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ASBESTOS WORKSHOP IN REVIEW

JULY 18-20, 1977

NATIONAL BUREAU OF STANDARDS

The workshop was organized to discuss a definition of asbestos and suitable measurement methods for regulating against asbestos health hazards, prior to the issuance of a standard. Four hundred persons from the mining industry, asbestos manufacturing, U.S. and Canadian health agencies, and medical and research facilities attended the workshop.

The National Bureau of Standards concluded in May from analysis of 80 industrial samples that OSHA's present techniques for analyzing for asbestos in industrial talc is useful only for determining fiber content and not asbestos content. This and other unresolved issues were discussed at the workshop. Divergence of opinion was expressed in two camps: U.S. Government Agencies and Medical representatives v.s. Industry and the U.S. Geological Survey. The Bureau will consider these viewpoints in making its final report to OSHA.

Significant segments of the proceedings include the following:

Mearl Stanton, National Cancer Institute

Cancer-causing danger of fibrous materials is related to fiber dimension. Greatest carcinogenicity came from fibers with dimensions that were equal to or less than .25 μ by more than 8 μ . Smaller fibers were controlled by phagocytes* in the body. Knowledge on why long fibers are carcinogenic is presently inadequate. Continued effort must be done on inhalation studies to allow extrapolation to human experience in understanding the effects of asbestos.

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Paul Kotin, Johns-Manville Corporation, Denver

Exposure to Asbestos under the present standard level does not result inevitably in lung cancer, mesothelioma or asbestosis. There is no such thing as a single threshold for a carcinogen but a series of thresholds can be identified. Nothing rules out a dose-response relationship for asbestos.

William Nicholson, Arthur Langer, Mt. Sinai/Hospital- N.Y.

Thresholds exceed present scientific capability. Excesses of lung cancer and mesothelioma from mortality studies were cited from job related asbestos exposure. In one study spouses, children and other family members of workers in an amosite asbestos factory were studied for asbestos related disease. Out of 626 persons, approximately one-third were found to have abnormal lung x-rays.

* phagocyte - white blood corpuscles that ingest and destroys organisms or particulates that result in disease.

Asbestos Workshop in Review

Malcolm Ross, U.S. Geological Survey

According to the present OSHA definition for asbestos, rocks from Maine to Georgia could be viewed as containing asbestos and be considered unsuitable for quarrying for crushed stone. Evidence is lacking on any environmental health threat from such operations. Canadian mining studies with higher concentrations of chrysotile asbestos indicate no adverse health effects. The 1976 NIOSH (National Institute for Occupational Safety and Health) can be criticized on the basis there is no safe level of exposure to asbestos and questions the safety of the crust of the earth.

Paul Gross, Medical University of S. Carolina

Animal studies which have produced tumors by inhalation have not been cited.

The conference concluded with presentations on the advantages and limitations of available analytical methods and counting techniques for detection and measurement of the workplace contaminants. Studies have been done using x-ray diffraction, (TEM) transmission electron microscopy, thermo-analysis, phase contrast and optical microscopy.

Proceedings will be published and sent to all those who attended.
Additional copies may be ordered through the National Bureau of Standards.

011438

C. B. Zelek
Vehicle Materials Engineering
August, 1977

Foreign Positions
Presented at International Asbestos Association Meeting
Internal Report from the Executive Committee
April 13-15, 1977
London, England

<u>Countries</u>	<u>Present</u>	<u>Proposed</u>	<u>Additional</u>
Sweden	1 Fiber/cc	.5 Fiber/cc by Jan 1, 1978	8 cases of mesothelioma among insulation mechanics.
Norway	2 Fiber/cc	<u>See additional</u> Cases in Sweden used as basis for judgement	- Asbestos substitutes to be instituted - Blue Asbestos (Crocidolite) to be banned - Brake linings to be pre-fabricated. - No grinding or drilling to be permitted. - Employment of smokers to be prohibited. - Smoking prohibited in Asbestos areas
Holland			- Regulation under discussion since 1975 - Selective prohibition effective in one year - Advisory committee being established.
Japan	5 Fiber/cc	2 Fiber/cc	Not expected to go to .5 fiber/cc.
Brazil	No standard		- No standard foreseen for 5-6 years. - Workers subjected to a "polluted environment" earn a 20% pay increase.

