

CONTINUING PROGRAM OF MONITORING ATMOSPHERIC
CONTAMINANTS WITHIN THE LAKE CHARLES' PLANT
LD-1121H

ABSTRACT

The tables composing this report are continuations of occupational environment surveys started early in 1969 and contain data from various plant areas from July 1974 to April 1975.

INTRODUCTION

The periodic investigation of employees' occupational environments initiated in 1969 is described in detail in LD-1121. This report is an addendum and contains tabulated data obtained from July 1974 through April 1975.

DISCUSSION

Testing in some areas has been deleted where previously compiled data does not warrant further investigation.

A considerable amount of data is being reported more frequently directly to supervisory personnel responsible for the respective areas. This work is also deleted.

Direct reporting of results on a frequent basis is a more effective means of communicating information to those responsible for employees' exposure levels. Therefore, this report is the last addendum to LD-1121. As of April 1, 1975, all measured exposures to airborne contaminants will be reported as they are determined to appropriate management.

Testing frequency guidelines for chemical agents in each area have been established and a standard reporting form has been prepared for use by the entire Chemical Division.

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MWW:rw

BB 0000113

Threshold Limit Values of Airborne Contaminants
 (Exposure Possible within Lake Charles' Plant)
Federal Register, Volume, 39, No. 125

<u>Contaminant</u>	<u>T.L.V. Concentration</u>	
Ammonia	25	ppm
Carbon Monoxide	50	ppm
Cadmium (Dust)	0.2	mg/M ³
Chlorine	1	ppm
Chromium	1	mg/M ³
Coal Tar Pitch Volatiles (Benzene Soluble)	0.2	mg/M ³
Copper (Fume)	0.1	mg/M ³
Copper (Dust)	1	mg/M ³
Hydrogen Sulfide	10	ppm
Lead (Inorganic)	0.15	mg/M ³
Mercury*	0.1	mg/M ³
Sodium Hydroxide	2	mg/M ³

*American Conferences of Governmental Industrial Hygienists (ACGIH) Standard for mercury is 0.05 mg/M³.

Mineral Dusts

Nuisance Dust	15	mg/M ³
Respirable Fraction	5	mg/M ³

Asbestos

Standards based on
length of exposure
and type of protection
worn.

<u>Exposure</u>	<u>Fibers > 5 μm/ml</u>	
	<u>No Protection</u>	<u>Approved Respirators</u>
8 Hours	5	25
15 Minutes Ceiling	10	50

BB 0000114

TAB 1

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
Mercury Cell Circuit	Area - East End, Center	2-25-75 A.M.	Chlorine	< 0.1 ppm	4 Hours	Impinger Sampler and o-Tolidine Colorimetric
	Area - Center	2-25-75 A.M.	Chlorine	0.2 ppm	4 Hours	Ditto
	Area - West End, Center	Ditto	Chlorine	< 0.1 ppm	4 Hours	Ditto
	Area - Hg Cell Repair	Ditto	Chlorine	< 0.1 ppm	4 Hours	Ditto
	Auxiliary Operator-David	3-27-75 (Day Shift)	Hydrogen Sulfide	< 0.01 ppm	8 Hours	Metronics H ₂ S Badge
	Brine Operator-Johnson	Ditto	Hydrogen Sulfide	< 0.01 ppm	8 Hours	Ditto
	Brine Operator-Hebert	4-2-75 (Day Shift)	Hydrogen Sulfide	< 0.01 ppm	8 Hours	Ditto

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TAB 2

OCCUPATIONAL ENVIRONMENT AIR MONITORING

<u>Area</u>	<u>Monitored Personnel</u>	<u>Date-Time</u>	<u>Contaminant</u>	<u>Concentration</u>	<u>Conditions</u>	<u>Method</u>
Brine Treatment/ Liquefaction	Area - South of Reboilers	2-26-75	Chlorine	< 0.1 ppm	2 Hours	o-Tolidine Colorimetric
	Area - West of Reboilers	Ditto	Chlorine	< 0.1 ppm	2 Hours	Ditto
	Liquefaction Operator - (Gaskin)	2-27-75	Ammonia	< 5 ppm	2 Hours	MSA Monitai- Sampler
	Brine Treatment Operator (Winstead)	Ditto	Ammonia	< 5 ppm	2 Hours	Ditto

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TABLE

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
Austic Plant	Area - East Bird Platform	3-18-75 A.M.	NaOH Mist	0.3 mg/M ³	4 Hours	Scrubber/ Atomic Absorption Na Analysis
	Area - West Bird Platform	3-19-75 A.M.	NaOH Mist	0.4 mg/M ³	4 Hours	Ditto
	Area - Sharples Machine	3-19-75 A.M.	NaOH Mist	0.1 mg/M ³	4 Hours	Ditto
LS [®] /Anhydrous	Area - North of Bagging and Drum Loading	3-20-75	NaOH Mist	0.08 mg/M ³	4.5 Hours	Ditto
	Area - South of Bagging	3-20-75 A.M.	NaOH Mist	0.1 mg/M ³	4.5 Hours	Ditto
Austic Plant	Area - North of Caustic Bridge	2-27-75	Chlorine	< 0.1 ppm	1 Hour	o-Tolidine Colorimetric

