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DOCUMENT DESCRIPTION: Johns-Manville Research Center Memo with Request for Petrographic Examination of Body Talcum Powders

Title: BODY TALCUM POWDERS - Petrographic Examination

Requested by: J. P. Leineweber

Reason for Request

To determine mineral content, and particularly to determine whether components of a fibrous nature may be present.

Samples

Eleven body talcum powders, as follows:

1. Johnson's Baby Powder, Johnson & Johnson.
2. Tweed Body Powder, Lentheric.
3. Muguet des bois Talcum Powder, Coty.
4. Pond's Dream Flower Body Powder, Chesebrough-Pond's, Inc.
5. Shower to Shower Body Powder, Johnson & Johnson.
6. Early American Old Spice Talcum Powder.
7. Heaven Sent Bath Powder, Helena Rubinstein.
8. Evening in Paris Talc, Bourjois.
9. Mennen Bath Talc, The Mennen Company.
10. Cashmere Bouquet Body Talc, Colgate-Palmolive Company.
11. Friendship Garden Body Talc, Shulton.

Methods of Study

The samples were examined petrographically and the composition noted.

Photomicrographs were taken to show the shape characteristics of the particles. Iso-butanol was chosen as the immersion medium because of its low viscosity, which permitted the talc flakes to lie flat. Copies of the photomicrographs at a total magnification of 200X are attached to this report (Figures 1 - 11, Appendix).

Two of the samples, which had been found to contain tremolite, were examined via the electron microscope. The oils were extracted from these samples with ethyl alcohol, and the inorganic residues were then suspended in water. Dilute droplets of the water suspensions were dried on carbon coated electron grids, in an effort to secure any fibers that might be present. These grids were then scanned under the electron microscope at the same magnification that has been used to detect fiber in other samples, and micrographs were taken.

Results

Mineral Content

The following samples consist essentially of talc, plus about 1 per cent magnesite

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Johnson's Baby Powder, Muguet Talcum Powder, Shower to Shower Body Powder, Heaven Scent Bath Powder, Evening in Paris Talc.

The Mennen Bath Talc is similar to the above, except that it contains about 5 per cent sassolite ($B_2O_3 \cdot 3H_2O$).

The following samples are chiefly talc, plus a small amount of tremolite (about 5 per cent) and about 1 per cent dolomite:

Tweed Body Powder, Pond's Dream Flower Body Powder.

The remaining samples (Early American Old Spice Talcum Powder, Cashmere Bouquet Body Talc, and Friendship Garden Body Talc) are essentially talc, plus a trace of tremolite, and a trace of dolomite.

Photomicrographs

The photomicrographs (Figures 1 - 11, Appendix) show the plates, scales and blade-shaped particles typical of talc, plus occasional splinters of tremolite in a few of the samples. Carbonate particles, because of their great difference in refractive index as compared with the immersion medium, show heavy black edges.

Electron Microscopy

Residues of Tweed Body Powder, and Pond's Dream Flower Body Talc (from which the oils had been extracted), were examined via the electron microscope. The coarse particles were settled out, and dilute droplets of the supernatants were dried on carbon-coated grids. These preparations showed virtually no fines, and also showed nothing of a fibrous nature.

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