FILE NAME: Talc (TALC)

DATE: 0000

DOC#: TALC127

DOCUMENT DESCRIPTION: Collection of Talc Documents from Johns Manville

DECLARATION OF MARGARET J. BAUMGARDNER

I, Margaret J. Baumgardner, declare:

1. I am not a party to this action. I have personal knowledge of the facts set forth in this declaration, and if called as a witness, I could and would competently testify as to the truth of the matters set forth herein.

2. I am the Research Coordinator for the Claims Resolution Management Corporation ("CRMC"), a wholly owned subsidiary of the Manville Personal Injury Settlement Trust ("Trust"). The CRMC was created in December 1998 and is staffed by former Trust employees. On January 1, 1999, CRMC began providing claims resolution facility services to the Trust.

3. In this position, I manage the Asbestos Claims Research Facility ("Facility"), a document and records repository located at 3390 Peoria Street, Suite 304, Aurora, Colorado. I am also the designated Records Custodian for the Facility. The Facility contains the business records including but not limited to correspondence, memoranda, reports, records and data compilations ("record") of Manville Corporation or related entities ("Manville"), generally, as well as Manville records relevant to litigation of asbestos liability. The records found at the Facility were transferred from Manville to the Trust beginning in November 28, 1988, the date on which the Manville bankruptcy plan was consummated. Additional records have been and continue to be transferred directly to the Facility. The Facility's records have been in the custody and control of counsel for the Trust or Trust personnel since the date of consummation.

4. My experience and familiarity with the documents at the Facility began in 1983 while working for Manville. In my work as a paralegal for Manville, I assisted in locating, indexing and packing many of the records which became the foundation documents for the Facility. I continued to work for Manville until September 1987. From March 1988 to September 1988, I was hired to supervise and assist in the indexing of the first 20,000 boxes which were turned over to the Trust in November 1988. From September 1988 to January 1989, I assisted in the privilege review of documents to be given to the Trust. From November 1988 to April 1994, I worked for Freeborn & Peters and was put in charge of the Facility, managing all productions and "new" acquisitions.

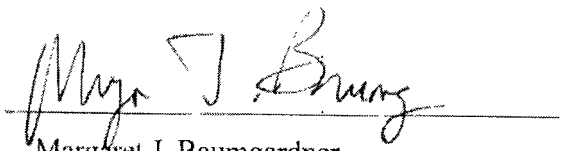
In September 1995, I was hired by the Trust to manage the Facility. In December 1998, I was hired by the CRMC to manage the Facility for the Trust. Accordingly, I am personally familiar with many of the records stored at the Facility, as well as how the records have been gathered.

5. To the best of my knowledge, information and belief, I certify that these records were made at or near the time by, or from information transmitted by, a person with knowledge, were kept in the course of the regularly conducted business activity of Manville, and it was the regular practice and the business activity of Manville to make the records.

6. Attached are documents found among the microfilm collections at the Facility. These documents, bates labeled CRMC-LLF-Pfizer-Micro-000001 through CRMC-LLF-Pfizer-Micro-000093 are true and correct copies of documents found at the Facility.

I declare under penalty of perjury under the laws of the State of California and the State of Colorado that the foregoing is true and correct.

Executed on August 10, 2015 in Aurora, Colorado.



Margaret J. Baumgardner

CRMC COPY FORM

BOX / FILE NUMBER	REQUESTING PARTY
Microfilm	LLF

Pfizer

NOTES:

The U.S. Department of Labor established and instituted its standard effective in mid-1972 for exposure to asbestos dust under the Occupational Safety and Health Act. This standard limits the 8 hour time-weighted airborne concentrations of asbestos fibers to which employees are exposed, to 5 fibers per cubic centimeter of air. In addition, a ceiling concentration of 10 fibers is not to be exceeded. This regulation defines tremolite, actinolite, and other acicular minerals commonly associated with some industrial talcs as asbestos. Wide-spread need in industry to comply with the new OSHA standards, and possible future FDA regulations, adds significance to the contents of the following research study report.

Return to R.S. Lamar

The Detection and Identification of Asbestos and Asbestiform Materials in Talc

Harold D. Stanley and Robert E. Norwood
Pfizer Inc.—Minerals, Pigments & Metals Division

INTRODUCTION

The pneumoconiotic and cancer-inducing health hazards of exposure to asbestos and asbestiform minerals often found associated with talc have been appropriately identified by recent research and mass-media publications (1-6). Because of Pfizer's position as a supplier of talc to many industries, a reliable method of detecting and identifying asbestos and asbestiform minerals possibly present in the talc had to be developed. Ideally the technique should be simple and direct but above all it must be positive and unambiguous.

Talc is a naturally occuring hydrous magnesium silicate having a general formula of $Mg_4 (Si_8O_{20}) \cdot 2\,Mg(OH)_2$. The mineral, talc, is felt to be formed by the hydrothermal alteration of serpentine and tremolite. Talc can be derived from minerals containing various amounts of tremolite, $Mg_5 (Ca_2Si_8O_{22}) \cdot Mg(OH)_2$, chlorite, $Mg_4 (Si_4O_{10}) \cdot 8\,Mg(OH)_2$, chrysotile $Mg_4 (Si_8O_{20}) \cdot 8\,Mg(OH)_2$, and a group of chrysotile-like minerals called amphiboles or asbestiform minerals. Chief among these asbestiform minerals are anthophyllite, $(Mg,Fe^{++})_7 Si_8O_{22} (OH)_2$, amosite, $(Mg,Fe^{++})_7 Si_8O_{22} (OH)_2$, crocidolite, $Na_2Fe^{+++}{}_3Fe^{++}{}_2 (Si_8O_{22}) (OH)_2$ and actinolite, $Ca_2 (Mg,Fe^{++})_5 Si_8O_{22} (OH)_2$.

From the above chemical formulas one can get an appreciation for the interrelatedness of talc and the asbestos type minerals, particularly when one considers that the degree of replacement of one element for another is seldom in exact proportion. Although talc itself has not been shown to induce the irreversible health problems (7), its chemical near-neighbors have (8). The exact causes of the undesirable reactions of the human body when exposed to asbestiform minerals is not entirely clear at the time of this writing but it is felt to be somehow linked to the fiberous nature of the asbestos-like minerals.

Currently available methods and methodology for detecting asbestos, tremolite and the asbestiform minerals in the presence of talc were reviewed. The three most likely candidates were:

1. Light microscopy
2. X-ray diffraction
3. Transmission electron microscopy

Samples of "pure" talc and tremolite were obtained from various deposits owned by Pfizer Inc. Samples of pure and carefully characterized asbestos minerals were obtained from the International Union Against Cancer, (U.I.C.C.), Pneumoconiosis Research Unit, Llandough Hospital, Penarth, Glamorgan, United Kingdom. The talcs and asbestiform minerals were examined in the pure or as-received state, their characteristics noted and mixtures made to determine if detection of asbestiform minerals was possible at low levels and, if so, what the minimum detection levels might be.

EXPERIMENTAL

X-ray diffraction patterns were obtained for all the minerals and mixtures used in this study employing the conventional technique of scanning at rates of 0.5 to 1.0 degrees 2 theta per minute. The samples were then subjected to scrutiny by optical and electron microscopy. During this procedure it was discovered that

CRMC-LLF-Pfizer-Micro-000002

certain mixtures and mineral species shown to be free of asbestiform minerals by the conventional X-ray diffraction technique mentioned above and the light microscope exhibited fairly large percentages, (5% and more), of tremolite and/or asbestiforms when viewed in the transmission electron microscope. Delineation of the reasons for this paradox enabled us to develop reliable techniques for detecting tremolite and the asbestiforms at the 0.25% and 0.5% levels respectively in most talcs by X-ray diffraction. Even lower levels of these minerals are detectable by transmission electron microscopy.

