FILED OUT BY <i>Redney Bonelson</i> <i>Dennis Kennedy</i>		DATE			
JOB CLASSIFICATION <i>Pipefitters, Ironworkers & Electricians</i>		INDEX NUMBER		NO. OF EMPLOYEES IN CLASSIFICATION	

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>By-products Control</i>					
<i>1,1,2,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHG	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i> IHG Extension	<i>50 ppm</i> <i>200 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i> TLV	<i>200 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 f/lw/cc</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethane</i> TLV	<i>350 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Dioxithene G</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12</i> TLV	<i>1600 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i> TLV	<i>>18% OXYGEN</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i> TLV	<i>>18% OXYGEN</i>	<i>III</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>5 skin</i> <i>10 ppm</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer Reagent</i> TLV	<i>5 skin</i> <i>200 ppm</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1 Top data sheet
2 Consequences of overexposure

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

1 Tax data Sheet
2 Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>	BUILDING NO. <i>Block 76</i>
FILLED OUT BY <i>Radney Borden</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>material controller 16</i>		INDEX NUMBER <i>6</i>	NO. OF EMPLOYEES IN CLASSIFICATION <i>1</i>

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
Raw materials :						
Hydrochloric acid	TLV	7mg/m ³ 5 ppm	II	IV	yes	yes
Methanol	TLV	200 ppm	II	IV	yes	yes
Dimethyl ether	IHL	400 ppm	II	IV		yes
Chlorine	TLV	3mg/m ³ 1 ppm (C)	II	IV	yes	yes
Additives :						
Aniline	*	>18% Oxygen	III	IV	yes	yes
Beryll phosphate			III	IV		yes
Bery Sulfate			III	IV	yes	yes
Cyclohexane	TLV	300 ppm	III	IV	yes	yes
Ferric Chloride	IHL	1mg/m ³ 20 ppm	III	III	yes	yes
Propylene Oxide	IHL Excursion →	100 ppm	II	IV	yes	yes
By-products						
1,1 dichloroethane	TLV 200	IHL 100 ppm	II	IV		yes
1,1,2 trichloroethane	TLV	10 ppm	II	IV	yes	yes
Carbon tetrachloride	TLV	10 ppm	II	III	yes	yes
Bis chloromethyl ether	TLV	.001 ppm	II	III		yes
1,2 Dichloroethylene (cis & trans)	TLV	200 ppm	II	IV	yes	yes
Dimethyl ether	IHL	400 ppm	II	IV		yes
Dimethyl sulfate	TLV	skin 0.1 ppm (C)	II	IV	yes	yes
Ethylene dichloride	TLV	10 ppm	II	IV	yes	yes
Hexachlorobenzene	IHL	150 ppb in blood	II	IV	yes	yes
Hexachlorobutadiene	IHL	.05 ppm	II	IV	yes	yes
Hexachloroethane	TLV	skin 1 ppm	II	IV	yes	yes
Methyl hydrogen sulfate		n.e.	II	IV	yes	yes
Penta chloroethane		n.e.	II	IV	yes	yes
Phosgene	TLV	0.1 ppm	II	IV	yes	yes

DO 097612
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DO 097612
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1. Toxic Data Sheet
2. Consequences of overexposure

FORM M-47751 PRINTED 8-10-74

- * See Industrial Hygiene Data Sheet.
- ** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		BUILDING NO. <i>Block 96</i>	
FILLED OUT BY <i>Redney Borden</i> <i>Dannie Kennedy</i>		DATE	
JOB CLASSIFICATION <i>Material Controller</i>		INDEX NUMBER <i>7</i>	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
<i>By-products Cont'd</i>					
<i>1,1,2,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHC	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl Chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl Chloride</i> IHC Extension	<i>50 ppm</i> <i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene Chloride</i> TLV	<i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 f.k.u./cc</i>	<i>I</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon Monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethene Na III Trichloroethylene</i> TLV	<i>350 ppm</i>	<i>III</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Dowtherm G Diphenyl Oxide</i> IHC	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHC	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>

1. Take data sheet
2. Consequences of overexposure

FORM M-47710 PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

FORM M-47710 PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0469</i> <i>Chlorinated Methanes</i>	FILE NO. <i>Block 76</i>
FILED OUT BY <i>Rodney Borden</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Chemist 28</i>		INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION <i>2</i>

