

Johnson & Johnson

DOMESTIC OPERATING COMPANY

NEW BRUNSWICK, N. J. 08903

December 29, 1975

Mr. George Sandland
Chairman, CTFA Committee
on Asbestos in Talc
Bristol Myers Products
225 Long Avenue
Hillside, New Jersey 07207

Dear George,

The samples of S. Z. Lewin cosmetic talcum powders you received from Mr. Henry Davis, Division of Cosmetic Technology, Bureau of Foods, Food and Drug Administration have been analyzed for asbestiform amphibole by the CTFA procedure entitled "Detection of Asbestiform Amphibole Minerals in Cosmetic Talc". As you know the CTFA method requires a slow x-ray diffraction scan in the region of 8.85-8.04A (11.0-10.0°2θ) for a peak indicating the possible presence of an amphibole mineral. If a peak is seen in this region then the talc is acid treated to remove interfering carbonate minerals and then examining by an optical microscopy/dispersion-staining procedure to confirm the presence of amphibole and to see if it is the asbestiform variety. The criteria for asbestiform amphibole is the one adopted by the U.S. Department of Labor, Occupational Safety and Health Administration, Field Information Memorandum #74-92, November 21, 1974 which requires:

- a. Particles must appear to be fibrous rather than as crystals or slivers.
- b. The maximum diameter of a fiber to be counted is 3 microns.
- c. The maximum length of a fiber to be counted is 30 microns.
- d. The length to width ratio must be 5 or more to 1, that is, 5 times or more longer than wide.
- e. The separate or individual fibers must contain fibrils or the "bundle of sticks" effect, unless they are at a non-divisible stage. A fibril cannot be subdivided and would be counted, if it meets the other criteria. The length to width ratio of 5 or more to 1 is not meant to imply that other particles are not hazardous.

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G. W. SANDLAND

Analysis of FDA Samples for Asbestiform Amphibole

<u>FDA Code #DCST</u>	<u>Amphibole X-ray Diffraction</u>	<u>Asbestiform Amphibole Dispersion Staining/ Optical Microscopy</u>	<u>Pass/Fail</u>
1338	Trace	*	Pass
1339	Trace	*	Pass
1340	Minor	Amphibole confirmed/ not asbestiform	Pass
1341	Minor	Amphibole confirmed/ not asbestiform	Pass
1342	Trace	Amphibole confirmed/ not asbestiform	Pass
1343	Minor	Amphibole confirmed/ not asbestiform	Pass
1344	Minor	Amphibole confirmed not asbestiform	Pass
1345	Minor	Amphibole confirmed/ not asbestiform	Pass
1346	None Detected	-	Pass
1347		Amphibole confirmed/ asbestiform	Conditional Fail ^a
1348	Minor	Amphibole confirmed/ not asbestiform	Pass
1349	None Detected	-	Pass
1350		Amphibole confirmed/ not asbestiform	Pass
1351	None Detected	-	Pass
1352	None Detected	-	Pass

Quantitative Estimation

Trace = 0 - 2% (w/w)
Minor = 2 - 10% (w/w)

*Talc was very fine; its size approached the resolution of the dispersion staining/optical microscopy method (5 um) so a definitive answer by this method was not possible. A scanning electron microscope was employed for the detection of "fibers" using the OSHA definition and none were seen.

^aA first examination revealed one bundle of amphibole fibers. This sample when examined twice more by the same operator did not reveal any asbestiform amphibole.

Mr. Davis also requested that serpentine analysis be performed on several samples. Sample DCST 1339 was found to contain approximately 1% serpentine by differential thermal analysis (DTA). Samples DCST 1341, 1347 and 1351 had many interfering DTA peaks in the thermogram caused by large quantities of impurities such as chlorite and as a result the presence or absence of serpentine could not be determined. Sample DCST 1352 has no detectable levels of serpentine. We know of no completely successful routine backup method to DTA, however an optical microscopy examination of all five samples revealed no fibrous serpentine minerals.

F. Robert Rolle

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

(b) (5)