

Health Hazards

NIOSH ISSUES ASBESTOS DUST ALERT FOR WORKERS EXPOSED SERVICING BRAKES

An alert concerning the potential health hazard for persons exposed to asbestos during the servicing of motor vehicle brake and clutch assemblies was issued by the National Institute for Occupational Safety and Health on August 8.

NIOSH convened a meeting of government and university scientists, industry representatives, and labor union officials to discuss the present state of knowledge with respect to this problem on June 21. Data was presented by investigators from the Mount Sinai School of Medicine in New York City indicating that workers engaged in the maintenance and repair of automobile and truck brake linings are exposed to potentially hazardous levels of airborne asbestos dust (Current Report, July 31, p. 296).

Specific brake servicing operations studied included blow-out of automobile drum brake assemblies, grinding of used truck brake linings, and bevelling of new truck brake linings. Average peak asbestos air concentrations for these three activities based on personal samples taken within 10 feet of the operator were, respectively, 10.5, 3.75, and 37.3 fibers greater than five microns in length per milliliter. An analysis of samples of brake drum dust revealed that almost all of the asbestos fibers were found shorter than 0.4 microns in length.

Previous Studies

Previous studies of the extent of asbestos emissions from automobile brake lining wear showed that only a very small fraction of the original asbestos content of the brake lining is found in brake drum dust. It was presumed that this is due to thermal degradation of the fibers during braking. The present findings indicate that enough asbestos is preserved to produce significant exposures during certain brake servicing procedures.

The full extent of asbestos-related disease in brake servicing personnel is not known at present because this particular occupational group has not been studied systematically up to now. However, a review of the scientific literature on the association between asbestos exposure and mesothelial tumors of the pleura and peritoneum has revealed at least four cases of these rare tumors in persons who were employed in jobs involving automobile brake servicing, the alert said.

The environmental studies of brake lining servicing together with observations of mesothelial tumors in persons so employed affirms the necessity for instituting and maintaining recommended control measures in this industry so that the health hazards of asbestos are minimized, according to the alert.

Recommended Procedures

Following are interim procedures recommended by NIOSH to minimize exposure to asbestos dust during brake and clutch servicing:

► If possible, an area shall be designated for all brake and clutch repairs. Entrances into this area shall be posted with an asbestos exposure warning sign as follows:

Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain in Area
Unless Your Work Requires It
Breathing Asbestos Dust May Cause
Asbestosis and Cancer

► During brake servicing, an air purifying respirator, either single use or with replaceable particulate filter(s), as approved by the Mining Enforcement and Safety Administration (formerly Bureau of Mines) or NIOSH, shall be worn during all procedures starting with the removal of the wheels and including reassembly. During manual clutch servicing, such a respirator shall be worn during removal and cleaning of the clutch, pressure plate and housing assembly and during installation of the new clutch assembly.

► Dust shall first be cleaned from brake drums, brake backing plates, brake assemblies and clutch assemblies using an industrial type vacuum cleaner equipped with a high efficiency filter system (greater than 99 percent efficiency for 0.3 um diameter aerosols). After vacuum cleaning, any remaining dust shall be removed using a rag soaked in water and wrung until nearly dry. Under no circumstances shall compressed air or dry brushing be used for cleaning.

► During arc welding and riveting operations, an approved respirator, as described in (2) above, shall be worn. Grinding (arc welding) machines shall be provided with local exhaust ventilation such that worker exposures are maintained at least below the 1976 OSHA asbestos standard (29 CFR 1910.1001). At a minimum, the dust bag of the arc welding machine shall be removed and replaced with the hose of the high efficiency industrial vacuum described in (3) above.

► Industrial vacuum cleaner bags containing asbestos dust and cloths used for wiping brake and clutch assemblies shall

be sealed in plastic bags and labeled with the following warning label printed in letters of sufficient size and contrast to be readily visible and legible:

Caution
Contains Asbestos Fibers
Avoid Breathing Dust
Breathing Asbestos Dust May Cause
Asbestosis and Cancer

All asbestos waste shall be disposed of in accordance with the OSHA asbestos regulation, 29 CFR 1910.1001 (h). During removal of vacuum bags, an approved respirator, as described in (2) above, shall be worn.

► All floor cleaning in areas where brakes and clutches are repaired shall be done with the high efficiency industrial vacuum cleaner as described in (3) above. Grinding (arc welding) machines shall also be cleaned with such a vacuum cleaner and any remaining dust wiped with a damp cloth. An approved respirator, as described in (2) above, shall be used during this cleaning.

► Although adherence to the above procedures should minimize any contamination of work clothing, it is required that the appropriate portions of the OSHA regulations on asbestos (29 CFR 1910.1001 (d) (3) and (4)) concerning special clothing, change rooms, etc. be followed.

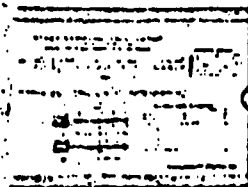
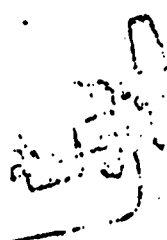
Note: Strict adherence to the above procedures should minimize exposures to mechanics during brake and clutch servicing. These are interim recommendations and are subject to revision pending results of ongoing NIOSH research.

