

For Use of Dow Employees Only

**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

REPORT: CONFIDENTIAL JOB CLASSIFICATION: CONFIDENTIAL DATE OF THIS REPORT: 11/14/75
IN STORAGE & CONSERVATION: AGREED

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE		NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
			HIGH	LOW			
ACETONE							
AC			< 2 ppm	< 2 ppm	2	8/11/75	
ALCOH			< 2 ppm	< 2 ppm	2	8/5/75	
NASH			2 ppm	0.9 ppm	2	8/11/75	
DIETHYLAMINE							
CHLOROPICRIN			1.3 ppm	0.7 ppm	2	8/8/75	
HCB							
$E_n = \frac{\sum TWA}{\sum Standard} + \frac{\sum TWA}{\sum Standard} + \frac{\sum TWA}{\sum Standard}$							$E_n - \text{Equivalent Exposure} \rightarrow \text{Mixture}$

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate

standard(s) TWA, Ranges & Callings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Signal: Medical Department, Bldg. 2303

cc: Department File

cc: Department File
cc: Environmental Health Committee, Bldg. 2304

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PLAINTIFF'S EXHIBIT

DOW-1940

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**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

DEPARTMENT: CA-2
JOB CLASSIFICATION: STATIONARY SERVICES DATE OF THIS REPORT: 11/14/75

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE		NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
			HIGH	LOW			
DUST N. EXIT OF SHOP	10mg/m ³		1.355		1	8/11/75	
DUST SHOP STEAMING	10mg/m ³		1.25		1	8/11/75	
DUST UNDER STEAMING	10mg/m ³		0.444		1	8/11/75	
DUST UNDER MACHINERY	10mg/m ³		1.11		1	8/11/75	
HCPO UNDER STEAMING	0.1 ppm		0.11ppm		1		
HCPO UNDER MACHINERY	0.1 ppm		0.4ppm		1		
NH ₄ H STEAMING	2mg/m ³		20.4		1		
NH ₄ H UNDER MACHINERY	2mg/m ³		<0.4		1		

$$E_m = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}}$$

$$E_m - \text{Equivalent Exposure} \rightarrow \text{Mixture}$$

$$<(1) \text{ Acceptable}$$

$$>(1) \text{ Unacceptable}$$

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate.

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303

cc: Department File

cc: Department file
cc: Environmental Health Committee, Bldg. 2304

RGV/ad
6-20-73

ST0178575

**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

DEPARTMENT: CA# 2 JOB CLASSIFICATION: SOT-ENGINEER-LIQ DATE OF THIS REPORT: 11/14/75

[illegible]

Original: Medical Department, Bldg. 2303
cc: Department File
cc: Environmental Health Committee, Bldg. 2304

6-20-73
PAC/ad

ST0170576

**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

CA#2

[illegible]

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate

Standard(a) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303
cc: Department File
cc: Environmental Health Committee, Bldg. 2304

RCV/ad
6-20-73

ST0178577

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ENVIRONMENTAL HEALTH SUMMARY CHEMICAL EXPOSURE DATA LOUISIANA DIVISION

IDENT: CA#2 JOB CLASSIFICATION: SOT- CHEMIST & LIG DATE OF THIS REPORT: 11/14/75

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE HIGH LOW	NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
NOISE	90dB		—	1	MAY 23, 26	0.0001 10%
CHLORINE MA 175	1		0.0361	2	MAY 21, 22	0.01416
NAOH (5425) * SEE DATA	2		0.24ppm	1	8/7/75	0.025
NAOH (3429) * SEE DATA	2		0.09ppm	1	8/7/75	0.011
HCN	0.1 ppm		0.0096	2	11/5, 11/6/75	0.0065
H ₂ SO ₄ (2426) * SEE DATA	1		<0.06ppm	1	8/5/75	0.0075
H ₂ SO ₄ (2426) * SEE DATA	1		<0.06ppm	1	8/5/75	0.0075
HCl (2426) * SEE DATA	5		<0.2ppm	2	8/11/75	0.025
$Ea = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} -$						$\frac{Ea - \text{Equivalent Exposure Mixture}}{\text{Equivalent Exposure Rate}} \rightarrow$
						0.10