X-RAY DIFFRACTION

The d-spacings for talc, chlorite, tremolite and the asbestiform minerals are given in Table 1. The values given in Table 1 are averaged values for pure materials and can shift as much as +0.2 / -0.3 Angstroms depending upon sample preparation and/or level at which the constituent is found in the parent mineral matrix and the specimens conformity to the idealized chemical compositions.

When attempting to detect tremolite and the asbestiform minerals in talc at concentrations of 5% or below, it was found that the normal scanning rate of 0.5 to 1 degrees 2 theta per minute was not satisfactory for the following reasons:

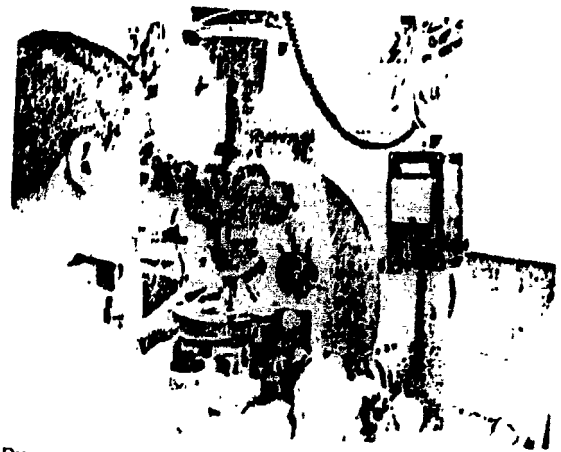
1. The noise level is so high that a detection limit of 5% is the minimum possible.
2. It is difficult to accurately quantify data from a high noise level tracing.

In order to avoid these difficulties, an automated step scanning method was employed in which the diffractometer was moved in increments of 0.05 degrees 2 theta and the intensity of X-radiation at each step measured for a total of two minutes. An intensity versus degrees 2 theta plot over the area of interest was obtained from a Wang 720 programmable calculator with plotter/printer output. Figures 1 and 2 show the step scan method plotted for tremolite. This method allowed the signal to noise ratio to be raised sufficient [illegible] level. The [illegible] was then calculated by determining the [illegible] appropriate X-ray peak utilizing a point by point integration technique. Calibration curves were established by integrating the area under the appropriate X-ray diffraction peak of samples with 1% to 10% additions of the species under investigation to a sample of talc shown to be tremolite and asbestiform free by the method of transmission electron microscopy outlined below. Examples of these curves are shown in Figures 3 and 4. Extrapolation of these curves to zero percent addition yields the minimum amount of the mineral that can be detected in the talc matrix.

For tremolite in talc the minimum detectable amount was found to be 0.25%. For chrysotile and the other asbestiform minerals the minimum detectable level obtained by this method is 0.5%, but this can only be achieved in the absence of chlorite. Attempts to remove the chlorite by a careful acid wash succeeded only in rendering the chrysotile amorphous to the X-ray beam with the result that no X-ray spectrum was obtained in the chrysotile region. Further experimentation revealed that the presence of tremolite at fairly low levels tended to mask or interfere with the detection of some of the asbestiform minerals. It was thus clear that another technique would be needed in these special cases in order to be able to achieve an unambiguous analysis.



Automated step scanning executed with X-ray diffraction



Dispersion staining technique with light or optical microscopy

LIGHT MICROSCOPY

Techniques employing the optical microscope have been used to identify mineral specimens for a long time. One of the more interesting and useful of these techniques is the Cherkasov focal screening dispersion staining procedure (9). This technique, often shortened to "Dispersion Staining," has been applied successfully to the identification of asbestiform fibers (10,11). Fairly extensive data taken by Julian and McCrone have shown that the asbestiform minerals are readily distinguished from one another

CRMC-LLF-Pfizer-Micro-000003

and that different samples of each of the various types are similar and will exhibit a family resemblance.

The difficulty in applying this technique to the problem is that while it works well with pure samples of fairly massive fiber length (3 to 5 microns and larger), observations by transmission electron microscopy have shown that naturally occurring asbestiform minerals often lie below the working resolution capabilities of the light microscope. While massive fiber bundles can often be observed by either light or electron microscopy, the observation of individual fibers smaller than 0.5 x 0.02 micrometers requires the high resolution capability of the transmission electron microscope. In addition, the limit of detection is confounded by the presence of talc "fibers" formed when a thin talc plate curls up at the edge and rolls up into a cylindrical morphology. The lower limit of positive fiber detection and identification by this technique and under these conditions is felt to be too high to be of commercial value.

ELECTRON MICROSCOPY

By virtue of its ability to examine individual particles in minute detail and at very high magnifications, the transmission electron microscope has been found by us to provide the technique, ancillary to X-ray diffraction, that is needed to complete the unambiguous detection and identification of asbestiform minerals. The morphology of the asbestiform minerals and tremolite is generally described as acicular or fibrous. This immediately serves to isolate them in the platy talc matrix even in the presence of chlorite, since the chlorite morphology closely resembles that of talc. If the sample made into a specimen for the transmission electron microscope is or can be made homogeneous and a careful examination of approximately 100 different fields of view fails to reveal any fiberous material, then that talc is felt to be free of tremolite, chrysotile and the asbestiform minerals.

The lower detection limit of this technique is difficult of access since one is often dealing with individual crystals. However, a typical field of view of a talc which was originally asbestos-free but now contained a 1%



Morphology observation by transmission electron microscopy.

[illegible] detected in each field of view than the lower detection limit can be postulated to be 0.2% or lower. Figure 6 shows Pfizer's Montana talc exhibiting its typical platy character and total lack of tremolite or asbestiform mineral. Figure 7 shows a commercial talc containing approximately 1% chrysotile which was obscured from detection by X-ray diffraction because of the presence of chlorite.

Selected area electron diffraction was used in conjunction with the examination of morphology. Using this method one single crystal or particle can be selected and analyzed. Single particles usually yielded spot patterns but if a group or bundle of fibers was found and would transmit electrons, a polycrystalline ring type pattern would result.

Table 2 lists the principle electron diffraction maxima for talc, tremolite and the asbestiforms. In almost all cases many more spots or rings were observed than are reported here. In Table 2, only the strongest lines which are most likely to be observed have been tabulated.

Selected area electron diffraction was also used to prove that the pseudo fibers of talc caused by plate-edge curling were actually talc and not tremolite or an asbestiform mineral. A comparison of the selected area electron diffraction pattern of these pseudo fibers to that of the talc platlets showed that the identical compound, talc, was the only species present.

CONCLUSIONS

The present work has shown that properly prepared samples of talc can be step-scanned by an X-ray diffractometer to detect tremolite at levels down to 0.25% and asbestiform minerals at the 0.5% level in the absence of chlorite. In the presence of chlorite and at concentration levels lower than those stated above, the transmission electron microscope was found to provide reliable detection and identification of tremolite and asbestiform minerals. The transmission electron microscope is the most sensitive method and appears to be a more or less referee technique since when morphology observations are coupled with selected area electron diffraction studies, there are no known interferences. Light microscopy was helpful only in screening samples with large particles and high concentrations of objectionable fibers.

Using the above techniques we have been able to screen large numbers of talc specimens. We have found Pfizer Inc.'s Montana talc to be free of tremolite and the asbestiform minerals. We have found some other commercial talcs which contain tremolite and/or asbestiform minerals at low levels of concentration, (1% or less). Also, we have been able to detect asbestiform minerals

in low concentration, specifically chrysotile, by transmission electron microscopy when its presence was masked by the presence of chlorite, (which was also present at less than 5% concentration).

We, therefore, feel we have a technique that allows us to detect and identify tremolite and the asbestiform minerals under any circumstances at concentrations down to 0.1 to 0.2% and possibly lower.

