

PLAINTIFF'S EXHIBIT

CT-662

USG SAN ANGELO SPECIAL PROJECTS



PLAINTIFF'S  
EXHIBIT  
WCD-82

CERTAINTEED PRODUCTS CORPORATION

Valley Forge

Charleston, S. C.

ATTENTION OF

DATE:

A. L. Schaffer

June 25, 1976

ANSWERING YOURS:

DICTATED BY:

J. L. Goodman, M.D.

SUBJECT

Summary of Visit to C-T, Savannah Roofing Plant

06/67

CC: Steve Monoky  
E. L. Harper

Mr. Steve Monoky & I visited the Savannah Roofing Plant and made a tour of the plant with special reference to:

1. The use of asbestos in products, the asbestos cement.

Impression: The area in which the asbestos is used is certainly a source of hazard to the employee working in that area who does wear a respirator. I believe that there are three solutions to prevent problems in the use of the asbestos cement products. (1). That we enclose the dumping of the asbestos into the reservoir which subsequently goes into the cement and is fixed in this location. (2). That the asbestos in the sack be mixed with a material or substance of a liquid nature that is compatible with the mix. (3). That the asbestos cement coatings be derived from a second source.

In a walk through the plant, there was some discussion about the use of talc. The Windsor Talc that they now use is perfectly within safe limits as we have had this evaluated by the Clemson Laboratory. Another talc was discovered in the course of inspection of the plant where they use a Southern Talc and I know that this has been evaluated by C-T, E S Laboratories, Georgia Talc Deposits, and Whittaker, Clark, & Daniels. The material submitted says Talc 1767. I am not sure that this is the same talc that we saw in Savannah, but Raybestos-Manhattan used the Talc 901A in Southern Talc and an x-ray diffraction of this talc showed Chrysotile content - none detected, amphibole content - 1+. The comments were that there are 2 to 5% tremolite present, also chlorite, quartz, and calcite are present, light microscopy and chrysotile content - none detected, tremolite content - 5 to 10% actinolite. The amphibole present has optical properties closer to the actinolite region of the tremolite-actinolite series. A number of the actinolite particles are fibrous, 98 to 99% of the weight of actinolite is in the form of large plates. Quartz, chlorite, calcite, and dolomite were also detected. An examination of the talc sample using the dispersion straining technique at 200X indicated that approximately 2 to 5% of the total number of particulate was fibrous tremolite. This can be compared to about 0.2% weight of fibrous tremolite in the talc.

Using the asbestos fiber to total particle percentage quoted above, the relative relationship between mppcf for talc, and p/cc for fibrous asbestos are shown as noted in the letter of May 10, 1976. Although these are maximum levels of fibrous asbestos and probably would not be reached, it would be difficult to know and control the fiber exposure resulting from talc dust exposure.

CTD027201

# Raybestos Manhattan

CORPORATE LABORATORY                      STRATFORD  
DIVISION                      and                      LOCATION

TO:                      W. Krucke - Charleston ←

DATE: May 10, 1976

SUBJECT: Southern Talc - Asbestos Analysis    OF    901A TALC

I have recently received the report from W. C. McCrone Associates on the Southern Talc Sample you submitted. A copy of this report is attached. I have also discussed these results with L. B. McCrone and I. Stewart of McCrone.

The results of this report can be summarized as follows:

Chrysotile	wt. %
x-ray diffraction (1% sensitivity)	none detected
*optical microscopy (1% sensitivity)	none detected

Amphiboles	
x-ray diffraction	**8-10% tremolite
*optical microscopy	5-10% tremolite

\*dispersion staining

\*\*this is a higher value than in the report from McCrone. It is the result of a re-examination of the spectra by I. Stewart.

An examination of the talc sample using the dispersion staining technique at 200X indicated that approximately 2 to 5% of the total number of particulate was fibrous tremolite. This can be compared to about 0.2% by weight of fibrous tremolite in the talc.

Using the asbestos fiber to total particle percentage quoted above, the relative relationship between mppcf for Talc and p/cc for fibrous asbestos are shown below.

$$\text{mppcf} \times (0.05 \text{ f/p} \times 35.3) = \text{f/cc}$$

0.29	0.5
2.9	5
20	35


Although these are maximum levels of fibrous asbestos and probably would not be reached, it would be difficult to know and control the fiber exposure resulting from talc dust exposure.

continued . . . . .

W. Krucke  
Page 2  
May 10, 1976

I am under the impression that we should be able to obtain a commercial talc with lower levels of fibrous asbestos.

I have retained a copy of the x-ray diffraction spectra here in case Southern Talc wished to examine or discuss this analysis.



