



Intra Company

September 19, 1972

Mr. R. Major  
Industrial Relations Manager  
Lorain Assembly Plant

cc W. L. Hall  
J. A. Kostyo  
R. W. Pascoe  
H. H. Smead, M.D.

Subject: Aceton Vapors in Department 50, Asbestos Fibers in Department 281-B  
and M5B244-A-M14J260 (Solvent Mixture) Vapors in Department 40

On August 9, 10, 1972 we performed an Industrial Hygiene Survey at the subject locations. Samples of acetone vapors, airborne asbestos fibers, and M5B244-A-M14J260 vapors were taken to evaluate employee exposure with respect to compliance with current OSHA standards. Results obtained, locations sampled, and contaminants evaluated are specified on the attached data sheets. A brief discussion of the operations surveyed and results obtained follows:

1. Acetone vapors in Department 50: This location was surveyed before (see July 6, 1972 letter on the same subject). We took one-hour long breathing zone samples on a vinyl-top sprayer and on two roof sprayers. In addition, we recorded concentrations during the spraying cycle of each operation and took one general air sample. All ventilation systems and air circulating devices were "on" while sampling. The results obtained, which are well below the current OSHA Standard for acetone, indicate that under the conditions in which this survey was performed acetone vapors evolved in this operation do not constitute a present or potential health hazard to the exposed personnel.
2. Airborne asbestos fibers: Results of the two samples taken at this operation (placing of heat shield for muffler and tail pipe in Econoline 300) are well below the current OSHA Standard for asbestos fibers. This was expected due to the nature of the operation.
3. M5B244-A - M14J260 vapors: We took only one sample at this operation (cleaning of pressure tanks). The result obtained is above the Industrial Hygiene Section estimated Threshold Limit Value (TLV) for the considered solvent mixture (see data sheet). We recommend either exhaust ventilation control of vapor or a reduction in exposure time of the employees assigned this operation. Provided there is sufficient capacity, consideration should be given to ducting the exhaust ventilation system located close by to this operation with appropriate exhaust inlets for vapor control.

*Libardo LaTorre*  
Libardo LaTorre  
Industrial Hygienist

Attachment

8005 0253

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Data Sheet

Lorain Assembly Plant

Fibers longer than  
5 Microns per c.c.  
of Air Sampled

Asbestos Fibers

| <u>Sample #</u> | <u>Date</u> | <u>Time</u>    | <u>Location</u>                                                                               |      |
|-----------------|-------------|----------------|-----------------------------------------------------------------------------------------------|------|
|                 |             |                | OSHA TLV                                                                                      | 5.0  |
| 1               | 8-9-72      | 2:00-2:30 p.m. | Rosso, S.S. 276-05-3024, Dept. 281B<br>Econoline 300; heat shield for muffler &<br>tail pipe. | 0.38 |
| 2               | 8-9-72      | 2:38-3:02 p.m. | Same location and operator as sample #1                                                       | 0.31 |

Solvent Mixture Vapor - Industrial Hygiene Section Estimated Standard

265 PPM

| <u>Sample #</u> | <u>Date</u> | <u>Time</u>    | <u>Location</u>                                                                                | <u>PPM</u> |
|-----------------|-------------|----------------|------------------------------------------------------------------------------------------------|------------|
| 1               | 8-9-72      | 1:20-1:45 p.m. | J. K. Buck, S.S. 364-22-5938, Dept. 40<br>Passenger, Paint Kitchen, Pressure Tanks<br>cleaner. | 315        |

