

File - Summary - see 10/1/72

INTER OFFICE MEM.

Olin

TO Director Gosa AT Miami, Florida DATE April 25, 1972

FROM ALBERT C. Muranko AT New Haven, Conn. COPY TO Mac Roy Gasque, F.D.
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SUBJECT Environmental hygiene Survey -
Miami Plastics

Presented herewith are the results of the environmental hygiene survey conducted April 4, 1972 at the Miami Plastics operations.

CONCLUSIONS

1. Breathing zone air samples taken on the Blending Operator's helper revealed total dust exposures in excess of the Threshold Limit Values for nuisance dusts.

At the time of this survey the Blending Operator's exposure was within permissible limits for nuisance dusts.

2. Breathing zone air samples analyzed for lead revealed air concentrations at the time of this survey to be within acceptable limits. However, because lead may also enter the body by ingestion and eating is permitted in the Blending Department, urine samples must be obtained and analyzed for lead to fully determine the actual extent of exposure. See Air Sampling Data and Recommendations.
3. The Occupational Safety and Health Act noise standard requires that all employees who are steadily or infrequently exposed to noise levels in excess of 90 db-A be given annual audiometric tests. Approximately 11 employees per shift in the Extrusion, Grinding, and Molding Departments should be given such tests.

See Noise Survey Data and Recommendations.

4. At the time of this survey a number of safety standard deficiencies existed which warrant attention, e.g. empty fire extinguishers, incorrectly guarded wall fans under 8 feet from the floor (main building), temporary wiring on a number of machines, inappropriate feed-chute guards on one of the large grinders.

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RECOMMENDATIONS

1. The two major activities of the Blending Operator's Helper that produce excessive dust exposures is the batch weighing operations and the clean-up activities. Local exhaust ventilation should be provided for the batch weighing operation. Dry sweeping should be avoided. Wetting prior to sweeping will help, but power vacuuming is the method of preference. Vacuuming effectively cuts down on dust generation as well as being considerably more efficient.

A number of methods for reducing general dustiness in this department were suggested in the Environmental Hygiene Survey Report of March 22, 1971. It is felt that a number of these recommendations still warrant consideration.

2. A urinary lead analysis program was discussed with Mr. Sosa at the time of this survey. In summary, it was agreed that an initial set of samples from all workers in the Blending Department would be obtained twice, at two week intervals, for a one month period. These samples would help to establish the extent of exposure, if any. Thereafter, monthly urine samples from all workers were to be submitted for a period of at least two months. Specimens were to be taken at the plant clinic, at least 48 hours after the start of a work week and either before the start of a shift or at a time after the employee has changed out of his work clothes so as to avoid sample contamination. Analysis and data interpretation will be done by the Environmental Hygiene Laboratory in New Haven.

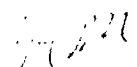
As stated previously, the modes of entry of lead into the body may be by either inhalation or ingestion. It has been well demonstrated in the lead storage battery industry studies that ingestion can play a significant role in lead intoxication in the absence of low air values. Eating should not be allowed in the Blending Department as a matter of good practice, but most certainly not when orange pipe formulation is being processed.

3. Noise levels at several operations exceed the 90 dB-A standard established by the Department of Labor. However, only one of the noisy operations exceeds the time requirement. The Grinding Department presently has noise levels ranging from 94-100 dB-A for an 8-hour shift. The operator in this department is supplied with and wears ear muffs. Noise levels in the Extrusion and Molding Departments are excessive primarily due to cut-off saws or scrap grinders, but were

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within acceptable time limits at the time of this survey,
i.e. personal hearing protection not required.

To fully comply with the noise regulation however, all employees in the above departments should be given annual audiometric tests. Such tests can be arranged through a local clinic or hospital. Additionally, an effort to reduce noise levels to or below 90 dB-A by engineering controls should be initiated. See 1971 Environmental Hygiene Survey Report and appended information for noise control on scrap grinders.


Henry J. Muranko

HJM/pj

Attachments: 3

AIR SAMPLING DATA

MIAMI PLASTICS

APRIL 4, 1972

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Sample No.	Location	Sample Time		Sample Volume M ³	Sample Wt., mg.		Operating Conditions	Concentration mg/M ³	
		Start	Stop		Lead	Dust		Lead	Total Dust
1	Blending operator's helper, breathing zone	2:24	3:46 PM	0.229	0.004	2.6	Normal	0.02	11.4
2	Blending operator, breathing zone	2:22	3:41 PM	0.205	0.006	0.5	Normal batch mixing clean-up	0.03	2.4

mg = milligrams

M³ = cubic meters of airTLV for total dust = 10 mg/M³TLV for lead = 0.15 mg/M³

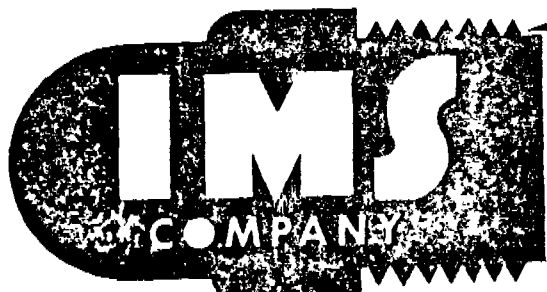
NOISE SURVEY DATA

MIAMI PLASTICS

APRIL 4, 1972

<u>Location</u>	<u>Sound Level dB-A</u>	<u>Exposure Time, Hours</u>	<u>Employees Exposed per Shift</u>
Grinding Department grinders (2) idling both grinders operating	94 104-106	6-8	1-2
Extrusion Department general noise level, cut-off saw not on	89	8	
noise level through area with one or more saws operating, 10 to 20 feet away	98-103	1.5	4-6
cut-off saw, 5 feet away, operators work area	104-106	0.5	
Molding Department - general noise level scrap grinding	86 90-108	8 1 3/4	4
Blending Department	86	6-8	2

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