

Mr. G. Sandland, Chairman
CTFA Committee on Asbestos in Talc

SUBJECT: Corrected Results of Round Robin (#3)
Using the CTFA Proposed Optical Microscope
Procedure For Detection of Chrysotile in Talc.

As you may remember the Task Force on Methodology for the detection of asbestos in talc evaluated (round robin #3) their own proposed optical microscopy procedure to be used only, and after one obtains a positive for serpentine by DTA. It was hoped that this microscope procedure would distinguish between fibrous serpentine (chrysotile) and non-fibrous serpentine (antigorite). To test this proposed optical method three coded samples were prepared by me, of which one (sample A) was reported by TEM to contain several percent of naturally occurring chrysotile in talc. Sample A along with another sample not related was sent at a later date to McCrone Associates for TEM/SAD evaluation. McCrone Associates reports no chrysotile in sample A. The person who I received this sample from reports now that the TEM analysis was done by a technician not using selected area diffraction and he would support the detailed McCrone finding. The McCrone report states:

- "In sample A we found an extremely high content of fibrous materials, most of which were rolled talc, talc chards and ribbons, plus some blocky talc. This talc was of extremely poor quality because of the high loading of fibers. We did not find any
1. chrysotile in this sample but we did find one fiber which we believe to be attapulgate from electron diffraction and one particle which we found to be antigorite. Most of this talc looks very similar to antigorite in its structure and general appearance
 2. with extreme mottling of the talc which leads me to believe that there are high concentrations of impurities in the talc. We also found large numbers of talc fiber ribbons and blocky talc which appeared
 3. similar to tremolite in physical appearance, but which electron diffraction confirmed as talc."

The corrected results from Round Robin #3 appears below, but regrettably the inconsistency of results among three competent groups of microscopists still does not support the validity of the backup optical microscope procedure to the DTA procedure.

Investigator and Results

<u>Coded Sample</u>	<u>Lucy & Walter McCrone McCrone Associates</u>	<u>H. Stanley Pfizer</u>	<u>D. Hamer Johnson & Johnson</u>
A - Fibrous and platy talc. Antigorite	none detected pass	chrysotile found - fail	chrysotile found fail
B - 1% chrysotile in talc prepared by a simulated industrial milling process.	chrysotile found fail	none found pass	chrysotile found fail
C - 1.2% fibrous talc in platy talc.	none found pass	none found pass	none found pass

For the past year I have played the role of Sherlock Holmes trying to obtain a sample of naturally occurring chrysotile in talc to be used in method development from members of the CTFA and talc producers and importers. All leads end (so far) saying that chrysotile is not commonly or uncommonly (or ever?) associated with talc - can chrysotile in talc be a red herring?

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Chairman, Methodology Committee

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