Asbestos

OSHA Standard

1000 PPM

| <u>Sample #</u> | <u>Date</u> | <u>Time</u>    | <u>Location</u>                                                                         | <u>PPM</u> |
|-----------------|-------------|----------------|-----------------------------------------------------------------------------------------|------------|
| 1               | 8-10-72     | 8:30-9:30 a.m. | Christians, S.S. 527-56-5389, Dept. 50,<br>Area R, Vinyl Top Sprayer (Composite sample) | 150        |
| 2               | 8-10-72     |                | Spraying cycle, breathing zone, vinyl top spraying                                      | 220        |
| 3               | 8-10-72     | 8:33-9:33 a.m. | Jones, S.S. 401-30-4048, Dept. 50, Area R,<br>roof sprayer (composite sample)           | 100        |
| 4               | 8-10-72     | 8:34-9:34 a.m. | Campbell, S.S. 289-46-9995, Dept. 50, Area R,<br>roof sprayer (composite sample)        | 80         |
| 5               | 8-10-72     |                | Spraying cycle, Jones's breathing zone, roof spraying                                   | 180        |
| 6               | 8-10-72     | 9:02-9:52 a.m. | General air, on table next to south spraying table                                      | 120        |

Note: Air velocities of 200-250 ppm away from breathing zone of roof sprayers were measured

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Lorain Assembly Plant

Instrumentation

J. W. Combustible Gas Detector, Model C88P, Serial #688883

Rust-Track Chart Recorder 0-10 mV

Alnor Velometer, Type 3002, No. 31289 with accessories

MSA Portable Pumps Nos. 12, 13, 15, and 17

Filter Media: Millipore Filter Type A, Cat. No. P1003700

Glass Tubes packed with Pittsburgh activated charcoal type BPL 20X50

Determination

Asbestos: Phase-contrast illumination and 40 field determinations per sample NIOSH standard method.

Aceton: Gas chromatography, sample Nos. 1, 3, 4 and 6

Solvent Mixture Vapors: Gas Chromatography, sample No. 1

Acetone: Combustible Gas Detector Samples Nos. 2 & 5

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# REQUEST FOR LABORATORY INVESTIGATION

|                                                 |  |                                                                                                                  |                           |                              |
|-------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|
| REQUESTED BY<br><b>HENRY LICK</b>               |  | DATE                                                                                                             | PART NO.                  | LAB NO.<br><b>17788-0829</b> |
| PART OR MATERIAL DESCRIPTION<br><b>ASBESTOS</b> |  | PRODUCT ENGINEERING<br>DESIGNATED<br>CONTROL ITEM<br>YES <input type="checkbox"/><br>NO <input type="checkbox"/> |                           | TOTAL MIN.                   |
| SPECIFICATION                                   |  |                                                                                                                  |                           | ACCTG. LOC.                  |
| SUPPLIER                                        |  | EJA. OR W.O. NO.                                                                                                 | DEPT. CHG.<br><b>2810</b> | NO OF PCS. OR QUAN.          |
| SERVICE REQUESTED:                              |  | ACCT. NO.                                                                                                        |                           |                              |

**DETERMINE ~~ASBESTOS~~ PARTICLES  
AS PER RESEARCH TEST METHOD.**

**SAMPLE #1: .38 fibers/ml.**

**SAMPLE #2: 31 fibers/ml.**



ACCEPTED BY \_\_\_\_\_ DATE \_\_\_\_\_

COPY 3

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CENTRAL LABORATORY SERVICES

GENERAL SERVICES DIVISION

LABORATORY INVESTIGATION REPORT

NUMBER 17788

September 6, 1972

TO: Mr. H. Lick

SUBJECT: Asbestos Particles

OBJECT: To determine the number of asbestos fibers, five microns in length and larger, per a known sampled air volume.

CONCLUSION: Sample #1 - .38 fibers/ml.  
Sample #2 - .31 fibers/ml.

DATA REC'D: Two filter specimens identified as:  
Sample #1 30 minutes X 2 liters = 60 liters  
minute  
Sample #2 30 minutes X 2 liters = 60 liters  
number

Asbestos - Lorain  
Department 281B  
Econoline 300  
Heat shield for muffler and tail pipe  
Rosso S.S. 276-05-3024

TEST DATA: Metallographic

The particle lengths were established utilizing Public Health Service test procedures, phase-contrast illumination and forty field determinations per specimen.

Sample #1 - .38 fibers/ml.  
Sample #2 - .31 fibers/ml.

C.J. Boryski, Manager  
Metallurgical Department  
by A.J. Murawski  
A.J. Murawski, Supervisor  
Metallographic Section

AJM/pk

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