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Signal: Medical Department, Bldg. 2303

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cc: Environmental Health Committee, Bldg. 2304

* TWA FOR SIGNIFICANT EXPOSURES
1 hr TWA

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ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION

IDENT: CA#2 JOB CLASSIFICATION: DOT CHEMIST DATE OF THIS REPORT: 11/17/75

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE HIGH LOW	NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
NOISE	90dB		— —	1	MAY 19, 20	62
CHLORINE MAY 15	1		.02619 0	2	MAY 18, 19	.01309
NaOH (see May 15)	2mg/m ³		40.4	1		0.05
NaOH (see May 15)	2mg/m ³		40.4	1		0.05
$Ea = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} -$						
$<(1) \text{ Acceptable}$ $>(1) \text{ Unacceptable}$						
Ea - Equivalent Exposure Mixture						0.06

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate —→ 0.06

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303

cc: Department File

cc: Environmental Health Committee, Bldg. 2304

* STATIONARY DUST - CALCULATED AS ABOVE

1110 Exposure

**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

CH#2

JOB CLASSIFICATION: OT Ba-1A/E

DATE OF THIS REPORT:

CHEMICAL NAME	STANDARD (TLV)	FLOORING	SAMPLE(S) RANGE HIGH LOW	NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
NOISE	90dB		- -	1	MAY 27	OUTSIDE 12%
CHLORINE MAY 75	1		.08147 .00467	2	MAY 19, 21	.01777
DUST (silica) * SEE STATION 1	10 mg/m ³		0.444 -	1	8/12/75	.0550
DUST (organic) * SEE STATION 2	10 mg/m ³		1.11 -	1	8/12/75	0.13875
$\text{Em} = \frac{\sum \text{TWA}}{\sum \text{Standard}} + \frac{\sum \text{TWA}}{\sum \text{Standard}} - < (1) \text{ Acceptable}$ $> (1) \text{ Unacceptable}$						Em - Equivalent Exposure → 0.03715

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303

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cc: Environmental Health Committee, Bldg. 2304

1 hr. Exposure per chadny

$$Im = \frac{0.1777}{0.055} + \frac{13.75}{0.055} =$$

CV/ad
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**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

DATE OF THIS REPORT: 11/14/75

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE		NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
			HIGH	LOW			
NOISE	90dB		5%	3%	2	MAY 29, 30	5.5%
111111 MAY 75	1		0.0174	0 -	2	MAY 13, 14	0.0087
DUST (See Standard)	10 mg/m ³		1.35	-	1	8/11/75	0.10175
DUST (See Standard)	10 mg/m ³		1.25	-	1	8/11/75	0.10225
$E_m = \frac{X \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Y \text{ Standard}} + \frac{2 \text{ TWA}}{2 \text{ Standard}}$			$- \frac{X \text{ TWA}}{Y \text{ Standard}} - \frac{Z \text{ TWA}}{Y \text{ Standard}} - \frac{2 \text{ TWA}}{2 \text{ Standard}}$		$- \frac{X \text{ TWA}}{Y \text{ Standard}} - \frac{Z \text{ TWA}}{Y \text{ Standard}} - \frac{2 \text{ TWA}}{2 \text{ Standard}}$		
$E_m = \frac{X \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Y \text{ Standard}} + \frac{2 \text{ TWA}}{2 \text{ Standard}}$			$- \frac{X \text{ TWA}}{Y \text{ Standard}} - \frac{Z \text{ TWA}}{Y \text{ Standard}} - \frac{2 \text{ TWA}}{2 \text{ Standard}}$		$- \frac{X \text{ TWA}}{Y \text{ Standard}} - \frac{Z \text{ TWA}}{Y \text{ Standard}} - \frac{2 \text{ TWA}}{2 \text{ Standard}}$		

