

Cyprus Industrial Minerals Company
Research Laboratory

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August 21, 1975

Mr. George W. Sandland
Bristol-Myers Products
225 Long Avenue
Hillside, New Jersey 07207

Dear George:

It was pleasant to be in the East again and to meet with you and the other CTFA Committee Members. At that time, the subject of crystalline silica was again on the Agenda; and, I promised to send you the analytical methods that apply to this subject. There are three methods: X-ray Diffraction, Infrared Spectroscopy and Colorimetric method. Interestingly enough, in the August 1975 issue of the "American Industrial Hygiene Association Journal" these methods are outlined with references to free silica dust. I enclose a xerox copy of this article.

For bulk samples of the material, we use a somewhat different sample preparation--very much the same as we do for the determination of tremolite in talc. That is, to press pellets and use them in the sample holder for X-ray diffraction. I enclose a description of our method.

I seriously believe that the FDA will emphasize silica in talc once they have answered their approach to the asbestos question. The Bureau of Mines and OSHA have for years been very active on the silica subject.

George, you wanted to know from our X-ray diffraction patterns if we have found chrysotile in any of our talcs which are sold for cosmetic purposes. The answer is that we have not found any chrysotile in any of our own talcs. At the present time, we are selling for cosmetic purposes Montana talc. From the number of samples tested in our core drilling program, I have counted that we have 2,839 X-ray diffraction patterns of Montana talcs and all are clear from chrysotile.

AUG 23 1975

G. W. SANDLAND

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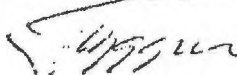
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George W. Sandland

I conveyed to Mr. Mulryan, our President, and Lou Murino your suggestion about quality labels for the talc bags. Also, I mentioned your interest in how much cosmetic talc we sell. I don't think they were very encouraged in either case.

At a later date, I will send you untreated and treated talc samples for micro-biological testing supervised by Louise Turner.

With best personal regards, I am

Sincerely yours,



Trggve Baak
Vice President, Research

TB/wb

Enclosures

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Bulk Samples --

For samples with bulk enough to be used in regular powder diffraction sample holders we prefer and used pressed pellets (700 Kg/cm²) of 3.17 cm. diameter and about 0.5 cm. thickness . The quartz peak height per percent of quartz content is maximum for this kind of mount and the sensitivity is best for these conditions. The same sample can be used in the X-ray spectrometer for elemental analyses if the elemental analyses are desired.

The quartz diffraction peak at 26.7 deg. of two-theta for Cu K α radiation , is the strongest peak and most sensitive for quantitative work. When mica is present, however, the mica peak which can occur in the range of 26.5 to 26.9 deg. of two-theta can interfere with the quartz analysis and may result in choosing a different quartz peak of less sensitivity for analysis. The next most sensitive quartz peak would be at 20.8 deg. of two-theta, and the sensitivity would be reduced substantially.