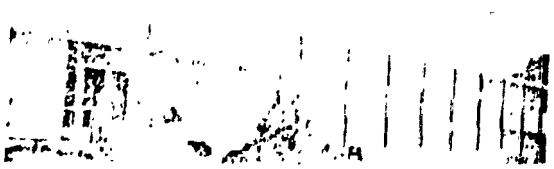
ACKNOWLEDGEMENTS

The authors would like to thank Pfizer Inc. for permission to publish this work. We would also like to thank the Pneumoconiosis Research Unit, Llandough Hospital, Penarth, Glamorgan, United Kingdom for the samples of pure asbestiform minerals and all the helpful information on their physical and chemical characterization.

BIOGRAPHICAL SKETCHES

Harold Stanley joined Pfizer Inc. in 1963 as a Research Investigator in Analytical Chemistry at Pfizer's M.P.M. Research Center. In 1964 he was transferred to the Physical Testing group where he built up a light and electron microscopy unit. In 1966 Mr. Stanley was given charge of the Physical Testing group and charged with the responsibility for the physical characterization of commercial and R & D materials. Mr. Stanley now has the title of Research Chemist and holds a Masters degree in Physical Chemistry from Lehigh University, Bethlehem, Pennsylvania.

Robert Norwood joined Pfizer Inc. in 1960 as a Research Investigator in Analytical Chemistry at Pfizer's M.P.M. Research Center. In 1969 Mr. Norwood was assigned to the position of Group Leader for Physical and Chemical Testing with the responsibility of coordinating the characterization of commerical and R & D materials. Mr. Norwood is now Research Manager for Administration and Services at Pfizer's M.P.M. Research Center.



Central Research Laboratory, Easton ... MPM Division

REFERENCES

1. Fibrous and Mineral Content of Cosmetic Talcum Products; Cralley, L.J., Key, M.M., Groth, D.H., Lainhart, W.S. and Ligo, R.M.; J. Amer. Indus. Hyg. Assoc., Vol. 29, July-Aug., p 350, 1968.

2. A Study of Workers Exposed to Talc and Other Dusting Compounds in the Rubber Industry; Hogue, W.L., Jr., and Mallette, L.S., J. Indus. Hyg. & Toxicol., Vol. 31, p 359, 1949.

3. Pulmonary Disability in Asbestos Workers; Smith, K.W., Arch. Ind. Health, Vol. 12, p 198, 1955.

4. The Effects of Inhaled Talc-Mining Dust on the Human Lung; Schepers, G.W.H., and T.M. Durkan, AMA Arch. Indus. Health, Vol. 12, p 182, 1955.

5. The Magic Mineral; Brodeur, P., New Yorker Magazine, p 12, October 1968.

6. Talc Treated Rice and Japanese Stomach Cancer; Merliss, R.R., Science, Vol. 173, Sept. 17, 1971, p 1141, 1142.

7. "Talc", Dangerous Properties of Industrial Materials, N. Irving Sax, Ed., Reinhold Publishing Corp., New York, 1963 p 1217.

8. ibid p 469.

9. Dispersion Staining, Parts I and II, Brown, K.M., and McCrone, W.C., Microscope Vol. 13, p 311 ff and Vol. 14 p 39 ff, 1963.

10. Identification of Asbestos Fibers by Microscopical Dispersion Staining, Julian, Y., and McCrone, W.C., Microscope, Vol. 18, p 1 ff, 1970

11. Characteristics of the International Union Against Cancer Standard Reference Samples of Asbestos, Timbrell, V., Proc. Int. Pneumoconiosis Conf., Johannesburg, 1969.

TABLE 1

PRINCIPAL LATTICE SPACINGS OF TALC AND RELATED MINERALS BY X RAY DIFFRACTION Cu K alpha

Mineral Species	Principal d-Spacings in Angstroms					
	1	2	3	4	5	6
Talc	9.51		4.73	3.14	2.61	2.50
			4.62			
Chlorite	14.00	7.03	4.70	3.53	2.82	
Tremolite		8.38	3.38	3.12	2.94	2.71
			3.27		2.81	2.59
						2.53
Chrysotile		7.38	4.55	3.66	2.45	1.54
Amosite		8.26	3.27	3.07	2.77	
Anthophyllite	9.50	8.40	4.58	3.25	3.13	3.06
Crocidolite		8.43	4.51	3.43	3.11	2.72

TABLE 2

SELECTED AREA ELECTRON DIFFRACTION MAXIMA FOR TALC AND RELATED MINERALS* (IN ANGSTROMS)

Talc	Tremolite	Chrysotile	Amosite	Anthophyllite
4.60	4.51	4.58	3.88	4.58
2.62	2.59	3.67	3.45	2.65
2.32	2.53	2.61	3.00	2.27
1.74	2.32	2.14	2.64	1.75
1.59	2.27	1.70	1.74	1.55
1.53	2.04	1.55	1.61	1.33
1.33	1.86	1.34	1.55	1.28
1.28	1.69	1.29	1.32	1.23
	1.65			

* The data for Chrysotile, Amosite and Anthophyllite were taken from reference (11)

CRMC-LLF-Pfizer-Micro-000005

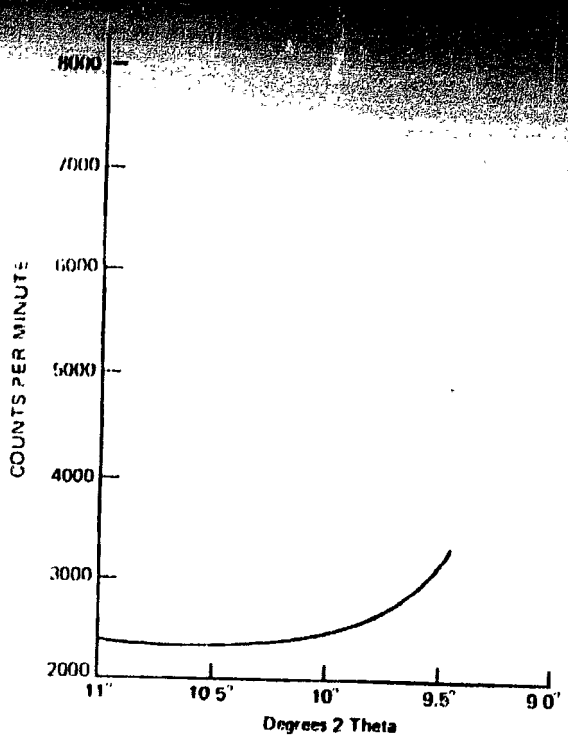


FIGURE 1

Step scan plot of intensity versus degrees 2 theta for Pfizer Inc Montana talc.

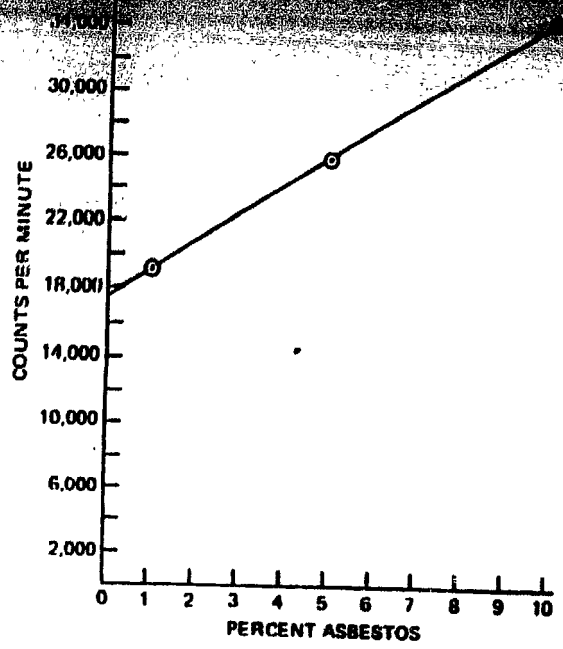


FIGURE 3

Percent asbestos as a function of intensity of diffracted X-rays.

