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June 6, 1977

SUBJECT: USPHS/NIOSH Membrane Filter Method
for Evaluating Airborne Asbestos Fibers

Method Applied to JBP for Determination of Talc
Fibers in Airborne Respirable Fraction - 0503.01

TO: Mr. G. Lee

In a previous memo (Jan. 25, 1977) under this title, we reported the results of applying this NIOSH method for measuring fibrous dust particles in an airborne JBP dust cloud. The cloud was created during shake dispensing of JBP 118-D from the regular 9 oz. container. We found that 4% of the particles in the dust cloud were fibrous by NIOSH definition, e.g., any particle having an aspect ratio of 3:1 or greater and which is 5 microns or longer is classed as a fiber.

In this present experiment, the same thing was done, however, only the respirable sized particles (10 microns and below) were collected from the dust cloud and measured.

Results

1.7 l/min
Total concentration - Respirable particles/cc = 244
Fibrous concentration - Respirable fibers/cc = 4.4

These data indicate the fiber concentration at approximately 2% of the total airborne respirable size particle concentration.

Discussion

The fiber content of the total airborne talc cloud was found to be about 4% (from the 1/25/77 study), and the fiber content of the respirable fraction only, of the cloud, was found to be 2% by the present experiment.

Experimentally, these results are in the same range, and we conclude that "NIOSH definition" fibrous particles are about evenly distributed through the particle size range present in airborne JBP.

/by

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