Exposure to noise (A scale) for this job classification - Equivalent Exposure Path

standard(e) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303
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cc: Environmental Health Committee, Bldg. 2304

$$EM = \frac{.0087}{1} + \frac{0.1675}{.5251} + \frac{.1525}{.0412} = 0.0412$$

CV/ad
-20-73

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**ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE		NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
			HIGH	LOW			
NOISE	90dB		182	22	2	JUNE 2, 3	107
MAY '75	1		.0362	0	2	MAY 12, 13	.0181
DUST * (STATIONARY) (NORTH SIDE)	10 mg/m ³		1.35	-	1	8/11/75	96875
DUST * (STATIONARY) (SHIP STAIRS)	10 mg/m ³		1.25	-	1	8/11/75	0.15625
$E_m = \frac{\sum TWA}{\sum Standard} + \frac{\sum TWA}{\sum Standard} + \frac{\sum TWA}{\sum Standard}$			$<(1) \text{ Acceptable}$ $>(1) \text{ Unacceptable}$		$E_m - \text{Equivalent Exposure} \rightarrow 0.0412$		

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

-iginal: Medical Department, Bldg. 2303

cc: Department File

cc: Environmental Health Committee, Bldg. 2304

$$I_m = \frac{0.007}{0.16 \cdot 15} + \frac{0.15}{0.15} = 0.0412$$

WV/AD
20-73

STUDIES

**ENVIRONMENTAL HEALTH SUPPLY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION**

AGENT: CA #2 JOB CLASSIFICATION: CELLS 507 DATE OF THIS REPORT: 11/4/75

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE HIGH LOW	NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
NOISE	90dB		HIGH 5% LOW 5%	2	MAY 15, 16	0.00832
SEMI-ANNUAL MAY 75	1		.0188 .0028	3	MAY 20, 21	.00832
SEE SEMI-ANNUAL ALSO	2		.03 .01	3	JULY 21, 75	1.02
$\frac{X \text{ TWA}}{\bar{X} \text{ Standard}} + \frac{Y \text{ TWA}}{\bar{Y} \text{ Standard}} + \frac{Z \text{ TWA}}{\bar{Z} \text{ Standard}}$						(1) Acceptable <(1) Unacceptable
Ea - Equivalent Exposure Mixture						0.01532
Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate						0.04

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Signal: Medical Department, Bldg. 2303

cc: Department File

cc: Department of Environmental Health Committee, Bldg. 2304

$$E_{H1} = \frac{.0032}{1} + \frac{.02}{2} = 0.01852$$

20-73
v/ad

ST0170503

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ENVIRONMENTAL HEALTH SUMMARY
CHEMICAL EXPOSURE DATA
LOUISIANA DIVISION

AGENT: CAR 2 JOB CLASSIFICATION: STATIONARY SAMPLE DATE OF THIS REPORT: _____

CHEMICAL NAME	STANDARD (TLV)	CEILING	SAMPLE(S) RANGE		NUMBER OF SAMPLES TAKEN	SAMPLE PERIOD DATE(S)	TWA
			HIGH	LOW			
ASBESTOS (CELL OPERATOR)	2 FIBERS		0.03	0.01	3	7/21/75	
ASBESTOS STORAGE	2 FIBERS		0.03	0.01	1	7/21/75	
HCL STORAGE AREA	5 ppm		<.2 ppm	<.3 ppm	2	8/11/75	
H ₂ SO ₄ STORAGE	1 mg/m ³		<.06 ppm	<.07 mg/m ³	1	8/5/75	
H ₂ SO ₄ DRYING TOWERS	1 mg/m ³		<.06 ppm	<.07 mg/m ³	1	8/5/75	
NAOH 54-55	2 mg/m ³		.2 ppm	.26 mg/m ³	1	8/7/75	
NAOH SUMP 1	2 mg/m ³		.08 ppm	.11 mg/m ³	1	8/7/75	
CHLOROPHENE EAST SIDE	350 ppm		1.3 ppm	-	1	8/8/75	
CHLOROPHENE WEST SIDE	350 ppm		0.7 ppm	-	1	8/8/75	
$E_m = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} -$							$\frac{E_m - \text{Equivalent Exposure Mixture}}{\text{Equivalent Exposure Rate}}$
							$\frac{E_m - \text{Acceptable}}{>(1) \text{ Unacceptable}}$

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate _____

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m³ if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

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