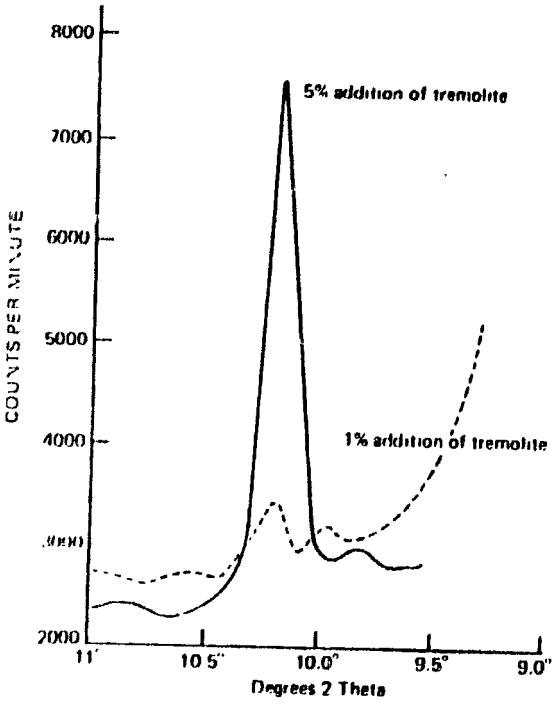


FIGURE 2

Step scan plot of intensity versus degrees 2 theta showing the effect of adding 1% and 5% tremolite to talc

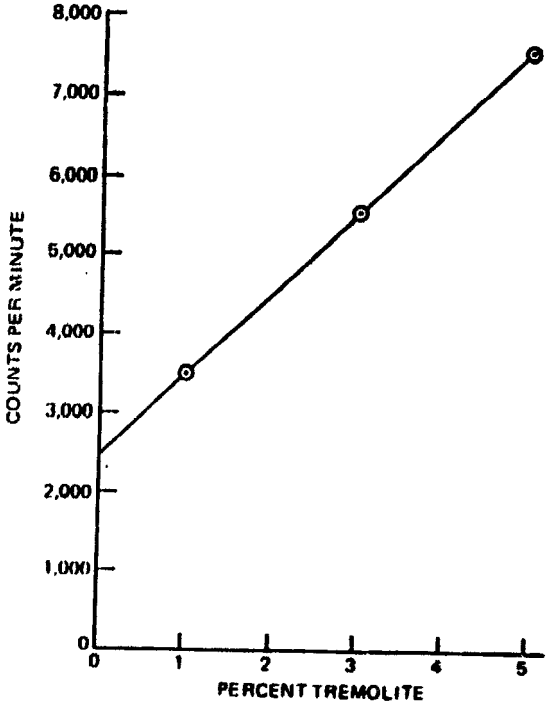


FIGURE 4

Percent tremolite as a function of intensity of diffracted X-rays.

CRMC-LLF-Pfizer-Micro-000006



FIGURE 5 – BAR IS 1 MICRON
Commercial talc with 1% study addition of chrysotile asbestos



FIGURE 7 - BAR IS 1 MICRON
Commercial talc with inherent chlorite and chrysotile asbestos



FIGURE 6 - BAR IS 1 MICRON
Pfizer Montana talc, free of asbestos and asbestiform content



Specimen of platy, steatite talc from Pfizer's Montana mines

by

Mr. Harold Stanley

Pfizer Corporation

CRMC-LLF-Pfizer-Micro-000008

Pfizer's position as a supplier of talc [illegible] us to seek a reliable method to identify and detect asbestos and asbestiform minerals possibly present in talc. Ideally we wanted the technique to be simple and direct but above all, it must be positive and unambiguous. Talc is a naturally occurring hydrous magnesium silicate and you have been given the formulas from various and sundry people this morning and this afternoon; and is derived from minerals containing various amounts of tremolite, chlorite, chrysotile and a group of chrysotile-like minerals called amphiboles or asbestiform minerals. Chief among these are anthophyllite, amosite, crocidolite and actinolite. From their chemical formulas, which you can find in the reference, you can see the close chemical similarity between talc and these asbestos type minerals. It becomes particularly difficult to analyze for these when one considers that the degree of replacement of one ion for another is seldom in exact proportion. Often the best that you can do is say that this particular material is, for example, like anthophyllite or most like anthophyllite. We investigated the currently available methods and methodology for detecting asbestos and tremolite and the asbestiform minerals in the presence of talc. The three most likely candidates that we came up with were light microscopy, X-ray diffraction and transmission electron microscopy. Samples of pure talc and tremolite were obtained from various deposits owned by Pfizer. Samples of very pure and very carefully characterized asbestos minerals were obtained

from the International Union Against Cancer [illegible] talcs and asbestiform minerals were obtained in the pure, as received state, their characteristics noted and mixtures made to determine if the detection of asbestiform minerals was possible at low levels and, if so, what might the minimum detection levels be? Experimentally we started with X-ray diffraction. We obtained patterns for all of the minerals and mixtures used in the study employing the conventional X-ray techniques of scanning at rates of from 0.5 to 1 degrees 2 theta per minute. These samples were then subjected to scrutiny by optical and electron microscopy. When we did this we found that sometimes mixtures and mineral species shown to be free of asbestos minerals by the conventional X-ray diffraction techniques mentioned above and the light microscope also exhibited very large percentages of 5% or more of tremolite and/or asbestos minerals when viewed in the transmission electron microscope. We sought to find out the reason for this paradox which then enabled us to develop reliable techniques for detecting tremolite and the asbestiforms at 0.25% to 0.5% by X-ray diffraction. Even lower levels than these could be detected by electron microscopy.

The first table, Table I, shows the d spacing for talc, chlorite, tremolite and the asbestiform minerals. These are for pure minerals and can shift by as much as 0.2 to 0.3 angstroms depending on the sample preparation. You can see the problem that is going to present itself when you consider that you are really dealing with three specific items. You are dealing with talc, you are dealing with chrysotile

asbestos and then you [illegible]

thrown in -- chlorite. We'll get to the chlorite in a few minutes. What we did is use an ordinary step scanning diffractometer which moved the counter .05 degrees 2 theta and the intensity of the X radiation at each step was measured for approximately 2 to 4 minutes. We then plotted the intensity of this versus 2 theta over the area of interest - roughly 13 degrees to 9 degrees 2 theta shown in figure 1. This is the type of output we obtained when we examined talc from our Montana deposit. The general upward slope as you go lower in degrees is caused by the measuring device entering the primary beam of the X-ray tube. We established calibration curves by integrating the areas under these curves and the appropriate X-ray diffraction peak, samples with as little as 0.1% and as much as 10% additions of the species under investigation were examined. We extrapolated these curves to 0% and we got the minimum background with the minimum amount detectable using the standardized formula of 3 times the square root of background level at that point. For tremolite in talc, the minimum detectable level was found to be 0.25%. For chrysotile and other asbestiform minerals the minimum detectable level by this method is 0.5% but this can only be achieved in the absence of chlorite. Referring back to the first figure, the chlorite tends to mask the presence of chrysotile asbestos because it is so close to chrysotile asbestos in its major diffraction peak. The consequance of this is that when you have chrysotile asbestos or when you have chlorite, you can't be sure exactly which of the two you have. If you have a small amount of chlorite, it will very effectly

mask the presence of the chrysotile asbestos. [illegible] the dilemma that presented itself to us at this time was the fact that chlorite is acid soluble so we thought what we would do in this case was to acid wash the talc containing the chlorite, get rid of the chlorite and then examine it for chrysotile asbestos and in fact, the chrysotile asbestos peak and the chlorite peak both did disappear. The only problem was that when we looked at these samples in the electron microscope, the presence of the chrysotile fibers was still found. This is explained by the fact that chrysotile asbestos is in fact partially soluble in hydrochloric acid. It is a diffusion controlled reaction and as the magnesium ions depart from the crystal structure, you are left with a shell of silicon which is amorphous to the X-ray beam - the X-ray beam does not see it. The electron microscope does pick it out.

