

KELLY MOORE

San Carlos, California

ASBESTOS SURVEY

On June 30, 1975 a visit was made to this plant to re-evaluate the asbestos exposure following installation of additional engineering controls and reduction of the amount of asbestos used along some of the lines. Mike Love, Liberty Mutual's Senior Loss Prevention Representative, accompanied the writer.

CONCLUSIONS

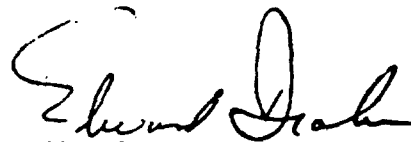
1. All employees working in the Paco Division of this plant are not considered exposed to excessive asbestos in air concentrations. This is based on the current health standard. However, if our judgment was based on the health standard effective July 1, 1976, the "dry texture filler" would be considered exposed to an excessive amount of asbestos air concentrations.
2. The exhaust ventilation on the dry texture bagging machine is ineffective.

RECOMMENDATIONS

1. The local exhaust ventilation on the dry texture bagging machine be redesigned/increased so that dust can be effectively captured and removed.
2. The operator of the dry texture bagging machine should be provided with coveralls as much of this dust is infiltrating his street clothes. This increases his chance for taking asbestos fibers home and exposing other members of his family.
3. The ceiling texture mixer, dry texture mixer, and ready-mix mixer should wear the appropriate dust masks that have been provided for them whenever they are dumping bags of asbestos. Even though local exhaust ventilation has been provided at these dumping stations (150 linear feet per minute) the actual dumping of asbestos does create turbulence and dust which often billows into the operator's face before being exhausted.

RECOMMENDATIONS (continued)

4. Employees are still using air hoses to clean off their clothes. As this redistributes asbestos fibers into the air, it is suggested that the vacuum type cleaner be utilized for this.
5. All employees should wash thoroughly prior to breaks and/or lunch. Adequate washing facilities have been provided. This is particularly important because of the poisons that some of the operators are scooping out and weighing for the mixes.



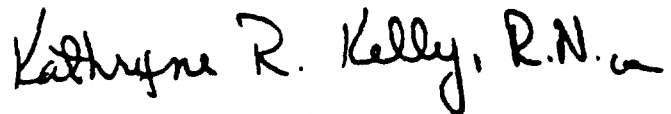
Edward Drake
Industrial Hygienist
Loss Prevention Department
Liberty Mutual Insurance Company

ED:ks
7/31/75

MEDICAL SURVEILLANCE - ASBESTOS

The Medical Surveillance Program in effect for employees working with asbestos was evaluated April 29, 1975. This program is well established. However, the following recommendations were submitted so the overall surveillance would conform with recommended standards:

- maintain complete files showing the results of the physicals,
- pulmonary function studies and chest X-rays on all employees included in the program at the plant,
- establish a procedure for termination physicals.



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DISCUSSION

This survey is the third that has been completed for asbestos. It is a re-evaluation to measure some of the engineering controls that were instituted (such as exhaust ventilation re-designed around the ceiling texture bager (and the reduction of asbestos primarily along the ceiling texture line which has dropped from approximately 150 pounds of asbestos per batch to 15 pounds of asbestos per batch.

Survey Method - Air samples were collected on membrane filters (0.8 micron porosity) with air being pulled through them via personal sampling pumps at approximately two liters per minute. Air samples were collected in both the employees breathing zone (filter cassettes attached to operator's shirt lapel and pump attached to their belt) and air samples were collected in various areas of the plant to determine background air concentrations. All samples were analyzed at our Hopkinton, Massachusetts laboratory via the phase contrast microscope method.

Toxicity - As you are probably now well aware, asbestos is a health hazard which when inhaled, may cause a lung disease called asbestosis. This takes 10 to 20 years to develop after exposure. In addition, it may also cause cancer of the chest or abdominal lining referred to as mesothelioma. This may be fatal within one year after the first symptom.

Health Standards - The current health standard for exposure to airborne asbestos fibers is five fibers per milliliter of air. This is an eight hour time weighted value which will drop to two fibers per milliliter of air July 1, 1976. Health standards are guidelines below which most workers would not be expected to experience any biological discomfort. Pre-existing conditions or individual susceptibility may be exceptions to this.