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TABLE 2

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
aphragm Cell Circuits	Area - North of Cell Bridge	2-27-75 A.M.	Chlorine	< 0.1 ppm	1 Hour	o-Tolidine Colorimetric
	Area - Bridge between Circuits 3 and 5/6	2-27-75 A.M.	Chlorine	0.6 ppm	1 Hour	Ditto
	Area - Bridge between Circuits 5/6 and 7/8	2-27-75 A.M.	Chlorine	0.6 ppm	1 Hours	Ditto
	Area - Center, Circuits 7/8	3-18-75	NaOH Mist	0.2 mg/M ³	4 Hours	Scrubber/ Atomic Absorption Na Analysis
	Area - Center, Circuit 2	3-18-75	NaOH Mist	0.2 mg/M ³	4 Hours, Circuit No. 1 Down	Ditto

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TABLE

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
Diaphragm Cell Repair and Manufacturing	McNabb	7-25-74 P.M.	Lead	< 0.03 mg/M ³	Pouring Anodes (2 Hours)	Filter Membrane
	Fontenot	Ditto	Lead	< 0.03 mg/M ³	Adding Pb to Pot (2 Hours)	Ditto
	Guidry	7-30-74 A.M.	Lead	< 0.03 mg/M ³	Pouring Anodes (2 Hours)	Ditto
	Clement	Ditto	Lead	< 0.03 mg/M ³	Adding Pb to Pot (2 Hours)	Ditto
	Bingham	7-31-74 A.M.	Lead	0.48 mg/M ³	Solder Wiping (2 Hours)	Ditto
	Clement	8-8-74 A.M.	Lead	0.14 mg/M ³	Adding Pb to Pot (S) (1.5 Hours)	Ditto
	Guidry	8-8-74 A.M.	Lead	< 0.03 mg/M ³	Pouring Anodes (1.5 Hrs)	Ditto
	Fontenot	10-16-74 P.M.	Lead	0.02 mg/M ³	Pouring Anodes (3 Hrs)	Ditto
	Clements	10-16-74 P.M.	Lead	0.25 mg/M ³	Adding Pb to Pot (S) (3 Hours)	Ditto
	McNabb	10-16-74 P.M.	Lead	0.08 mg/M ³	Solder Wiping (2 Hours)	Ditto
	McNabb	11-27-74	Lead	< 0.01 mg/M ³	Pouring Anodes (2 Hrs)	Ditto
	Bellard	11-27-74 A.M.	Lead	0.05 mg/M ³	Adding Pb to Pot (2 Hours)	Ditto
	Guidry	11-27-74 A.M.	Lead	0.58 mg/M ³	Solder Wiping (1 Hour)	Ditto
	Guidry	2-24-75 P.M.	Lead	0.61 mg/M ³	Solder Wiping (2 Hrs)	Ditto
	Clifton	2-24-75 P.M.	Lead	0.37 mg/M ³	Pouring Anodes, S (2 Hours)	Ditto
	Fontenot	Ditto	Lead	0.10 mg/M ³	Adding Pb to Pot, S (2 Hours)	Ditto
	McNabb	Ditto	Lead	0.05 mg/M ³	Pouring Anodes, N (2 Hours)	Ditto
	Craven	Ditto	Lead	0.06 mg/M ³	Adding Pb to Pot, N (2 Hours)	Ditto

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TABLE 6 - (Cont'd.)

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
Diaphragm Cell Repair and Manufacturing	Minnifield	10-16-74 A.M.	Asbestos	5.3 Fibers/ml	Fluffing Asbestos (10 Minutes)	Filter Membrane
	Carrier	10-16-74 P.M.	Asbestos	5.7 Fibers/ml	Fluffing Asbestos (15 Minutes)	Ditto
	Minnifield	11-27-74 A.M.	Asbestos	3.8 Fibers/ml	Fluffing Asbestos (15 Minutes)	Ditto
	Papillion	10-16-74 P.M.	Benzene-Soluble Coal Tar Pitch Volatiles	1.4 mg/M ³	Pouring Mastic (2 Hours)	PSM-1013
	Area - Mastic	11-27-74 A.M.	Ditto	< 0.2 mg/M ³	2 Hours	Ditto
	Area - Lead Pots	2-26-75 A.M.	Carbon Monoxide	5 ppm	2 Hours	MSA Monitare Sampler
	Thomas	2-26-75 A.M.	Ditto	< 5 ppm	Driving Heister (2 Hours)	Ditto
	Area - Lead Pots	2-26-75 A.M.	Chlorine	< 0.1 ppm	2 Hours	o-Tolidine Colorimetric
	Area - Mastic Pots	2-26-75 A.M.	Chlorine	< 0.1 ppm	2 Hours	Ditto

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TABLE 11

OCCUPATIONAL ENVIRONMENT AIR MONITORING

Area	Monitored Personnel	Date-Time	Contaminant	Concentration	Conditions	Method
Instance	Vincent	2-27-75 P.M.	Copper Fume	1.62 mg/M ³	Welding Copper (1 Hour)	Membrane Filter
	LaSalle	2-27-75 P.M.	Copper Dust	0.12 mg/M ³	Buffing Copper (1 Hour)	Ditto
	Conner	3-4-75 A.M.	Copper Dust	0.07 mg/M ³	Buffing Copper (1 Hr)	Ditto
	Weston	3-4-75 A.M.	Copper Fume	0.16 mg/M ³	Welding Copper (1 Hour)	Ditto
	Weston	3-4-75 P.M.	Copper Dust	0.13 mg/M ³	Buffing Copper (1 Hour)	Ditto
	Conner	3-4-75 P.M.	Copper Fume	0.26 mg/M ³	Welding Copper (1 Hour)	Ditto

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