Figure 2 demonstrates the difference in X-ray intensity one gets over the same angular region when one adds 5% tremolite or 1% tremolite. The same type of plot is available when one adds chrysotile asbestos or any of the other asbestiform minerals. Figure 3 is the calibration plot that we obtained for chrysotile. Therefore, we can put a pretty good handle on the percent asbestos or tremolite or asbestiform mineral that we are going to find. Figure 4 is the calibration curve obtained for tremolite. So you can see that it is a fairly sensitive technique and is easily performed. Table 2 shows the selected area electron diffraction maxima for talc, tremolite, chrysotile, amosite, anthophyllite. We use these for the positive identification of these minerals. Transmission electron microscopy is employed in this

identification. We need to have this type of information, because we need to be unambiguous about our analysis. We want to know for sure what we are looking at. The electron microscope has the ability to single out individual particles and by virtue of selected area electron diffraction, we can derive the same type of data as an X-ray diffraction unit except we are quite a bit more sensitive here. By virtue of its ability to examine these individual fibers and particles at very high magnification, the transmission electron microscope has been found by us to provide the technique ancillary to X-ray diffraction that is needed to complete the unambiguous detection of the identification of asbestiform minerals. The morphology of the asbestiform minerals and tremolite is generally described as acicular or fibrous. This immediately serves to isolate it from the platy talc matrix even in the presence of chlorite since chlorite, fortunately closely resembles the morphology of talc. The chlorite is platy; the talc is platy so that eliminates immediately the problem of detecting fibers since the investigator disregards all platy particles and looks only for fibers. Now if a careful examination of approximately 100 different fields of view fails to reveal any fibrous material, then we feel that talc is free of tremolite, chrysotile and the asbestiform minerals. The problem of particle curling was mentioned earlier. One of the uses for selected area electron diffraction is to diffract from curled up plates. You can tell that the diffraction pattern is no different from that of the plate from which this material starts to curl. With the transmission electron microscope, you are

looking right into the particle, you see it and then you diffract from the pseudo fiber of curled up talc and you find that its pattern is identical to that of the main talc body. Therefore, there is no difference mineralogically between the two. The talc pseudo fiber can just as likely unroll as it can roll up. Now at first we had a little problem with our talcs because when we used the Montana material, we couldn't find any fibers, we couldn't find any chrysotile, we couldn't find any tremolite, we couldn't find anything but a small bit of chlorite. This prompted us to spike some samples and we did this by adding a weighed amount of chrysotile asbestos in one case for example to a weighed amount of our talc and we were able to construct calibration curves similar to the type that we used in the X-ray diffraction work and we found for example that with 1% addition of chrysotile asbestos to the Montana talc, we would find on the average in the 100 fields of view, 6 fibers with a standard deviation of approximately 1-1/2 fibers and it also followed a Guasian distribution which made us feel a good deal better about the homogeneity of the sample. These samples were prepared by slurrying the dry powders in a Waring blender with isoprophyl or ethyl alcohol for five minutes and then allowing them to dry and then just simply crumbling them up. We also used 0.1% and 0.5% asbestos and up to 5%. Figure 6 is a typical example of Montana talc. The micron marker is 1 micron and these are all platy materials. There have been no fibers identified in this material. Figure 5 shows a typical example when you spike the sample with 1% chrysotile asbestos. Fibers are readily observed. I call your attention to the thinness

of the fibers - I would certainly call them fibers. Figure 7 shows a sample of naturally occurring talc with a naturally occurring chrysotile asbestos contaminant, the chrysotile running at an approximate 45° angle. These fibers will become individualized. They are pretty much individualized right there and they are also very thin.

We also tried light microscopy since the optical microscope has for many years been used to identify mineral species and one of the things we turned to was dispersion staining since that has been successfully applied to the identification of asbestiform fibers. There has been a great deal of work done on it and asbestiform minerals are in fact readily distinguishable from one another. The difficulty in applying this to the problem at hand is that while it works well on pure samples of fairly massive fiber length from 3 to 5 microns, our observations by transmission electron microscopy have shown that naturally occurring asbestiform minerals often lie below the working resolution capabilities of the light microscope and furthermore while massive fiber bundles can often be observed by either light or electron microscopy the observation of individual fibers smaller than 0.5 by 0.2 micrometers often will require the high resolution capability of the transmission electron microscope. In addition, the limit of detection is confounded by the presence of talc fibers which are the thin talc plates curled up at the edge. Talc plates sitting on an edge also give difficulty. The lower limit of detection was felt to be too high to be of commercial value.

In conclusion, we feel that the properly prepared samples of talc can be step scanned by X-ray diffraction to detect tremolite down to a 1/4 of a percent, and an asbestiform mineral at the 1/2% level in the absence of chlorite. In the presence of chlorite and at concentration levels lower than those stated above the transmission electron microscope was found to provide reliable detection in identification of tremolite and the asbestiform minerals. The transmission electron microscope is the most sensitive method and appears to be a more or less referee technique since when morphology observations are coupled with selected area electron diffraction studies, there are no known interferences. We found light microscopy helpful only in scrutinizing samples with very large particles at very high concentrations of objectionable fibers.

GPO 880-893

CRMC-LLF-Pfizer-Micro-000016

Johns-Manville

Initial Confidential

038800

To G. Coombs

Date: September 2, 1976

From: R. S. Lamar

Copies: J. H. Swensen, H. R. Keefe, T. E. Remmers, W. C. Streib, E. M. Fenner, D, C

Subject X-ray Diffraction Analysis of Talc; Lower Limit of Detectability for Asbestos Minerals

The attached paper by Stanley and Norwood, "The Detection and Identification of Asbestos and Asbestiform Materials in Talc" should be helpful.

Under the conditions described in this paper the lower limit of detectability for tremolite is 0.25% and for chrysotile, 0.5%. The principal lattice spacings for chlorite at 7.03 d-spacing in Angstroms and 7.38 for chrysotile should be resolvable by using the curved graphite crystal on the X-ray diffracometer and very fine tuning of the optical system and the electronics.

R. S. Lamar

RSL/imb

Attachment all copies

Johns-Manville

Internal Correspondence

088800

To: J. H. Swensen

Date: August 31, 1976

From: R. S. Lamar

Copies: E. M. Fenner, G. R. Kinzer, H. R. Keefe, T. E. Remmers, W. C. Streib, S. R. Speil, G. Coombs, D, C

Subject: Meeting with Pfizer personnel at R&D Center August 31, 1976. Asbestos Minerals in Talc and Test Methods

We met with Robert E. Norwood, Research Manager for Pfizer's Minerals, Pigments, and Metals Division and with Harold D. Stanley, Jr.; Group Leader, Testing.

This was a good meeting in that both Pfizer and J-M are essentially in agreement as to test methods and interpretation of data. They use all of the same procedures we do: XRD, TEM, SEM, DTA, TGA, etc. but seem to rely most heavily upon TEM and XRD.

We showed them our data on samples of their CP talcs indicating up to 30% tremolite by XRD. They couldn't understand this and we gave them portions of the same samples for testing. They promised to get back to Ed Fenner with their results.