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
Raw materials :						
Hydrochloric acid	TLV	7mg/m ³ 5 ppm	II	III	yes	yes
Methanol	TLV	200 ppm	III	IV	yes	yes
Dimethyl ether	INHG	400 ppm	II	IV		yes
Chlorine	TLV	3mg/m ³ 1 ppm (C)	II	III	yes	yes
Additives :						
Aniline	*	>18% Oxygen	III	IV	yes	yes
Beta phosphate			II	V		yes
Beta Sulfate			II	V	yes	yes
Cyclohexane	TLV	300 ppm	III	IV	yes	yes
Ferric Chloride	INHG	1mg/m ³ 20 ppm	III	IV	yes	yes
Propylene Oxide	INHG Excursion →	100 ppm	III	IV	yes	yes
By-products						
1,1 dichloroethane	TLV 200	INHG 100 ppm	III	IV		yes
1,1,2 trichloroethane	TLV	10 ppm	III	IV	yes	yes
Carbon tetrachloride	TLV	10 ppm	III	III	yes	yes
Bis chloromethyl ether	TLV	.001 ppm	II	III		yes
1,2 Dichloroethylene (cis & trans)	TLV	200 ppm	III	IV	yes	yes
Dimethyl ether	INHG	400 ppm	III	III		yes
Dimethyl sulfate	TLV	5skin 0.1 ppm (C)	II	IV	yes	yes
Ethylene dichloride	TLV	10 ppm	III	III	yes	yes
Hexachlorobenzene	INHG	150 ppb in blood	II	IV	yes	yes
Hexachlorocyclopentadiene	INHG	.05 ppm	II	IV	yes	yes
Hexachloroethane	TLV	5skin 1 ppm	II	IV	yes	yes
Methyl hydrogen sulfate		n.e.	II	IV	yes	yes
Penta chloroethane		n.e.	II	IV	yes	yes
Phosgene	TLV	0.1 ppm	II	IV	yes	yes

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- 1. Toxic Data Sheet*
- 2. Consequences of overexposure*

FORM 10-7711 PRINTED 5-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>	AGENCY <i>Chlorinated Methanes</i>	FILE NO. <i>Block 76</i>
FILLED OUT BY <i>Redney Borkelson</i> <i>Danise Kennedy</i>	DATE	
JOB CLASSIFICATION <i>Environmental Specialist & Sr. Assist. Chemist</i>	INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS		INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
					1	2
By-products Control						
1,1,1,2 Tetrachloroethane	TLV	100 ppm	II	IV	yes	yes
1,1,2,2 Tetrachloroethane	IHC	0.1 ppm	II	IV	yes	yes
Trichloroethylene	TLV	100 ppm	III	IV	yes	yes
Vinyl Chloride	TLV	1 ppm	III	III	yes	yes
Vinylidene	TLV	10 ppm	III	IV	yes	yes
Products:						
Chloroform	TLV	10 ppm	III	III	yes	yes
Methyl Chloride	IHC Exclusion	50 ppm 200 ppm	III	III	yes	yes
Methylene Chloride	TLV	200 ppm	III	III	yes	yes
Miscellaneous:						
Asbestos	TLV	2 fbers/cc	I	IV	yes	yes
Carbon dioxide	TLV	5000 ppm	II	V	yes	yes
Carbon monoxide	TLV	50 ppm	II	V	yes	yes
Caustic	TLV	2 mg/m ³	II	IV	yes	yes
Chloroethene Nm III Trichloroethylene	TLV	350 ppm	III	IV	yes	yes
Dioxthene 6 Diphenyl oxide	IHC	1 ppm	II	IV	yes	yes
Freon 12 Dichlorodifluoromethane	IHC	1000 ppm	II	IV	yes	yes
Methane		>18% OXYGEN	II	V	yes	yes
Nitrogen		>18% OXYGEN	III	IV	yes	yes
Sulfuric acid	TLV	1 mg/m ³	III	III	yes	yes
Lab Chemicals:						
Ammonia	TLV	25 ppm	III	III	yes	yes
Carbon disulfide	TLV	10 ppm Skin	III	II	yes	yes
Karl Fischer reagent			III	IV	yes	yes
Methanol	TLV	200 ppm Skin	III	III	yes	yes
Pyridine	TLV	5 ppm	III	IV	yes	yes

