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"Asbestos and Health" Conference

On Thursday, January 17, the writer accompanied John Whyte to the Johns-Manville Company's conference on asbestos and health. Topics discussed included Effects on Health, EPA and OSHA Standards, and Safe Handling of Material.

The following is a brief summary.

Effects on Health

Asbestos particles of less than 3-1/2 microns diameter are harmful over a long period of time (about 30 years) at high concentrations (greater than 25 - 30 fibers/cc). Fiber particles dry up lung walls, cause abnormal cell growth, and cause scar tissue formation. Associated diseases are asbestosis and lung cancer.

The safe level of exposure is an average of 5 fibers/cc of no more than 5 microns length.

Insulation workers are the most vulnerable, more than twice as likely to suffer ill health effects as factory workers.

EPA - OSHA

OSHA allows a maximum concentration of 5 fibers/cc on an 8 hour time weighted average and an absolute maximum of 10 fibers/cc at any time. On July 1, 1976, a new standard of 2 fibers/cc will be enforced. In 6 - 12 months, OSHA will release work practices guidelines for asbestos.

EPA simply requires "no visible emission".

Material Handling

Several ideas are now under consideration/evaluation to reduce ambient asbestos content. One such idea is a bulk tank car for transportation. The car is automatically filled by pump and unloaded by airveyor. This system is only feasible for operations using in excess of 200,000 tons/year; the investment is $100,000.

A less expensive system is the assigned car plan. Railroad cars are assigned to a customer who pays for inflatable dunnage to protect loads in transit, reducing bag breakage.

Several older systems were suggested as well, including dust collectors, automatic bag openers, and fiber pumps.

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Changes in the material itself are also being studied. Asbestos block, coated with polyethylene shrink wrap, and palletized fiber are currently available for evaluation in limited quantities. Palletized asbestos dissolves readily in water and is potentially applicable to New Brighton's Ready Mix system. Use of the solid, dust-free pellets would sharply decrease asbestos levels in unloading, storage, and production areas. This may also be a practical, economic alternative to expensive bag opening equipment. Disadvantages stem from the increased weight of a set amount of material as some 10 - 14% of a pellet is water. Shipping costs thus increase. No cost data was available for the material.

Finally, four suggestions for material handling were made:

1. Incoming shipments should be inspected and vacuum cleaned of any loose fiber.

2. Torn bags should be sealed.

3. Pallets should be kept clean by washing or vacuuming after use.

4. Material should be stored as near as possible to where it will be used. If long-term storage is called for, the bags should be covered with plastic.

It was the opinion of the Johns-Manville representative that these four items in conjunction with conscientious housekeeping - preferably employing a vacuum cleaning system - could appreciably reduce ambient concentration.

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