They had complete analytical data on three samples of Penhorwood which they recently obtained from some unknown source. By XRD they show no asbestos minerals. They believe that their lower limit of detectability by XRD is 0.1% or less. By TEM all three Penhorwood samples showed platy talc with an occasional fiber - less than one fiber per field. They don't regard this as significant and would interpret this as no asbestos mineral by OSHA requirements. We gave them three additional Penhorwood samples from our files for additional studies.

We also discussed commercial talcs from other sources. They feel that R. T. Vanderbilt is completely "off the track" in their stand on OSHA regulations concerning asbestos minerals. They think it is only a matter of time until this stand completely destroys Vanderbilt.

They described Jack Bartel's "emotional" interest in buying Desert Minerals Co. from J-M but believe that this will not happen because they view this business the same way we do - the tremolite is too great a hinderance to marketing.

R. S. Lamar

R. S. Lamar
RSL/imb

Johns-Manville

Internal Correspondence

BD

To: E. M. Fenner - 4 North

Date: July 26, 1974

From: W. C. Streib - R&D Ctr

Copies:

Subject: ACTION MINUTES
June 11, 1974, Committee Meeting

In line with the assignment I was given at the subject F&M Environmental Committee meeting, I would like to advise you that Pfizer and United Sierra talcs do not contain fibers that meet OSHA's asbestos standard criteria.

Using EM techniques, minute chrysotile fibers can be detected in these competitive talcs, but they do not meet the 5 micron length criteria established by OSHA.

Would you please pass this information on to those Committee members who might be interested in it.

W. C. STREIB

WCS/rs

CRMC-LLF-Pfizer-Micro-000019

ROUTINE

* U N C L A S S I F I E D *

P1 03466 23Z 180419

Code	A C	I	Code	A C	I
100		1	500		2
110			600		
130			800		
140		1	800.03		
150		3	850		
165	1		860.21		
190			860.25		1
200		25	960		1
300		6			
330					
400					
REP REQ:			RTD:	CKT:	

RTTUZYUW RULSSGG6452 2341639-UUUU--RUWGSAA.
ZNR UUUUU
R 221541Z AUG 78
FM COMNAVSEASYSCOM WASHINGTON DC
TO ZEN/COMNAVSUPSYSCOM WASHINGTON DC
ZEN/NAVSEC WASHINGTON DC
ALL NAVSHIPYS
INFO RUENAAA/CNO WASHINGTON DC
RUENAAA/FLEMATSUPPO MECHANICSBURG PA
RUENAAA/SPCC MECHANICSBURG PA
RUCLAAA/DGSC RICHMOND VA
RUCIAAA/NAVENVIRHLTHCEN CINCINNATI OH
RUEHJI/RUMED WASHINGTON DC
BT
UNCLAS //N05100//
CNO FOR 345: RUMED FOR 55: FLEMATSUPPO FOR 9922: SPCC FOR 5641:
NAVSUP FOR 0311A, 0311D: NAVSEC FOR 6101D, 6101E, 6101F, 6105F,
61570, 615R0, 615YC
TECHNICAL TALC: ASBESTOS FREE
A. NSN 9G-6810-270-9966
B. NAVSHIPYD CHARLESTON SC LTR 5600:JN 4400 OF 2 AUG 78 (NOTAL)
C. NAVSUPINST 4440.120D

PAGE 02 RULSSGG6452 UNCLAS
D. NAVSHIPS TECHNICAL MANUAL, CHAPTER 635
1. SUMMARY. THIS MESSAGE IDENTIFIES SOURCES OF ASBESTOS FREE MATERIAL WHICH ARE ACCEPTABLE SUBSTITUTES FOR REF A MATERIAL. END SUMMARY.
2. BY REF B NSY CHASN REPORTED THAT TECHNICAL TALC PROCURED TO REF A CONTAINS NINE PERCENT ASBESTOS AND THAT LOCAL USE HAS BEEN SUSPENDED. NSY CHASN IS SUBMITTING REPORT REQUIRED BY REF C.
3. UNTIL A NEW NSN BECOMES AVAILABLE AND A CENTRAL SUPPLY POSITION IS ESTABLISHED, LOCAL PROCUREMENT OF SUBJECT MATERIAL IS AUTHORIZED. SEVERAL PROCUREMENT SOURCES FOR AN ACCEPTABLE SUBSTITUTE ARE:
   A. PFIZER, INC.
      MINERAL, PIGMENTS AND METALS DIV
      235 E. 42ND STREET
      NEW YORK, NY 10017
      PRODUCT: AP 25-38
   B. MALLINCKRODT, INC.
      SECOND AND MALLINCKRODT STREETS

1 2

REC COMMUNICATIONS AUG 22 1 38 PM '78

ROUTINE

* U N C L A S S I F I E D *

Copyright Aug 78

F 108162

CRMC-LLF-Pfizer-Micro-000020

ROUTINE • U N C L A S S I F I E D •

ST LOUIS, MS 63160
PRODUCT: 1-4100, TECHNICAL TALC
C. J.T. BAKER CHEMICAL CO.

PAGE 03 RULSSGG6452 UNCLAS
223 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
PRODUCT: TALC, USP 4100
PROCURING ACTIVITIES ARE REQUESTED TO BASE ACCEPTANCE OF MATERIAL UPON RECEIPT OF SUPPLIERS TEST DATA INDICATING THE TALC IS FREE OF ASBESTOS AND OTHER FIBROUS ASBESTIFORM MINERALS AND THAT LABELS ON SHIPPING CONTAINERS REFLECT SUCH INFORMATION.
4. ACCEPTABLE ANALYTICAL TECHNIQUES FOR DETERMINING PRESENCE OF ASBESTOS ARE DISPERSION STAINING MICROSCOPY OR X-RAY DIFFRACTION. IF ASSISTANCE REGARDING ANALYTICAL TECHNIQUES IS REQUIRED CONTACT NAVENVHLTHCEN (NEHC) CINCINNATI, OH (MR. J. CRAWL) AUTOVON 989-3863 OR COMMERCIAL (513) 684-3663.
5. IF USE OF REF A MATERIAL IS REQUIRED BEFORE ACCEPTABLE SUBSTITUTE MATERIAL IS OBTAINED, INSTITUTE THE SAFETY REQUIREMENTS OF APPENDIX A OF REF D OR CONTACT NEAREST NAVY REGIONAL MEDICAL CENTER FOR GUIDANCE.
6. FOR ALL NAVSHIPYDS: SUSPEND USE OF REF A MATERIAL IMMEDIATELY.
7. FOR NAVSEC: FORWARD A PURCHASE DESCRIPTION TO SPCC FOR ASBESTOS FREE FORMULATION OF TECHNICAL TALC TO FACILITATE ESTABLISHING A NEW NSN. INITIATE CHANGE TO MIL-STD-1466 TO DELETE THE REQUIREMENT FOR

PAGE 04 RULSSGG6452 UNCLAS
ASBESTOS CONTAINING TALC.
8. FOR NAVSUP: REQUEST ISSUE OF A DEFECTIVE MATERIAL SUMMARY BULLETIN FOR REF A MATERIAL INCLUDING INFO IN PARAGRAPHS 3, 4, AND 5. REQUEST IDENTIFY ADDITIONAL STOCK NUMBERS FOR TALC PROCURED TO MIL-STD-1466, OBTAIN SAMPLES AND COORDINATE WITH NEHC TO OBTAIN ANALYSIS OF ASBESTOS CONTENT. REQUEST NAVSEA 04F AND NAVSEC 6101 BE APPRISED OF TEST RESULTS.
BT
#0452