1 *See data sheet*
2 *Consequences of overexposure*

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

- 1 Tax data Sheet
- 2 Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		AGENT <i>Chlorinated Methanes</i>	FILE NO. <i>Block 96</i>
FILLED OUT BY <i>Rodney Barkley</i> <i>Dannie Kennedy</i>		DATE	
JOB CLASSIFICATION <i>Technical</i>		INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>By-products Control</i>				1	2
<i>1,1,2,2 tetrachloroethane</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>1,1,2,2 tetrachloroethane</i> IHG	<i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Trichloroethylene</i> TLV	<i>100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Vinyl chloride</i> TLV	<i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Vinylidene</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Products:</i>					
<i>Chloroform</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl chloride</i> IHG Extension	<i>50 ppm</i> <i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methylene chloride</i> TLV	<i>200 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Miscellaneous:</i>					
<i>Asbestos</i> TLV	<i>2 f.k.u./cc</i>	<i>I</i>	<i>V</i>	<i>yes</i>	<i>yes</i>
<i>Carbon dioxide</i> TLV	<i>5000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon monoxide</i> TLV	<i>50 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Caustic</i> TLV	<i>2 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Chloroethane</i> TLV	<i>350 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dawthorn G Diphenyl oxide</i> IHG	<i>1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Freon 12 Dichlorodifluoromethane</i> IHG	<i>1000 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methane</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Nitrogen</i>	<i>>18% OXYGEN</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Sulfuric acid</i> TLV	<i>1 mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Lab Chemicals:</i>					
<i>Ammonia</i> TLV	<i>25 ppm</i>	<i>III</i>	<i>III ?</i>	<i>yes</i>	<i>yes</i>
<i>Carbon disulfide</i> TLV	<i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Karl Fischer reagent</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i> TLV	<i>200 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Pyridine</i> TLV	<i>5 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

1 Take data sheet
2 Consequences of overexposure

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

[illegible]

- 1 Tax data Sheet
- 2 Consequences of overpayment

FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461 Chlorinated Methanes</i>	BUILDING NO. <i>Block 46</i>
FILLED OUT BY <i>Redmy Borden</i> <i>Donna Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Manufacturing Technical 26</i>		INDEX NUMBER <i>6</i>	NO. OF EMPLOYEES IN CLASSIFICATION <i>7</i>

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials:</i>				<i>1</i>	<i>2</i>
<i>Hydrochloric Acid</i>	TLV <i>7mg/m³</i> <i>5 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV <i>200 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	IHL <i>400 ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i>	TLV <i>3mg/m³</i> <i>1 ppm (C)</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Aniline</i>	* <i>>18% Oxygen</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Beta phosphate</i>		<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Beta Sulfate</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i>	TLV <i>300 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i>	IHL <i>1mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i>	IHL <i>20 ppm</i> <i>Excursion → 100 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV <i>IHL 200</i> <i>100 ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bis chloromethyl ether</i>	TLV <i>.001 ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV <i>200 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	IHL <i>400 ppm</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i>	TLV <i>5 skin</i> <i>0.1 ppm (C)</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i>	IHL <i>150 ppb in blood</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorocyclopentadiene</i>	IHL <i>.05 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i>	TLV <i>5 skin</i> <i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogen sulfate</i>	<i>n.e.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Pentachloroethane</i>	<i>n.e.</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i>	TLV <i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

DO 097620
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- 1. Toxic data sheet*
- 2. Consequences of overexposure*

FORM 10-7711 PRINTED R-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME <i>John Shively</i>		PLANT <i>0461</i> <i>Chlorinated Methanes</i>	BUILDING NO. <i>Block 46</i>
FILED OUT BY <i>Redney Borden</i> <i>Donnie Kennedy</i>		DATE <i>6-3-81</i>	
JOB CLASSIFICATION <i>Loading Coordinator, 30</i>		INDEX NUMBER	NO. OF EMPLOYEES IN CLASSIFICATION <i>1</i>

