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March 6, 1974

Dr. Norman Estrin
The Cosmetic, Toiletry and Fragrance Assoc., Inc.
1625 Eye Street, N.W.
Washington, D.C. 20006

Dear Norman:

I asked our microscopist at the Stamford Research Laboratories to comment on the "Final Report of CTFA Talc Subcommittee" and sent a copy to Dr. J. Longfellow who requested that I provide you with as many copies as you deem useful.

I, therefore, am enclosing eight (8) copies of the report. If more are needed, please let me know.

F. D. Barbuscio

F. D. Barbuscio

FDB:dt

STANFORD RESEARCH LABORATORIES

RESEARCH SERVICE DEPARTMENT REPORT

TO Mr. Frank Barbuscio	DEPT. Consumer Products	ROOM NO.
FROM Microscopy	DATE REPORTED 2-25-74	
MATERIAL Method:Asbestos in Talc	TEST Microscopical Examination	
CHARGE NO. 22096-35 (546-7145)	DATE SUBMITTED 1-11-74	
WORK REPORTED BY D. W. Davis	NOTEBOOK REFERENCE S-10931, pp. 110,111	

Introduction

Our comments on the data you have submitted concerning the Dept. of Health, Education and Welfare's microscopical method for determining the amount of asbestos in talc may best be divided into two parts; the test procedure itself and the objections raised by the CTFA subcommittee after a round-robin trial.

Test Procedure

1. Sampling.

The method of sampling should be specified. Microriffling would probably be universally acceptable for powders of all sizes and compositions.

2. Size of Sample.

The test specifies a weight of one mg.; depending on the size-range of the talc product, this may be too much or too little to be truly representative.

3. Criteria for a Fiber.

Two of these criteria (ii and iii) may become contradictory. These criteria stipulate that fibers must have a length of 5 micrometers or greater and a width of 5 micrometers or less. Thus, a fiber 50 micrometers long and 8 micrometers wide (perfectly possible) would be in conflict with itself! The aspect ratio and the length suffice to define the fiber dimensions; width should not be specified.

4. Area to be Examined.

Assuming that one mg. is representative, the maximum area suggested for examination is 648 sq. mm. This seems unnecessarily large for routine microscopy, for it involves approximately 100 traverses of 50 fields each at 400X, or approximately 5000 fields. If the sample is well-dispersed, as specified, 10 equally-spaced traverses, involving about 500 fields, should be adequate.

General Comment

Our Microscopy Laboratory can perform this test. However, we feel that the time required would probably be one to two days per sample, if the figures are to be meaningful.

Objections by the CTFA Subcommittee

Objection No. 1.

This objection seems invalid, since the test requires that both indices of refraction exhibited by a fiber be below 1.574 if the fiber is identified as chrysotile. Also, it seems unlikely that an experienced mineralogist would confuse fibrous talc, or edgewise, platy talc, with chrysotile, as other optical characteristics, i.e., detailed morphology, interference color, change of relief on rotation, etc., would usually be distinctive.

Objections No. 2, 3, 4, 5, 6 and 7.

These all appear to be valid.

General Comment

It is quite obvious, from the disparity of results obtained in the round-robin trial, that the test, as presently designed, is not practical. Of the seven alternatives suggested, No. 1, (Modified Optical Method) still seems to offer the best chance of successful application by the industry.

D. W. Davis

D. W. Davis

LoGiudice/WCD/0244