NNNN

PAGE 2 OF 2 PAGES

ROUTINE • U N C L A S S I F I E D •

F 108163

CRMC-LLF-Pfizer-Micro-000021

ROUTINE

****
* U N C L A S S I F I E D *
****

00757 239 182349 01121305 239F

RTTUZYUW RULSSGG6452 2341639-UUUU--RUEDNAA.
ZNR UUUUU
R 221541Z AUG 78
FM COMNAVSEASYSCOM WASHINGTON DC
TO ZEN/COMNAVSUPSYSCOM WASHINGTON DC
ZEN/NAVSEC WASHINGTON DC
ALL NAVSHIPYD
INFO RUENAA4/CNO WASHINGTON DC
RUEGNAA/FLEETSUPPO MECHANICSBURG PA
RUEGNAA/SPCC MECHANICSBURG PA
RUCLBGA/DGSC RICHMOND VA
RUCIHNA/NAVENVIRHLTHCEN CINCINNATI OH
RUEBJIA/BUMED WASHINGTON DC
BT
UNCLAS //N05100//
CNO FOR 045; BUMED FOR 55; FLEETSUPPO FOR 9922; SPCC FOR 5641;
NAVSUP FOR 0311A, 0311D; NAVSEC FOR 6101D, 6101E, 6101F, 6105F,
6157D, 6158D, 6159C
TECHNICAL TALC; ASBESTOS FREE
A. NSN 99-6810-270-9988
B. NAVSHIPYD CHARLESTON SC LTR 540:JN 4400 OF 2 AUG 78 (NOTAL)
C. NAVSUPINST 4440.120D

ACTION

Sold To .....

Date .....

PAGE 02 RULSSGG6452 UNCLAS
D. NAVSHIPS TECHNICAL MANUAL, CHAPTER 635
1. SUMMARY. THIS MESSAGE IDENTIFIES SOURCES OF ASBESTOS FREE MATERIAL WHICH ARE ACCEPTABLE SUBSTITUTES FOR REF A MATERIAL. END SUMMARY.
2. BY REF B NSY CHASN REPORTED THAT TECHNICAL TALC PROCURED TO REF A CONTAINS NINE PERCENT ASBESTOS AND THAT LOCAL USE HAS BEEN SUSPENDED. NSY CHASN IS SUBMITTING REPORT REQUIRED BY REF C.
3. UNTIL A NEW NSN BECOMES AVAILABLE AND A CENTRAL SUPPLY POSITION IS ESTABLISHED, LOCAL PROCUREMENT OF SUBJECT MATERIAL IS AUTHORIZED. SEVERAL PROCUREMENT SOURCES FOR AN ACCEPTABLE SUBSTITUTE ARE:
A. PFIZER, INC.
MINERAL, PIGMENTS AND METALS DIV
235 E. 42ND STREET
NEW YORK, NY 10017
PRODUCT: MP 25-38
B. MALLINCKRODT, INC.
SECOND AND MALLINCKRODT STREETS
ST LOUIS, MS 63160
PRODUCT: 1-4100, TECHNICAL TALC
C. J.T. BAKER CHEMICAL CO.

PAGE 03 RULSSGG6452 UNCLAS
223 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865

****
ROUTINE * U N C L A S S I F I E D *
****

191

CRMC-LLF-Pfizer-Micro-000022

ROUTINE

****
* U N C L A S S I F I E D *
****

00757 234 182401 01121305 2345

PRODUCT: TALC, USP 4100 - OF
PROCURING ACTIVITIES ARE REQUESTED TO BASE ACCEPTANCE OF MATERIAL UPON RECEIPT OF SUPPLIERS TEST DATA INDICATING THE TALC IS FREE OF ASBESTOS AND OTHER FIBROUS ASBESTIFORM MINERALS AND THAT LABELS ON SHIPPING CONTAINERS REFLECT SUCH INFORMATION.
4. ACCEPTABLE ANALYTICAL TECHNIQUES FOR DETERMINING PRESENCE OF ASBESTOS ARE DISPERSION STAINING MICROSCOPY OR X-RAY DIFFRACTION. IF ASSISTANCE REGARDING ANALYTICAL TECHNIQUES IS REQUIRED CONTACT NAVENVHLTHCEN (NEHC) CINCINNATI, OH (MR. J. CRAWL) AUTOVON 989-3863 OR COMMERCIAL (513) 684-3863.
5. IF USE OF REF A MATERIAL IS REQUIRED BEFORE ACCEPTABLE SUBSTITUTE MATERIAL IS OBTAINED, INSTITUTE THE SAFETY REQUIREMENTS OF APPENDIX A OF REF C OR CONTACT NEAREST NAVY REGIONAL MEDICAL CENTER FOR GUIDANCE.
6. FOR ALL NAVSHIPYDS: SUSPEND USE OF REF A MATERIAL IMMEDIATELY.
7. FOR NAVSEC: FORWARD A PURCHASE DESCRIPTION TO SPCC FOR ASBESTOS FREE FORMULATION OF TECHNICAL TALC TO FACILITATE ESTABLISHING A NEW NSN. INITIATE CHANGE TO MIL-STD-1444 TO DELETE THE REQUIREMENT FOR

PAGE 04 RULSSGG6452 UNCLAS
ASBESTOS CONTAINING TALC.
8. FOR NAVSUP: REQUEST ISSUE OF A DEFECTIVE MATERIAL SUMMARY BULLETIN FOR REF A MATERIAL INCLUDING INFO IN PARAGRAPHS 3, 4, AND 5. REQUEST IDENTIFY ADDITIONAL STOCK NUMBERS FOR TALC PROCURED TO MIL-STD-1444, OBTAIN SAMPLES AND COORDINATE WITH NEHC TO OBTAIN ANALYSIS OF ASBESTOS CONTENT. REQUEST NAVSEA 04F AND NAVSEC 6101 BE APPRISED OF TEST RESULTS.
BT
#6452

NNNN

191 A

A	U	X	720
	700-1		730
	702		740
	120		760
	5100		770
	84		780
X			

ROUTINE

****
* U N C L A S S I F I E D *
****

CRMC-LLF-Pfizer-Micro-000023

File

Johns-Manville

Internal Correspondence

To: P. A. Martinson

Date: April 1, 1975

From: H. R. Keefe

Copies: Listed Below

Subject: Talc Business, Status, and Action Summary
Your Letter March 13, 1975

Attached is subject report as we see this business in 1975. Also attached are Mining Division plans for "ore quality," "talc quality," and consolidation of production at Dunn.

We have also attached R. S. Lamar's memo "An Assessment of the J-M Position with Talc." The problems described by R. S. Lamar in this memo are accurately stated and do exist. Marketing believes that the programs being implemented by the Mining Division will reduce or eliminate many of the quality problems. Tremolite as asbestos will continue to be a problem, but with improved quality we do not anticipate further large tonnage losses. Warm Springs talc is unique and we hope for increased sales as we return to pre-1974 quality.

