

- 559 Industrial Hygiene for Insulation Workers. J. L. Balzer.
 J. Occ. Med. 10, 25-31 (Jan., 1968).

The asbestos worker is exposed to amosite and chrysotile asbestos-containing materials, fibreglass, cork, plastics, and adhesives. Working in industrial and commercial building projects and marine construction and repair, he is exposed to many other environmental hazards not created by his own trade. Although he works with asbestos-containing products 45% of the time, the over-all time-weighted average exposure to asbestos-containing materials is below the presently recognized Threshold Limit Values (TLV) of 5 mppcf. The three work areas in which dust levels were above the TLV (prefabrication, tearing out, and mixing) account for less than 20% of his total work time. However, the incidence of radiographic changes indicative of asbestosis is over 25% in our men with 20 years or more of work. This and other evidence suggest that the present TLV is too high. Incidence of asbestosis and the risk of malignancies in the asbestos worker can be reduced by local and general ventilation, substitution of materials, changes in work habits and personal respiratory protection combined with education of the men to reduce their own exposures to asbestos-containing dusts. There are 17 references.

-- Author's summary.

- 560 Asbestos as an Environmental Hazard. I. R. Tabershaw.
 J. Occ. Med. 10, 32-37 (Jan., 1968).

In summary, if one accepts the assumptions (1) that asbestos minerals increase the risk of lung cancer in occupational groups, (2) that they lead to an unusual risk of mesothelioma of the pleura and peritoneum in occupational groups and those living near asbestos plants, (3) that such malignancies usually result from exposures 30 to 50 years earlier, (4) that the "asbestos bodies" found in from 25 to 50% of lung smears from routine autopsies are probably due to asbestos in most cases, (5) that these "asbestos bodies" may result from recent exposures as well as those many years earlier, (6) that world production and use of asbestos has increased from 500,000 tons to 3,500,000 tons in 30 years, it is important to consider whether or not asbestos is a major threat to public health. One is not yet justified in such a conclusion, in view of the fact that most of the world tonnage goes into uses that do not lead to air contamination; that asbestos is not actually indestructible; that the effects are dose-dependent; and that low doses probably lead to lower rates and longer latency. Nevertheless, there is need for epidemiologic studies directed to workers with intermediate exposures and for evaluation of the beneficial effects of cessation of smoking. Another need is for experimental and industrial hygiene studies to determine the nature and dose of exposure. Biologic studies centered on the meaning of the "asbestos body" are crucial to understanding the clinicopathologic response. Strict control of industrial and neighborhood environments is essential, but it is premature to extrapolate from the effects of heavy exposures to minor and low level exposures. There are 15 references.

-- Author's summary.

- 561 Research on Health Effects of Asbestos. L. J. Cralley, et al.
 J. Occ. Med. 10, 38-41 (Jan., 1968).

Asbestos is a general term applied to a group of fibrous crystalline hydrated silicate minerals. Although a number of different types of asbestos minerals exist, only four or five are of commercial importance. Each differs somewhat from the others in chemical composition, physical properties such as ability to withstand heat and chemical erosion, crystalline structure, fiber dimension, and degree of fiber harshness and brittleness. It has been known since the nineteenth century that excessive exposure to asbestos gives rise to the disabling pulmonary disease "asbestosis." More recently, evidence has been developed that the incidence of respiratory tract and other malignancies in asbestos workers is excessive. A major problem in studying the health effects of asbestos is the long latent period of 20 or more years from exposure to the onset of disease. Also in the mid-nineteen thirties and earlier, there was dust control and the workers were often exposed to massive levels of dust from asbestos and other associated materials in the manufacture of asbestos products. Thus, the causative agents of the resultant disease are essentially unknown. Included in these potential sources of causative agents, either alone or in combination, are asbestos fibers themselves, materials associated with the fibers in the ores such as trace minerals and polycyclic aromatic hydrocarbons, materials added during processing such as metals, tars, and pitches, and concomitant exposures to tobacco smoke or other air pollutants. A strong supported long-term program is needed to provide the information regarding the pathogenesis of asbestosis and the other diseases that appear associated with the inhalation of asbestos dust. More precise data on the