THE LOWE BROTHERS COMPANY
DAYTON F 2, OHIO, U.S.A.
ESTABLISHED 1870
MANUFACTURERS OF PAINTS, VARNISHES AND LACQUERS

September 17, 1946

Dr. Henry W. Ryder
Kettering Laboratory of Applied Physiology
College of Medicine
University of Cincinnati
Cincinnati 19, Ohio

Dear Dr. Ryder:

Most of the information on Asbestine contained herein was obtained from Dr. Mattiello's book, "Protective and Decorative Coatings", Volume II. I believe this information will answer all of the questions in your letter of September 13th to Mr. Kohr.

Asbestine is a form of Talc. The term, Talc, is used to describe all forms of pure hydrous magnesium silicate mineral. Among the Talcs that are used in the paint industry are Soapstone, Potstone, Talc Clay, Asbestine and Verdolite.

The chemical formula is usually written $H_2Mg_3(SiO_3)_4$.

Geographically, it occurs as follows:

1. As an altered sedimentary rock.
2. As an altered igneous rock.
3. As a definite vein.

Tremolite is undoubtedly the parent mineral. Talc is pseudomorphic after Tremolite, exhibiting a fibrous structure with a certain amount of foliated particles.

Talc is mined by open-cut or shaft, and tunnel mining depending upon the character of the deposits. The ore is selected, crushed and ground to the required fineness. The types that are free from iron and grit and low in lime, are the ones suitable for use in paints.

Talc is a hard, fibrous wax-like white pigment. The following is a typical analysis for the Asbestine that is used in paints.

SiO_2	54.0% - 56.0%
MgO	29.6% - 33.5%
CaO	5.0% - 7.0%
Fe_2O_3	Less than 0.3%
CO_2	0.4% - 1.15%
Loss on ignition	0.3% - 2.0%

Specific gravity - 20° C.	2.85
Refractive index	1.59
pH	8.10 - 9.2
Partical size	Average 5 - 10 microns

Our specification for Asbestine is as follows:

Specific gravity - 70° F.	2.85
Residue - 325 M screen	0.5%
Residue - 200 M screen	none
Combine Mg and Ca Silicates	88% minimum
Ca as CaO	7% maximum
Moisture loss @ 105° C.	1% maximum
Ignition loss	4% - 7%
pH	9.2%
Oil absorption	30.75%

Description: Fine texture, medium oil absorption, fibrous magnesium silicate

There are two sources of supply for the Asbestine that is used in our factory. Our laboratory examination of the various shipments does not include a chemical analysis, but we are reasonably sure that the composition is quite uniform. Slight variations from the standard, result in rather marked changes in the physical properties of the paints in which the Asbestine is used. Inasmuch as these properties remain quite uniform, we can safely assume that the composition and chemical properties of the Asbestine from shipment to shipment are uniform.

The crystalline structure, as viewed under the microscope, is mostly acicular with a small percentage of plates. It is definitely of a fibrous character.

There have been several articles abstracted in the Abstracts of the "American Chemical Society" that relate to the industrial hazards involved in the mining of Talcs of all types.

I believe I have answered all of the questions raised in your letter of September 13th. In case I have omitted some of the information that you desire, do not hesitate to let me know.

Very truly yours,

THE LOWE BROTHERS COMPANY

E. W. Fasig

E. W. Fasig
General Superintendent

EWF/ce