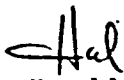


November 22, 1974

TO: R. E. Norwood
FROM: H. D. Stanley
RE: Results of the Last Two CTFA Round Robins for Asbestos
in Talc Analysis

Attached please find the results of the last two Round Robins of the CTFA committee on talc analysis. As you can see, we at Pfizer did well on all samples except one; Sample B in the third RR. A meeting to discuss these results is planned for December 9 at Bristol Meyers. I plan to attend.



Harold D. Stanley

HDS/jmb

attachments

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

SUBJECT: RESULTS OF ROUND ROBIN ANALYSIS (#2) USING PROPOSED
CTFA "COOKBOOK" PROCEDURES FOR THE DETECTION
OF ASBESTOS IN TALC.

The CTFA Task Force on Methodology for the detection of asbestos in talc for cosmetic use has completed its evaluation of two "cookbook" procedures for the detection of chrysotile and asbestiform amphibole in cosmetic grade talc. These two methods for asbestos, would assure that a talc is 99.0 to 99.5% free of asbestiform minerals.

The task force consisted of the following members:

Mr. Walter Luckewicz (Avon)
Mr. Ian Stewart (McCrone Associates)
Dr. Joseph Simko (Colgate-Palmolive)
Mr. Harold Stanley (Pfizer)
Dr. C. F. Thompson (Vanderbilt Co.)
Mr. Jack Schelz (Johnson & Johnson)
Mr. David Harner (Johnson & Johnson)
Dr. D. Harris (Cyprus Industrial Mineral Company)

To test the two proposed "cookbook" procedures, the following products were purchased locally by me:

Cashmere Bouquet (lot #4813), Ammens Powder (lot #4C13),
JOHNSON'S Baby Powder (lot #282Y) and Rapture (Avon).

Cyprus and Pfizer submitted talc samples for the round robin analysis since these companies do not have a commercial product on the market. Dr. John Stuart of the DFA also submitted two unknown samples, labeled FDA-1 and FDA-2. To further test the methods, a spiked sample containing 2% chrysotile as well as a sample containing 0.75% tremolite were prepared. All these samples were coded by me and a strong musk perfume oil was added to each sample to hide any identifiable perfume odor. Each task force member received for analysis in his laboratory several grams of each of these coded, perfumed talc samples.

The "cookbook" procedure for detection of chrysotile in talc required the use of a Differential Thermal Analyzer (DTA), which at the time of the round robin analysis only Avon and Johnson & Johnson had in their laboratories. However, Colgate-Palmolive, Pfizer and McCrone Associates are considering the purchase of a DTA unit at present. Of the eleven coded talc samples, Avon and Johnson & Johnson detected chrysotile in only two

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samples; that is, in the spiked 2% chrysotile-talc standard and in FDA-2. After the analysis was completed, Dr. Stuart of the FDA revealed that FDA-2 contained 1% chrysotile spiked (by himself) in talc.

The "Cookbook" procedure for the detection of fibrous amphibole in talc was carried out on the coded samples in the laboratories of McCrone Associates, Pfizer, Colgate and Johnson & Johnson.

Positive results for amphibole by x-ray diffraction at a level of 0.5% or higher were found in the following samples:

Investigator and Results

<u>Coded Sample</u>	<u>McCrone</u>	<u>Colgate</u>	<u>Johnson & Johnson</u>	<u>Pfizer</u>
0.75% Tremolite	Amphibole Found	Amphibole Found	Amphibole Found	Amphibole Found
Cyprus (SUP 200)	"	"	"	"
2% Chrysotile in talc (SUP 200)	"	not run	not run	"
Cyprus NYT-3FL	none detected	Amphibole Found	Amphibole Found	"

Possible positive results for amphibole at low levels (below 0.5%) were found by different investigators in other talcs in the round robin, but there was no unanimous agreement and in most instances the investigator wrote "amphibole?". The follow-up method of microscopy to see if the amphibole mineral detected was asbestiform was done by Pfizer and by Johnson & Johnson on the samples in the above table. Both Pfizer and Johnson & Johnson found, by microscopy, massive or non-asbestiform amphibole in the 0.75% tremolite and Cyprus NYT-3FL. These samples would pass the test. Both laboratories, however, failed Cyprus SUP 200 since it contained asbestiform amphibole.

The infrared method for the detection of tremolite in talc was applied to these round robin samples by Avon. Positive results were obtained for the 0.75% Tremolite, Cyprus SUP 200 and 2% chrysotile (SUP 200 talc). This method looks promising, but further work must be done to see if it

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can also detect amphibole minerals other than tremolite. It was suggested that the IR method may be able to detect whether or not the tremolite present is asbestiform.

SUBJECT: ROUND ROBIN (#3) ANALYSIS FOR CHRYSOTILE IN TALC USING THE PROPOSED OPTICAL MICROSCOPE PROCEDURE.

Since the DTA procedure will not distinguish between chrysotile (fibrous serpentine) and antigorite (non-fibrous serpentine) a backup optical microscope procedure for chrysotile was developed in the case of a positive reading by DTA. Three coded talc samples, of which two contained chrysotile were submitted to the task force. The results from these scientists able to perform the analysis were as follows:

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 - Talc Sample from Pfizer containing chrysotile and 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

The task force can recommend the use of the x-ray diffraction/optical microscope procedure for amphibole and the DTA procedure for serpentine (chrysotile), however, round robin #3 does not support the validity of the backup optical microscope procedure to the DTA procedure.

F. Robert Rolle
F. Robert Rolle, Ph.D.
Chairman, Task Force on
Methodology for the Detection
of Asbestos in Talc

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