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Lima Division



STATE OF OHIO
THE INDUSTRIAL COMMISSION OF OHIO
DIVISION OF SAFETY AND HYGIENE
2325 WEST FIFTH AVENUE
COLUMBUS, OHIO 43204
466-3385

Industrial Commission
GREGORY J. STEBBINS
Chairman

MARGUERITE M. NEAL
Vice Chairman
JOHN E. SEHN
Member

JOHN J. GILLIGAN
Governor

Division of Safety and Hygiene
GARY B. BRYNER
Superintendent

April 2, 1974

Mr. Earl Dundore
Safety Director
Clark Equipment Company
Lima Division, Box L
1046 S. Main St.
Lima, Ohio 45802

Dear Mr. Dundore:

Enclosed are two copies of a report on the visits made to your company on March 12 and 13, 1974.

It was a pleasure to meet with you and other personnel and the courtesy extended was very much appreciated.

If this Division can be of assistance to your company at any time on industrial hygiene or engineering problems relating to safety, please let us know.

Very truly yours,

Maurice E. Hatten
Maurice E. Hatten, P.E.
Industrial Hygiene Engineer

MEH:jkp



Let's hear it for OHIO for SAFETY

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April 3, 1974

CLARK EQUIPMENT COMPANY
LIMA DIVISION
BOX L. 1046 S MAIN STREET
LIMA, OHIO, 45802

1. On March 12 and 13, 1974, this company was visited in response to a company request for an industrial hygiene investigation.
2. Those contacted were:
 - 3-12-74 Mr. Earl Dundore, Safety Director
Mr. Robert Bromley, Personnel Manager
Mr. Dennis Mault, Union Safety Committeeman
Mr. James Holbrook, Electrician
 - 3-13-74 Mr. Earl Dundore, Safety Director
Mr. Robert Rowland, Safety Committeeman
Mr. Howard Kunkleman, General Foreman
3. The company manufactures very large cranes, draglines, back hoes, asphalt plants, and other heavy industrial equipment.
4. Sampling of shop dusts and other contaminants was done as outlined below:

<u>Date</u>	<u>Dep't #</u>	<u>Bldg. #</u>	<u>Sample #</u>	<u>Sample Location</u>	<u>Found, mg/M³</u>	<u>TLV, mg/M³</u>
3-12-74	5	120	1	Central aisle, column 5-B-22, BZ	2.3 Iron Oxide	10 (5, intended change)
3-12-74	6	119	2	6' from N, wall, column 5-C-3	<2 Iron Oxide (Visual) replaced by #5	"
3-13-74	9	106	3	10' NE of Column in WA 10, 7' from weld operator, 6' from assemblyman, BZ	0.7 Oxide	"



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<u>Date</u>	<u>Dep't #</u>	<u>Bldg. #</u>	<u>Sample #</u>	<u>Sample Location</u>	<u>Found, mg/M³</u>	<u>TLV, mg/M³</u>
3-13-74	3	Adjacent to dept. 9 Paint area(overspray)	4	BZ, Central aisle, about 30' from painting, 4' above floor	0.15 Chromium Trioxide	0.1
3-13-74	6	119	5	BZ, Column 5-B-4, about 50' from N wall, 1' above bench	2.4 Iron Oxide	10 (5, intended change)
3-13-74	13	Paint ship	6	BZ, several feet from operator, over-spray area.	0.10 Chromium Trioxide	0.1
3-13-74	15	Paint ship East end	7	BZ, about 2' above floor, about 10' from operator	2.7 Chromium Trioxide	"

<u>Date</u>	<u>Dep't #</u>	<u>Bldg. #</u>	<u>Sample Location</u>	<u>Method of Sampling</u>	<u>Found</u>	<u>TLV</u>
3-12-74	5	120	Inside crane truck base #1500, RZ, at top of work ladder platform.	Impinger dust count	72.3 mppcf	30 mppcf or 10 mg/m ³ intended change 5 mg/m ³
3-13-74	Main Receiving dock		General BZ	MSA color indicator tube #47134, carbon monoxide	15ppm	50 ppm
3-13-74	15	Paint shop East end	Near #7, paragraph 4	MSA aromatics tube #93074 as toluene	60ppm	100 ppm
3-13-74	15	" "	" "	Draeger benzene tube #CH248	None or less than 25ppm	25 ppm ceiling value

6. Department areas and volumes(data from company).

<u>Dept #</u>	<u>Bldg #</u>	<u>Sq. Ft.</u>	<u>Cu. Ft.</u>
5	120	72,560	2,333,200
6	119	17,500	726,500
9	106	67,500	1,735,716
13	(Paint shop)	-	-
15	(" " west end 202)	8120	190,820
	(" " east end 186)	9696	218,160
31, 35	(receiving dept 174)	44,800	1,639,680

7. The same paint was used in areas tested 3-13-74, and was reported to contain Zinc Chromate and Iron Oxide pigments, no Cadmium, and less than 1% lead total in dried film.

8. Department #1 has spray painting over a down draft grill 32'x 12', in need of maintenance. Air velocity was 0 - 50 fpm, excepting end and corner areas where 150 fpm was found.

9. The Threshold Limit Values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect. Because of wide variation in individual susceptibility, however, exposure of an occasional individual at or even below the threshold limit may not prevent discomfort, aggravation of a pre-existing condition, or occupational illness.

10. This investigation was made in accordance with IC-5, Specific Safety Requirements of The Industrial Commission of Ohio Relating to All Workshops and Factories, and is not made in connection with any workmens compensation claim.

11. Recommendations:

- A. For welding inside crane base #1500 off elevated platform, or similar locations, provide flexible duct local exhaust. If this cannot be done because of arc distortion, try natural draft with a length of stove pipe opening to room. If good air cannot be maintained to welder under these circumstances, provide approved respiratory protection or limit time of exposure to less than TLV weighted average. This would be less than 12 minutes per hour relative to this dust count and equivalent (15 mppcf) of tentative value of 5 mg/M³ of Iron Oxide fume.

- B. In Dep't 9 where paint spray carries into adjacent Dep't 3, limit spray time to less than 4 hours per day or provide respiratory protection to employees in near areas receiving spray. Preferably, provide paint areas enclosure with water curtain exhaust.
- C. In East End of Dep't 15 (sample #7) Paint Shop, provide supplied air respirator. Consider down draft ventilation as in dept 1 or enclosure of paint area including water curtain exhaust. As an alternative, limit spray time to 5 minutes per hour, with approved respirator system for both organic vapors and paint particles.
- E. Provide maintenance for down draft ventilation in Dep't 1.

Very truly yours

Maurice E. Hatten
Maurice E. Hatten, P.E.
Industrial Hygiene Engineer

encl: TLV book
HGS Chronic Acid
EH-05-B Lead Intoxication
C Carbon Monoxide
D Spray coating
E Iron, Fumes & Dust

edd