C.F. Talc - analytical

Johnson & Johnson
NEW BRUNSWICK, N. J.

February 28, 1975

RECEIVED
MAR 3 1975
G. LEE

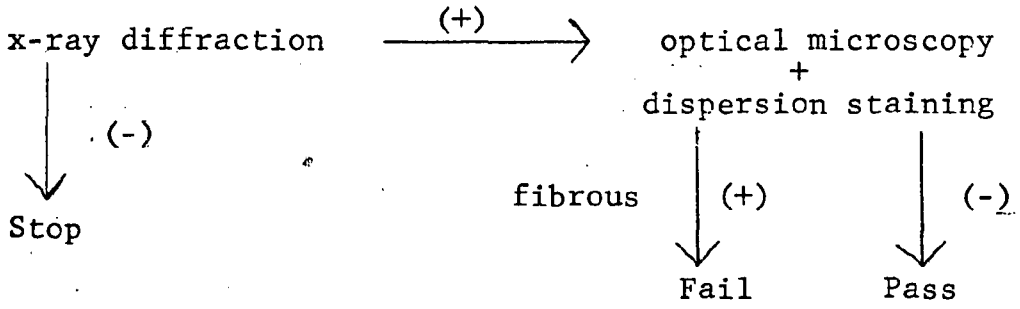
Mr. Ian Sloan
Johnson & Johnson, Ltd.
Southhampton Road
Cosham, Portsmouth, Hants
PO6 4RL
Great Britain

Subject: Review of CTFA Methodology for the Detection of Asbestos in Talc, as well as, Comments on TPF Methodology

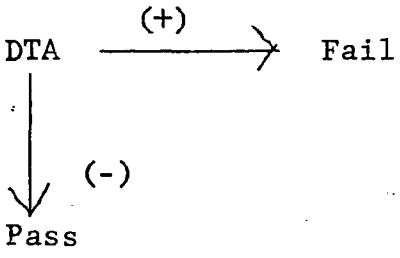
Dear Ian,

As you can see from the requested attached minutes of the CTFA task force on methodology for the detection of asbestos in talc, we have looked at several methods, but have decided on the following schemes.

Amphibole



Serpentine

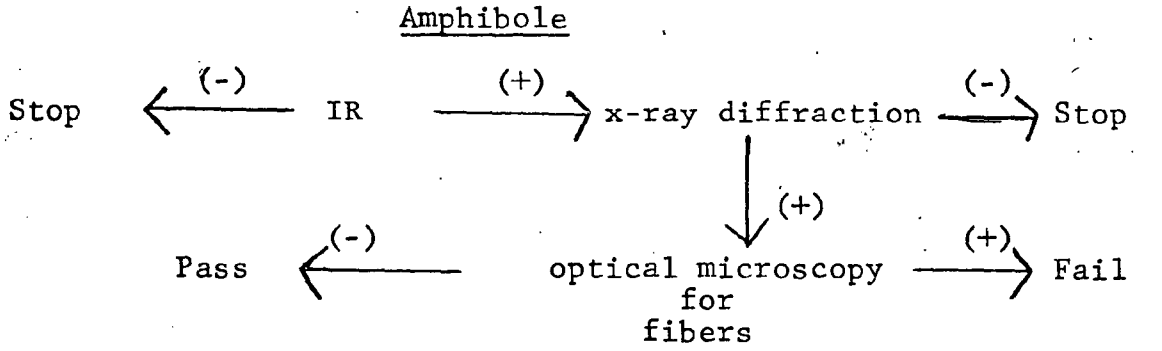


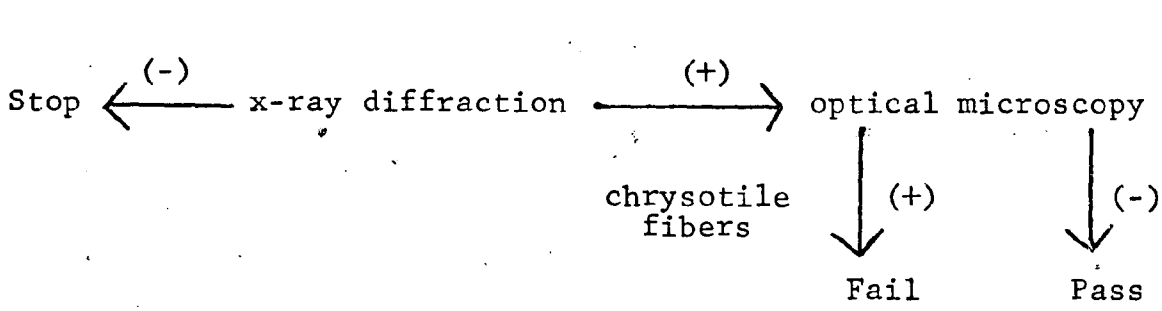
The DTA procedure is only specific for serpentine, so we examined a proposed dispersion staining/optical microscope procedure to be used to distinguish between chrysotile and the non-fibrous forms of serpentine. Unfortunately, the results of a round robin (#3) analysis on the optical method were unsuccessful; however, we have never found any serpentine minerals in cosmetic grade talc. You will find

AIR MAIL

in the attached literature a report on a quality control DTA unit for about $3,600 which can easily detect 1% chrysotile in talc.

From the literature I received from you the TPF scheme is evidently:





1. We have carefully examined the IR method for amphibole and feel particularly with IR, that it is very dangerous to make a tentative mineral identification of an unknown with one peak (muscovite, aluminium, silicate (china clay) and pyrophyllite all having interfering bands near 750 cm^{-1}, for example). Besides, your scheme indicates that you are going to run an x-ray diffraction scan for serpentine so you might as well look in the same scan for the relevant peaks for amphibole. I feel that the IR method is relevant to amphibole detection in talc only if (a) you really know the talc and are thus performing a quality control check on your own talc and (b) you do not have x-ray diffraction equipment.

2. A critique of your x-ray diffraction procedure is attached written by the x-ray diffraction expert at Johnson & Johnson.

3. I did not receive your optical microscopy procedures for amphibole and chrysotile so cannot make comment.

4. We are presently practicing and evaluating the Pooley flotation method so we are not in the position to recommend it at this time. Besides, we feel that a detectability limit with our two present methods of 0.5% to 1% is reasonable and provides us a safety margin of 48,300 (see Sivertson report of August 15, 1974). Our major problem with the Pooley procedure is that since one can continually recycle the tailings (concentrate) given enough time, it is possible to arrive at levels of detectability of asbestos in talc in the ppm range - at what stage of recycling do you stop? We really want to exclude concentration techniques in any proposed analytical procedure and are really looking at this method very quietly so that we will be informed and up-do-date with this area of technology. We want to avoid promotion of this approach.

I hope my comments are helpful and I will in the future keep you informed on methodology development.

Sincerely yours,

F. Robert Rolle

F. Robert Rolle

gm
Enclosures

cc: Dr. W. R. Dean
Mr. G. Lee
Dr. A. J. Goudie
Dr. W. Nashed
Dr. T. Shelley
Dr. G. Hildick-Smith