John J. Magenheimer

JJM:sab

cc: I. Weaver - Manheim  
J. Wronski - Manheim  
P. Cooper - Charleston

CTD027203

Date April 19, 1976

Client R M Friction Materials Co MA Project 5890

Sample Description Southern Talc

X-RAY DIFFRACTION

Chrysotile Content none detected

Amphibole Content +

Comments ~ 2-5% tremolite is present

Also chlorite, quartz and calcite  
are present

R J Kincaid

LIGHT MICROSCOPY

Chrysotile Content none detected

Tremolite Content 5-10% actinolite

Comments The amphibole present has optical properties closer to the  
actinolite region of the tremolite-actinolite series. A number of the  
actinolite particles are fibrous but 98-99% of the weight of actinolite  
is in the form of large plates. Quartz, chlorite, calcite and  
dolomite were also detected.

Lucy B. McCrone

walter c. mcrone associates, inc.

CTD027204



walter c. mcCrone associates, inc.

CONSULTING • ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

29 April 1973

Dr. John J. Magenheimer  
RM Friction Materials Company  
75 East Main Street  
Stratford, Connecticut 06497

Dear Dr. Magenheimer:

Enclosed are our laboratory report and the x-ray charts of your talc sample obtained from Southern Talc.

The amphibole found in the sample has the optical properties of an actinolite, rather than a tremolite, and consists partly of fibers and partly of equant plates. (The x-ray powder diffraction patterns of tremolite and actinolite are essentially the same.) We found no chrysotile.

If you have any questions about this work, please let me or Ian Stewart know.



With best wishes,

Sincerely yours,

*Lucy B. McCrone*

Lucy B. McCrone  
Senior Research Scientist

LBM:fe  
attach.  
ref: 5390 - P.O. S 27594

<b>CertainTeed</b> 	Date June 25, 1979	To MR. D. HALE	Location and mail code SAN ANGELO, TX. Cameron Wholesale
Subject SPRAY-ON INSULATION		From  T. C. SHAFFER /als	Location and mail code VF CORP #4

cc: O. H. Kittilstad - 1125/4  
J. R. Taylor - 1125/4

The results of the fiber analysis for the bulk mill area and the bulk warehouse area insulation samples indicate that there was no detectable asbestos.

The laboratory that conducted this analysis is accredited under the Laboratory Accreditation Program of the American Industrial Hygiene Association for the analysis of asbestos.

If I can be of further assistance, please call.

Enclosure: Hager Laboratory Report

HAGER LABORATORIES, INCORPORATED

ANALYTICAL SERVICES FOR INDUSTRY

June 14, 1979

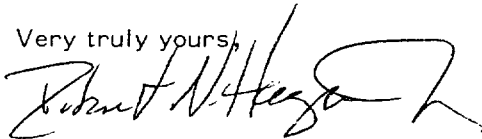
Mr. Thomas C. Shaffer  
CertainTeed Corporation  
P.O. Box 860  
Valley Forge, PA  
19482

Dear Mr. Shaffer:

We are happy to be providing analytical services to you. If, in the future, any questions arise concerning sampling or analyses, please contact us. We maintain complete files covering occupational health and try to pass as much of this information on to our clients as possible.

We thank you for using the services of Hager Laboratories, Inc.

Very truly yours,



Robert N. Hager, Jr., Ph.D.  
President

RNH/hjm



## REPORT

June 14, 1979

CertainTeed Corporation  
P.O. Box 860  
Valley Forge, PA  
19482

Attention: Thomas C. Shaffer  
Reference: Our Service Number 2460

Analytical Requirements

Two bulk samples were received for asbestos identification and content determination.

Analytical Method

Duplicate portions of the bulk material were immersed in liquid media of known index of refraction on a microscope slide and observed at 100 power using a McCrone Dispersion Staining Objective with polarized light. Characteristics of the fibers under polarized light only and under dispersion staining conditions using four media were compared to similarly prepared samples of known asbestos type. Estimates of asbestos fiber content were then made by comparing the quantity of non-asbestos material with asbestos fibers.

Analytical Results

Sample Number	Description
Mill Area	Sample contains no detectable asbestos and 70-90% non-asbestos fibrous material.
Warehouse Area	Sample contains no detectable asbestos and 70-90% non-asbestos fibrous material.

Discussion

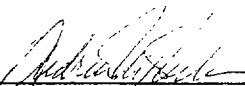
Hager Laboratories, Inc. participates in a proficiency testing quality control program for asbestos determination in insulation sponsored by EPA and the Department of the Interior.

Page 2, SN2460  
CertainTeed Corporation  
June 14, 1979

Discussion, continued

Detection limit for bulk samples is less than 1% asbestos fibers.

Samples and raw data are filed and available upon request.

Submitted by:   
Andrew M. Whelan  
Laboratory Supervisor

AMW/hjm

CTD027209