PLAINTIFF'S EXHIBIT

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8004 1809

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gaging sample

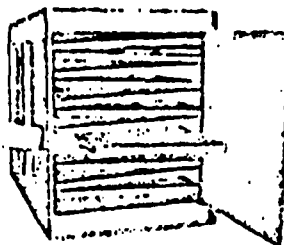
duction of sample... ing conventional... error and solving for... relationship in isokinetic... flow during... Provides unit conversions... temperatures, pressures, and eliminates... other variables. Also calculation... molecular weights. Figures... adjustable... EPA Method 5, ASME... varying... Code 27 and others. Item 905.

sampling calculator...

type gas sampling calculator has 40 scales on two working surfaces. Used for determining orifice size and flow needed for isokinetic sampling, correcting flow for temperature, pressure, and humidity. Also calculates molecular weights. Figures... adjustable... EPA Method 5, ASME... Code 27 and others. Item 905.

universal gas sampler...

Portable, makes possible field measurements with valid sampling accuracy. Pulls down to 25 in. Hg. Used to supply dry gas meter, orifice meter or gas analyzer. Holds constant differential pressure. Maintains constant sampling rate even when filter is heavily loaded. Null nozzle for isokinetic sampling available. Flashed time meter standard. 110vac. Capacity from 3.5 cfm free air to 1.4 cfm at 15 in. Hg. Quick connect fittings. Pollution Measurement Corporation, item 910.



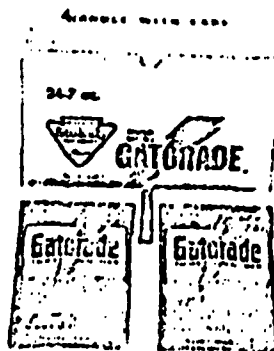
compact carbon filter...

Side access activated carbon filter removes gases and odors from ventilating air. Carbon is contained in readily accessible trays. Operates at velocity of 500fpm with .35 in. H₂O resistance. Optional prefilter and corrosion resistant tray materials available. American Air Filter Company, Inc., item 911.



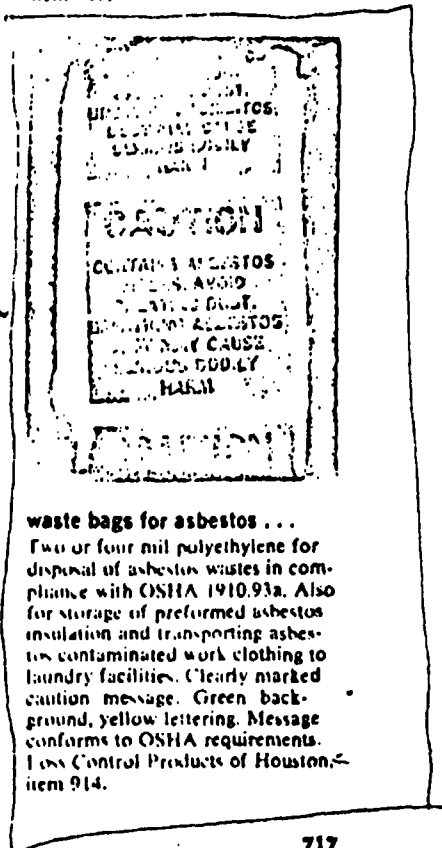
sewage odors suppressed...

A complete blanket of 45mm polypropylene balls cover the surface of sewage digester tanks, effectively controlling odor escape. Integral rims interlock, closing gaps and preventing rotation which would expose raw fluid to the air allowing odors to spread. Also used in processing tanks where odor or pollution is a problem. Corrosion reduction on adjacent structures and substantial lowering of fuel consumption are cited. Allplas Dept., Wire Sales Company, item 912.



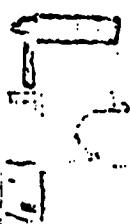
new drink packaging...

Gatorade® in readily soluble powdered form is now offered in seven or packages 24 per case, four cases per carton. Package dispensers are available. The beverage is widely used for on the job refreshment, particularly where exertion or temperature levels are high. Stokely-Van Camp, distributed by General Scientific Equipment Co., item 913.



waste bags for asbestos...

Two or four mil polyethylene for disposal of asbestos wastes in compliance with OSHA 1910.93a. Also for storage of preformed asbestos insulation and transporting asbestos contaminated work clothing to laundry facilities. Clearly marked caution message. Green background, yellow lettering. Message conforms to OSHA requirements. Loss Control Products of Houston, item 914.



emergency

stable prototype... designed by... Island School of... industrial plants... provide attention... to victim as well... continue support... to base... to supply first aid...



ment and stabilized... waste and filter... and electrical shock dispensers keep disposable... Radio equipped... and gloves at hand. Avoid... fire fighting... in looking for misplaced... medic crew... roll aprons or gloves. Steel Corp... surfaces uncluttered. Tastic, Inc., item 909.