

FILE NAME: Johnson & Johnson (JAJ)

DATE: 1971 May

DOC#: JAJ044

DOCUMENT DESCRIPTION: Memo RE Assay of Talc in BABY POWDER with attached Data Analysis

cc: Dr. R. A. Fuller
Dr. W. Nashed ←
Mr. R. J. Mortimer to Mr. R. N. Miller
Dr. T. H. Shelley
Dr. R. L. Sundberg
Assay of Talc in BABY POWDER

F
May 14, 1971

Dr. G. Hildick-Smith

The attached letter shows the particle size-shape consists of a production batch of our product produced in December, 1970. It is an aliquot of that which I gave to Dr. A. Langer at Mt. Sinai Hospital. As you know I had this done to see what type of data we can expect from independent experts, as we had agreed.

You will note that 99% of our product is platy when assayed on a surface particle area basis. On the other hand 87% is platy when observed on a particle count basis. It is more usual to run a particle count assay in the business.

We consider the free non-talc needles but a trace, both on a count and area basis. Those particles are tremolite.

However, if such an assay were to be run by microscopists who are not aware of the differences between fibrous talc, broken talc plates, and tremolite we can then expect them to report about 5.5% needles by count and at least 0.5% needles by area.

You will note we are now picking up observable amounts of quartz in this particular batch. I have no explanation for that at present.

In addition to the attached I ran an X-ray diffractograph on that batch. It shows these minerals are present: talc, mica, chlorite, tremolite-actinolite, and magnesite.

I am proceeding to investigate samples of talc used during the past year as we discussed on Wednesday.

W. H. Ashton

rap
Attachment

COLORADO SCHOOL OF MINES RESEARCH INSTITUTE

P.O. Box 112
GOLDEN, COLORADO 80401

May 10, 1971

REFER TO

390517

Mr. Wm. Ashton
Johnson & Johnson
Research Center
Research and Development
New Brunswick, New Jersey 08901

Dear Mr. Ashton:

Following are the results of the point count analysis on sample
344L baby powder:

<u>Free Particles</u>					
	<u>No. of</u> <u>Grains</u>	<u>%</u>	<u>Cum</u> <u>sq mm</u>	<u>%</u>	<u>Avg</u> <u>sq mm</u>
Platy talc and/or chlorite (with inclusions)	434	87.32	1.200355	99.10	0.002765
Free diamond shaped particles	5	1.01	0.000148	0.01	0.000030
Free carbonates	7	1.41	0.001857	0.15	0.000265
Free quartz	8	1.61	0.003236	0.27	0.000404
Free talc shards	14	2.82	0.004945	0.41	0.000353
Free non-talc needles	3	0.60	0.000081	0.01	0.000027
Free talc needles	11	2.21	0.000242	0.02	0.000022
Free other (0.0016 x 0.0016 mm)	14	2.82	0.000186	0.01	0.000013
Dark opaque	1	0.20	0.000215	0.02	0.000215
Total	497	100.00	1.211265	100.00	

Inclusions in Talc and/or Chlorite Plates

	<u>No. of Grains</u>	<u>%</u>	<u>Cum sq mm</u>	<u>%</u>	<u>Avg sq mm</u>
Other (0.0016 x 0.0016 mm)	1,384	85.28	0.003719	27.58	0.000003
Talc needles	75	4.62	0.002045	15.16	0.000027
Quartz	52	3.20	0.001639	12.15	0.000032
Diamond shaped particles	56	3.45	0.000853	6.33	0.000015
Talc shards	11	0.68	0.002894	21.46	0.000263
Carbonates	9	0.55	0.000814	6.04	0.000091
Nontalc needles	36	2.22	0.001521	11.28	0.000042
Total	1,623	100.00	0.013485	100.00	

Platy talc and/or chlorite 1.200355 = total platy talc and/or chlorite with
 inclusions
 Total inclusions (-) 0.013485 = total sq mm of inclusions
 1.186870 = total platy talc and/or chlorite
 minus inclusions

On a cumulative sq mm basis, the talc and/or chlorite plates examined contained
 a total of 1.12% inclusions.

Following are explanations of the terms used in the above data tables.

1. The "inclusions" noted in the talc and/or chlorite plates were non-opaque particles. No dark opaque particles were noted as inclusions.
2. The "diamond shaped particles" were nonopaque with a refractive index above the 1.600 oil used. Measurements of the internal angles of the crystals were close to 90° in all cases indicating they could be some variety of pyroxene.
3. The "carbonates" noted may include magnesite, dolomite or calcite.

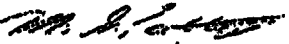
Mr. Wm. Ashton
Johnson & Johnson
CSMRI Project No. 390517
Page 3

4. The "quartz" noted was identified using interference figures where possible. Where not possible, due to size, conchoidal fracture and interference colors were used for identification.
5. The "talc shards" noted were thin pieces that could clearly be defined as being pieces broken off of plates, etc. This entailed very detailed study of each piece to determine if lamination or ragged edges were present.
6. The "nontalc" needles were identified as such if it was readily observable the particles were true needles and if they had extinction angles greater than 3° (usually $10-20^\circ$).
7. The "talc" needles were identified as such if it was readily observable the particles were true needles and if they had extinction angles of 3° or less.
8. The "other (0.0016×0.0016 mm)" particles were nonopaque particles that had had refractive indices greater than the 1.600 oil used. These particles were so small no other optical data could be procured from them.

The point count was made at 500X.

If you have any questions regarding this data, please call me.

Sincerely,


M. G. Pattengill
Project Engineer

/laJ