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
<i>Raw materials:</i>				<i>1</i>	<i>2</i>
<i>Hydrochloric acid</i>	TLV <i>7mg/m³</i> <i>5 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methanol</i>	TLV <i>260 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400 ppm</i> <i>3mg/m³</i>	<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Chlorine</i>	TLV <i>1 ppm (c)</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Additives:</i>					
<i>Aniline</i>	* <i>>18% Oxygen</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Beta phosphate</i>		<i>II</i>	<i>IV</i>		<i>yes</i>
<i>Beta Sulfate</i>		<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Cyclohexane</i>	TLV <i>300 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ferric Chloride</i>	TLV <i>1mg/m³</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Propylene Oxide</i>	TLV <i>20 ppm</i> <i>Excursion → 100 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>By-products</i>					
<i>1,1 dichloroethane</i>	TLV <i>200</i> <i>100 ppm</i>	<i>III</i>	<i>III</i>		<i>yes</i>
<i>1,1,2 trichloroethane</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Carbon tetrachloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Bis chloromethyl ether</i>	TLV <i>.001 ppm</i>	<i>II</i>	<i>III</i>		<i>yes</i>
<i>1,2 Dichloroethylene (cis & trans)</i>	TLV <i>200 ppm</i>	<i>III</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Dimethyl ether</i>	TLV <i>400 ppm</i>	<i>III</i>	<i>IV</i>		<i>yes</i>
<i>Dimethyl sulfate</i>	TLV <i>0.1 ppm (c)</i> <i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Ethylene dichloride</i>	TLV <i>10 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobenzene</i>	TLV <i>150 ppb in blood</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachlorobutadiene</i>	TLV <i>.05 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Hexachloroethane</i>	TLV <i>1 ppm</i> <i>1 ppm</i>	<i>II</i>	<i>III</i>	<i>yes</i>	<i>yes</i>
<i>Methyl hydrogen sulfate</i>	N.E.	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Penta chloroethane</i>	N.E.	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>
<i>Phosgene</i>	TLV <i>0.1 ppm</i>	<i>II</i>	<i>IV</i>	<i>yes</i>	<i>yes</i>

DO 097621
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1. Toxic Data Sheet
2. Consequences of overexposure

FORM 10-4771C PRINTED 8-10-74

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

CHEMICAL AND PHYSICAL AGENT INVENTORY

SUPERINTENDENT NAME		DATE		BUILDING NO.	
		Chlorinated Methane		4601	
FILLED OUT BY		DATE			
Rodney Bonkela Dannie Kennedy					
JOB CLASSIFICATION		INDEX NUMBER		NO. OF EMPLOYEES IN CLASSIFICATION	
Leading Coordinator					

MATERIALS OR PHYSICAL AGENTS	INDUSTRIAL HYGIENE GUIDE ppm or mg/m ³	DEGREE OF EXPOSURE	HAZARD RATING	DATA SHEET AVAILABLE	
				1	2
By-products Control					
1,1,2,2 tetrachloroethane TLV	100 ppm	II	IV	yes	yes
1,1,2,2 tetrachloroethane IHC	0.1 ppm	II	IV	yes	yes
Trichloroethylene TLV	100 ppm	II	IV	yes	yes
Vinyl Chloride TLV	1 ppm	II	III	yes	yes
Vinylidene TLV	10 ppm	II	IV	yes	yes
Products:					
Chloroform TLV	10 ppm	III	II	yes	yes
Methyl Chloride IHC Exemption	50 ppm 200 ppm	III	II	yes	yes
Methylene Chloride TLV	200 ppm	III	II	yes	yes
Miscellaneous:					
Asbestos TLV	2 f/km/cc	I	V	yes	yes
Carbon dioxide TLV	5000 ppm	II	IV	yes	yes
Carbon monoxide TLV	50 ppm	II	IV	yes	yes
Caustic TLV	2 mg/m ³	II	IV	yes	yes
Chloroethene N ₂ 111 Trichloroethylene TLV	350 ppm	II	IV	yes	yes
Dowtherm G Diphenyl Oxide IHC	1 ppm	II	IV	yes	yes
Freon 12 Dichlorodifluoromethane IHC	1000 ppm	II	IV	yes	yes
Methane	>18% OXYGEN	II	IV	yes	yes
Nitrogen	>18% OXYGEN	III	IV	yes	yes
Sulfuric acid TLV	1 mg/m ³	II	IV	yes	yes
Lab Chemicals:					
Ammonia TLV	25 ppm	I	V	yes	yes
Carbon disulfide TLV	10 ppm Skin	II	IV	yes	yes
Karl Fischer reagent		III	III	yes	yes
Methanol TLV	200 ppm Skin	III	III	yes	yes
Pyridine TLV	5 ppm	III	III	yes	yes

1. Tax data sheet
2. Consequences of overexposure

* See Industrial Hygiene Data Sheet.

** To be filled in by Industrial Hygiene.

DO 097623
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FORM M-4771C PRINTED R-10-74

* See Industrial Hygiene Data Sheet.
** To be filled in by Industrial Hygiene.