S61-243

Manville Internal Correspondence

To. *See Below

Date. September 27, 1984

From Lois Gaul - 2-20

Copies Chrono/File

Subject. INDUSTRIAL HYGIENE AND TOXICOLOGY

Industrial Hygiene and Toxicology, edited by Frank A. Patty in two volumes, was first published in 1948-1949. The first edition was borrowed from the University of Colorado Library at Boulder, and the second edition, published in 1958-1959, is available at C.U. Medical Library. The third edition, which is not applicable to this memo, was published over a span of time from 1977 to 1982 and is in the HS&E Library.

There are some interesting chapters in Volume I of the first edition on the history and development of industrial hygiene, on standards for permissible atmospheric contamination and how they are set, on the sampling and analysis of atmospheric contaminants, on respirators, and on dust and occupational disease. The latter chapter "Dust and Its Role in the Causation of Occupational Disease," is by Edward E. Dart, M.D., Medical Director, Pacific Industrial Hygiene Laboratories, Oakland, California, and contains a separate section on asbestosis. In addition to describing symptoms, pathology, microscopic anatomy and x-ray examination in asbestosis, Dart states that Lanza estimates there are about 10,000 persons exposed to asbestos in the United States and that "most observers feel that the incidence of asbestosis in American asbestos workers is quite low. Asbestosis has, however, been reported more frequently in England and Canada." Under "control," Dart refers to Dreessen's 1938 study indicting that 5 mppcf "is a satisfactory figure for the maximum permissible atmospheric concentration of asbestos to which workers may be exposed," but he adds that "definite permissible standards, however, have not been established."

Volume II of the first edition contains a chapter on "Potential Exposures in Industry: Their Recognition and Control," which was written by Frank A. Patty and Francis R. Holden. Holden is identified as being with the Naval Radiological Defense Laboratory, Naval Shipyard, San Francisco, California; Patty as the Director of Industrial Hygiene Service, General Motors

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Corporation, Detroit (although from 1928-1936 he was with the U.S. Bureau of Mines and from 1936-1944 he was director of industrial hygiene, Fidelity & Casualty Co., New York.)

This chapter by Patty and Holden lists various occupations or industries in alphabetical order and discusses hazards associated with each. There are listings for asbestos workers and for shipbuilding and repair and copies are attached. Note the comment that "dustiness around asbestos workers is frequently above the proposed standard of five million particles per cubic foot." Also note the statements that "the sawing, filing, drilling, and grinding of brake linings is ordinarily well controlled. Grinding, mixing, and bagging asbestos cement and insulating material, and the sawing or beveling of asbestos board, are dusty operations unless properly engineered." There is no mention of exposure to asbestos under the section on shipbuilding and repair.

Although the second edition of the textbook is expanded to three volumes, many of the chapters are essentially unchanged from the first edition. One change is the chapter on occupational disease and dust, now titled "The Pulmonary Dust Diseases," and written by O. A. Sander, M.D., Consultant in Occupational Diseases of the Lungs, Marquette University School of Medicine, Milwaukee. Despite the change in author, the section on asbestosis is almonst the same and the statements on number of persons exposed and incidence in American asbestos workers, noted above, are repeated. An addition is the statement that "although tuberculosis has been shown to be no more prevalent in persons with asbestosis than in the general population, lung cancer is under suspicion as occurring more frequently with asbestosis, especially in England." Also different are the paragraphs on control and allowable concentrations. Sanders states that "the more comfortable gauze respiratorss appear to be perfectly adequate filters for the long fibers. Up to this time, however, they have not been approved by the United States Bureau of Mines for this purpose." And in discussing Dreesen's recommended exposure level of 5mppcf, Saunders says that "in setting up this figure, only fibers less than 10u in length were counted and the longer ones were disregrded. It now appears that the shorter fibers may have to be disregarded and permissible concentrations of long fibers established, which has not been done."

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In the second edition the chapter on "Potential Exposures in Industry: Their Recognition and Control" is credited only to Patty; Francis R. Holden is not listed as a contributor. The section on shipbuilding and repair, however, is the same as in the first edition and there is only one change to the section on asbestos workers. The final sentence reads: "It is desirable in asbestos exposures to keep the dust count down to 5 million particles, or less, per cubic foot of air." In the first edition, in contrast, this reads: "It may be desirable in asbestos exposures to keep the dust count down to five million particles, or less, per cubic foot, but it has been neither practical nor possible to do this in all instances.

The question can well be raised as to whether in the light of experience, especially in the mining industry, such rigid control is justified or necessary."

LAG:vmb

*D. H. Markusson - 2-20
R. Batson - 2-20
H. Marsh - 2-20
B. Diemer - 2-20

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