Paco Textures Manufacturing Department - Our data indicates that most of the employees working within the Paco texture area are exposed to one fiber per milliliter of air or less. The exception to this is the dry texture filler operator. Our data indicated that all the air samples taken in his breathing zone indicated three fibers per milliliter of air. These readings are very similar to those taken back in March 1973. This current air concentration of asbestos is acceptable only until July 1, 1976; however, from a standpoint of health and exposing an employee to unnecessary asbestos fibers in the air, this level is unacceptable.

The reason that this level is so high is the exhaust ventilation for the dry texture bagging machine is ineffective. The exhaust ventilation duct is directly behind the bagging slot and machine supports. The duct is so far back that it's completely ineffective just from a standpoint of distance let alone being obstructed by some of the parts to the machine. It is suggested that this local exhaust ventilation system be re-designed and

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increased as necessary with a similar design to the ceiling texture bagging machine. In addition, the dry texture bagger operator was wearing only street clothes and it was somewhat ironical that the one employee with the greatest exposure had no coveralls or other protective garments. This asbestos laden dust had infiltrated his clothes to an extent that he was taking this dust home with him. It is suggested that appropriate protective garments be provided for all employees working in this area.

It is suggested that all employees who are dumping bags of asbestos wear the appropriate dust masks which have been provided for them. Some of these employees are not wearing them and visual clouds of asbestos can be seen passing through these operator's breathing zones. This is such a short exposure that it cannot be measured; however, it is of high concentration. This is just good work practice to prohibit any employee from inhaling any unnecessary asbestos exposures. It should also be noted that there are a number of air hoses throughout this department that employees use to blow down machinery and themselves. This re-distributes dust/asbestos in the air and creates unnecessary exposures. More extensive use of the vacuum type cleaner is recommended.

It was also noted that at the mixing operation that the following ingredients are being utilized:

- Phenyl mercury acetate
- Ammonium oxalate
- Barium metaborate

All of these items are poisons, and they are currently in dust form. Employees are scooping these out into containers and they are certainly exposed to ingesting/inhaling dust in air and/or accumulating this dust on their hands, clothes, and possibly ingesting it during smoking, eating, etc. It is suggested that these materials only be handled while the operator has protective garments on which consists of apron, gloves, respirator, and face shield. These should be worn whenever these materials are being scooped/weighed. It is also very important that these employees recognize the need to wash adequately before lunch, break, etc.

DATA

RESULTS OF: Asbestos in air

DATE OF SURVEY: June 30, 1975

SURVEY METHOD: Membrane filter

METHOD OF ANALYSIS: Phase contrast microscope

HEALTH STANDARD:

Eight Hour Time Weighted
Fibers per Milliliter of Air

Current 5
Effective July 1, 1976 2

SAMPLE #	LOCATION	TIME OF DAY	SAMPLING TIME MINUTES	AIR VOLUME LITERS	RESULTS ASBESTOS FIBERS/ml
1	Operator's Breathing Zone (OBZ), ceiling texture mixer.	8:00	53.5	107	1
2	OBZ, ceiling texture filler.	8:00	44.5	89	*
3	OBZ, dry texture mixer.	8:15	52.0	104	<0.7
4	OBZ, dry texture filler.	8:15	50.5	101	3
5	OBZ, ceiling texture mixer.	9:30	45.0	90	2
6	OBZ, ceiling texture filler.	9:30	47.0	94	*
7	OBZ, dry texture mixer.	9:30	50.5	101	<0.9
8	OBZ, dry texture filler.	9:30	50.5	101	3

DATA (continued)

SAMPLE #	LOCATION	TIME OF DAY	SAMPLING TIME MINUTES	AIR VOLUME LITERS	RESULTS ASBESTOS FIBERS/ml
9	OBZ, ceiling texture mixer.	10:15	53.0	95	1
10	OBZ, ceiling texture filler.	10:15	48.0	96	<0.9
11	OBZ, dry texture mixer.	10:15	47.0	94	1
12	OBZ, dry texture filler.	10:15	47.0	94	3
13	General room sample taken 10' above floor, 5' above mezzanine level at ceiling mixtures control station.	11:15	47.5	95	0.8
14	General room sample, taken 5' above floor along packaging line, 10' from windows.	11:15	47.0	94	<0.9
15	General room sample taken 5' above floor at dry texture filler's work table next to aisle.	11:15	46.5	93	<0.9
16	OBZ, ready mix mixer.	1:20	68.0	138	1
17	Source sample taken at dry texture filler machine, 5' above floor, 2' from filling nozzle.	2:00	60.5	121	<0.7
18	Source sample taken above empty asbestos bags at ready mix station.	1:30	56.0	112	<0.8

Too dusty to count.

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