

TO: MEMBERS OF THE CTFA TASK FORCE ON METHODOLOGY  
FOR THE DETECTION OF ASBESTOS IN TALC

On June 21, 1974, at 10 a.m. in the East Research Conference Room at the Johnson & Johnson Research Center. There will be a meeting to review methodology for the detection of asbestos in talc. The conference room has been reserved for the day and you will be our guest for lunch.

I. Agenda

Review of detailed cookbook procedures listed below before commencing round-robin analysis.

- a. Transmission Electron Microscopy with SAD for chrysotile - cookbook procedure enclosed.
- b. Differential Thermal Analysis for Serpentine - cookbook procedure enclosed.
- c. Talc, acid treated followed by Ca analysis for % tremolite - cookbook procedure enclosed.
- d. Scanning x-ray diffraction for amphibole - cookbook procedure in works.

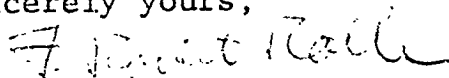
II. Methods for Discussion

- a. "Detection and Determination of Chrysotile in Talc USP" - Rose dye procedure.
- b. Mr. Walter Luckewicz (Avon) - IR method for detection of tremolite in talc.
- c. Any method of interest to task force.

III. Talc Products for Round-Robin Analysis

The following products were purchased by me locally, Cashmere Bouquet, Ammens Powders, Johnsons Baby Powder, and Rapture (Avon). Cyprus and Pfizer have submitted talc samples for round robin analysis since they do not sell a commercial product on the market. Mr. John Stuart of the FDA has also submitted two samples labeled #1 and #2 for analysis. To all coded talc samples I will add a strong musk perfume oil to hide any identifiable perfume smell and I will be the only one who will know the code.

Sincerely yours,



F. Robert Rolle  
Chairman, Methodology Task Force

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Minutes of the meeting of the CTFA Task Force on Methodology for the Detection of Asbestos in Talc held at the Johnson & Johnson Research Center, June 21, 1974.

Present were the following:

Affiliation

F. Robert Rolle, Task Force Chairman	Johnson & Johnson
Ian Stewart	McCrone Associates
D. Harris	Cyprus Industrial Minerals
C. S. Thompson	R. T. Vanderbilt
Dave Hamer	Johnson & Johnson
Walter Luckewicz	Avon
John Schelz	Johnson & Johnson
George Sandland	Bristol Myers

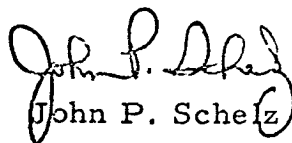
1. Mr. David Hamer discussed the most recent version of the FDA proposed optical microscope method for the determination of asbestos fibers in talc. The only difference between this method and the earlier method is that the area of the sample to be scanned is reduced, thereby reducing the time of analysis. The method is still unacceptable, however, for all the reasons given in the December 10, 1973 CTFA report, "Report of CTFA Talc Sub-committee on Method to Detect Chrysotile and Tremolite in Talc".
2. The Rose<sup>1</sup> dye procedure for the detection of chrysotile in talc has been evaluated by Dr. C. S. Thompson, and he finds it non-specific. For example, the serpentine minerals antigorite and lizardite also show adsorption of the dye. He further pointed out that the method is very time consuming. Dr. T. Baak (Cyprus Ind. Minerals) in an earlier communication reported that the mineral palygorskite would act in a manner similar to chrysotile by this method. Mr. W. Luckewicz reported that the particle size of the chrysotile would have a dramatic effect on any attempted quantitation of chrysotile by this analysis.
3. The infrared method proposed by Mr. W. Luckewicz and evaluated by Bristol Myers has been shown to be specific for the detection of tremolite in talc. The level of detectability is about 1% by weight.
4. The "cookbook" transmission electron microscope procedure of Pfizer for the detection of chrysotile in talc was found acceptable, however, Mr. Ian Stewart would prefer to quantify by area count rather than "eyeballing" against a spiked standard.
5. The "cookbook" Differential Thermal Analysis (DTA) procedure of Johnson & Johnson and Avon, for the detection of serpentine in talc, was accepted by the committee. The minimum level of detection is 0.5-1% by weight.
6. The "cookbook" x-ray fluorescence procedure for the determination of tremolite in talc, followed by dispersion staining in the event of a positive reading, was accepted by the committee.
7. The "cookbook" x-ray diffraction method for the detection of amphibole minerals in talc by Cyprus and Pfizer was accepted by the committee. The lower limit of detection was set at 0.2-0.5% by weight.

<sup>1</sup> Rose, H.A. "Detection and Determination of Chrysotile in Talc" (1973)

Mr. George Sandland, Chairman of the CTFA Sub-committee on Asbestos in Talc, reviewed a meeting held on June 12 and 13, between the C.T.F.A. Liaison Committee and the FDA. This meeting was requested by the FDA to review a presentation on cosmetics made to Commissioner Schmidt on May 29, for the industry. The FDA has under review three methods for the detection of asbestos in talc:

1. X-Ray Diffraction for tremolite.
2. Differential Thermal Analysis for chrysotile.
3. Optical microscopy for both tremolite and chrysotile.

It was the opinion of the CTFA Task Force committee that the x-ray fluorescence, electron microscope, and infrared method were all viable methods, but that in order to keep in step with the FDA, as well as to save time in the evaluation of methodology, only the x-ray diffraction and DTA procedures would be put to a round robin test at this time. These "cookbook" methods are attached. Coded round robin talc samples are now available for anyone interested in participating in this test of the proposed methods.

  
John P. Scheiz

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