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Vehicle Materials Engineering
May, 1977

<u>Countries</u>	<u>Present</u>	<u>Proposed</u>	<u>Additional</u>
Belgium			• April 1st TV Show • Interviews conducted with a balanced segment of industry • Working group set-up to study Asbestos • Trade Union FGTB recommends 0.1 std on all types of Asbestos
France	2 Fiber/cc	2 Fiber/cc	• Present indication 2 Fiber/cc std. will be used in the future. • Meetings to be held
U. K	2 Fiber/cc -goal progress to- wards objectives		• British Trade Union Congress has called for the eventual ban of asbestos and for substitutes to undergo scrutiny • British workers are "put off" by the Trade Union moves. • Advanced committee on Asbestos January statement-further research is needed before recommendations can be made.
Canada	2 Fiber/cc		• In the process of tightening Asbestos stds. • Observing U.S. Reaction

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May 1977

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ASBESTOS SUPPLIER POSITIONS

011441

-COMPLIANCE TO STANDARDS

		a/ YES	b/ NO	c/ YES	
KELSEY-HAYES	Brake Pads Linings & Drums				.Bonding instead of riveting .Eliminate Grinding-Molded approach being considered .Industrial Hygiene Measures .No immediate plans for automation .\$300,000 to comply plus \$110,000 annually
THICKOL	Front Disc Pads Rear Disc Pads	YES	NO	YES	.Process change from compression to injection molding-\$1.2 million investment-would require requalification .Non-asbestos substitute presently available-one year lead time for vehicle testing required
RAYBESTOS	Clutch Facings	YES	NO	NO	.Industrial Hygiene measures to approach 1 fiber/cc .Alternative Raw Materials being considered-glass, mineral wool, combination of fiber .All R&D focused on non-asbestos products
ALMA	Clutch disc ass'y friction facings	YES	NO	YES	.All personnel wearing head hood filters 100% of the time
GENERAL INDUSTRIES	Washers	NO	NO	NO	.Will cease operations if forced to accept standards
DICKTEN and MASCH	Reactor	YES	NO	NO	.Will stop manufacture of asbestos products if forced to accept standard
H. K. PORTER THERMOID DIV.	Clutch Disc Shoe Lining Ass'y-Front and Rear	YES	NO	YES	.Fall 76 presentation on non-asbestos clutch facings to Ford-negative response-cost equivalent .Ability to coat facings to reduce fiber/cc level at no extra cost .Standard of .1 will prohibit asbestos usage .Brake substitutes increase weight and cost-one year lead time
BENDIX	Shoe + Lining	YES	NO	YES	.1.5 million to meet 1 Fiber/cc limit .5.5 million and 1-3 yrs to meet .5 fiber limit .Impossible to meet .1 level .Semi-metallic disc brakes asbestos-free backing to be completed by fall cost increment 1.2-1.6 x weight increment 1.8 x .Fiberglass linings on drum-good in lab, not so good on road .Critical issue-no product for drum brakes-1980-81 model year projection .Wet sanding & grinding could be instituted
ARVIN	Muffler Wrap Catalytic Converter Seal	YES	NO	YES	.Compliance to .5 fiber/cc level thru elimination of asbestos in the muffler wrap assembly .Planned change to fiberglass by 1978 .No present alternate for Converter Seal
JOHNS-MANVILLE	Raw Material Asbestos Fiber	NO	NO	NO	.In almost all operations 5 fiber/cc .By January 1979 2 Fiber/cc in all but 30 stations .Guidelines in effect in Quebec not as severe as U.S .Studies indicate 2 fiber/cc to be a safe level

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a/ compliance to present 2 fiber/cc std.
b/ present compliance to proposed .5 fiber/cc std.
c/

VEHICLE MATERIALS ENGINEERING
JUNE, 1977