Harry R. Keefe

HRK:ccr

Attachment

cc: C. J. Sulewski
C. I. Keelan
W. L. VanDerbeek
R. K. Comann
J. M. Fletcher
S. W. Schulmeyer
R. S. Lamar
H. Kranich
N. B. Scheffel
T. E. Remmers
D/C

CRMC-LLF-Pfizer-Micro-000024

I. Revised 1975 Talc Forecast vs. Original Plan

Grade	1975 Original Plan Tons	1975 Original Plan $	1975 Forecast As Of 4/1/75 Tons	1975 Forecast As Of 4/1/75 $
Std. Grind				
DT-51	14,600	$ 775,900	19,600	$ 921,200
DT-54	1,150	64,400	1,150	64,400
DT-55	775	44,950	775	44,950
DT-84	400	22,400	400	22,400
D-H2	2,500	100,000	2,500	250,040
Fractionated				
Hi Press	2,500	107,500	2,500	105,000
Hi Fine 80	1,900	125,400	3,400	221,000
Micronized				
DT-57	3,100	285,200	1,600	144,000
DT-506	200	16,800	200	16,400
DT-507	650	64,350	650	61,750
DT-706	250	22,500	250	21,500
DT-707	750	72,000	750	69,000
Cyclonized				
Cyclo-Fil	5,000	485,000	2,500	235,000
Cyclo-Sorb	5,000	450,000	3,500	315,000
Clay				
PV #1	6,000	303,600	6,000	270,000
PV #3	800	40,000	800	37,600
Crude	3,000	69,000	1,200	120,023
TOTAL	49,175	$3,049,000	47,775	$2,919,263

II. Revised Sales and Net vs. Original Plan

PLANNED EARNINGS- DIVISION

Division _____

Date prepared _____ For _____ 197____

	Original C Plan	%	Revised C Plan	%		%		%
GROSS SALES TO CUSTOMERS	3124		4/1/75					
TRANSPORTATION	45							
RETURNS								
DISCOUNTS								
ALLOWANCES	30							
SALES TO OTHER DIV.FOR USE								
NET SALES VALUE	3047		2919					
STD. COST SHIPPED	2194		1815					
EARNS. AFTER STD.COST SHP.	855		1104					
NON-STD. PLANT COST OPERATING	161							
VOLUME								
TRANSFERRED – NET	5*							
TOTAL	156		536					
GROSS EARNINGS	699		568					
DISTRICT EXPENSE SALESMEN	62		60					
SALES OFFICE	88		88					
INTER-DIV. COMM.								
WAREHOUSES	17		16					
TOTAL	167		164					
EARNINGS AFTER DIST. EXP.	532		404					
GENERAL & ADMIN. EXPENSES DIVISION ADVERTISING	20		20					
RESEARCH	111		111					
TECH. SERVICES	50		50					
ENG. & TECH. PROJECTS	30		30					
DIVISION ADMIN.	105		100					
TOTAL	316		311					
MISC. INCOME & "DEDUCT."	15*		15*					
DIVISION OPERATING EARN.	201		78					
COMPANY ADMIN. & ADVERT.	156		150					
PRE-TAX EARNINGS	45		(72)					
INCOME TAXES	9		15					
NET EARNINGS	36		(57)					
			*Estimated by R. K. Comann includes non-standard costs					

CRMC-LLF-Pfizer-Micro-000026

III. Influences

A. External

1. Labeling--During June of 1974 we discussed with various customers the possibility of labeling our talc products. This resulted in an immediate loss of some accounts. Letters were sent to our customers advising that the label would be affixed to our bags effective November 1, 1974. These letters were sent out in September of 1974. The results of the letter in September and the actual labeling November 1 caused a further loss of customers. Our estimate of lost business on an annual basis was approximately 30 percent of our tonnage and 40 percent of our dollar volume. Please refer to my attached letter to P. Kotin which shows this effect.

   R. T. Vanderbilt and Pfizer (California talc) are not labeling. R. T. Vanderbilt is certifying their talcs are asbestos-free, but we have no knowledge that Pfizer is doing the same. We feel that Vanderbilt and Pfizer (California talc) will be required to label before the end of 1975.

   The adverse publicity generated concerning asbestos and tremolite has been such that even if we could remove the asbestos label from our talc, it would be some extended period of time, possibly a year or more, before we could regain business lost to asbestos-free talcs.

2. OSHA and NIOSH--Jointly studying asbestos in talc. OSHA has requested NIOSH to study asbestos in commercial talc, and NIOSH is studying asbestos content of talc mines with MESA. NIOSH considers all particles of chrysotile and the amphiboles that have three-to-one aspect ratio and over 5 μ as asbestos fibers. We expect increased activity from state (particularly California) OSHA offices on our talc customers because of tremolite.

3. FDA--Does not appear to be a problem at the moment. Their position stated in the Federal Register March 14, 1975 withdraws their proposed ban of talc in food packaging. The proposed ban drew attention to asbestos in talc and we will have an uphill battle to get back market share we lost.

4. General Market Conditions--See Talc Sales attached

   a. Our ceramic and tile business remains relatively strong in spite of our problems.

   b. Paint is weak due to the economy and our tremolite/labeling problems.

   c. Our plastic business has all but disappeared due to the tremolite problem with the exception of Solo Cup which we started to sell in October of 1974. Solo remains strong but tremolite and the label are an ever present potential problem. Competition from Pfizer is fierce but we manage to hold on because Solo likes our product.

   d. Tremolite, the label, and quality, plus a poor business climate have combined to hurt our sales to the paper industry. Competitors from Montana talcs have been only too eager to point out to our customers that our talcs contain asbestos fiber. This is very rough competition, and coupled with the economy and quality problems, makes for difficult marketing conditions, to say the least.

   e. Price increases--We had planned a six percent price increase for talc on an annual basis. We have implemented a three percent (annual basis) increase and have met great customer resistance. It is doubtful that a six percent will be achieved in 1975. A decision to label by Vanderbilt and Pfizer could reduce the pressure on Desertalc and allow for selective price increases.

B. Internal Influences

1. Ore Quality and Control Related to F.P.S.--The problems with ore quality came about when we were forced to above ground mining. The lack of selective mining has caused virtually all of our problems concerning brightness and acid solubles. The Mining Division is formulating a mining plan which should be completed soon to alleviate this problem.

   Problems encountered at the milling locations resulting in inability to meet F.P.S. stem primarily from the crude ore being shipped from Warm Springs. This, hopefully, will be corrected by the mining plan mentioned above. Other quality problems were caused by grinds being too coarse and poor plant management. Plans to train and adequately staff quality control personnel have been put into effect by Mining and Research. Plant management and supervision should

improve dramatically when the Mining Division implements their new organization plan for Desert Minerals on April 1, 1975.

IV. Action That We Plan to Minimize Unfortunate Influences

A. Tremolite and the Label--We are and will continue to educate our customers on the necessity of proper dust control not only for asbestos fiber, but for all dust which is required by OSHA. Our industrial hygiene studies are very helpful in this respect. We believe and are attempting to convince the customers that they must clean up their plants and control dust to comply with OSHA regulations. By so doing, he eliminates the problem of asbestos.

Wherever possible, we discuss bulk shipments to avoid dust problems.

B. Ore Quality--This problem is critical and compounds our problems with tremolite and the label. We are in constant contact with the Mining Division and communicating our problems in this regard. The formulation and implementation of a good sound mining program, properly supervised, will eliminate this problem area.

C. Quality Control Problems at Grinding Locations--Good quality crude is paramount, as it is the one area that the grinding plants have no control over. The training of plant quality control personnel so they know what they are looking for and can interpret their results properly will alleviate the problems of coarse grind. This, with better plant management which should be accomplished with the new plant organization, should reduce these problems to a minimum. T. E. Remmers has been assigned the responsibility of the key marketing liaison person to work and communicate to the Mining Division and to follow problem areas through.

V. Recommendations

The initial crunch of lost business due to the label has been felt. Our business seems to have stabilized. We expect further erosion in paint and possibly the loss of Solo Cup in plastics. Our ceramic business remains strong. We believe we can regain some lost paper tonnage with improved quality from Warm Springs and the grinding locations.

During April we will phase out production from Los Angeles and move all production to Dunn. Some Cyclo-Fil may have to be made at Los Angeles on an intermittent basis due to capacities at Dunn. The consolidation of virtually all production at Dunn will cause Dunn to run at capacity for six-day weeks. The concentration of managerial personnel at Dunn should improve the plant's efficiency and eliminate

many quality, shipping, and outage problems we have been experiencing.

The costs used to arrive at net earnings with the revised forecast were submitted by the Mining Division. The cost includes the fixed cost for the Los Angeles Plant, which are estimated at $200,000 per year while closed down. If we were to dispose of this plant the fixed cost would be eliminated. The cost of operating Dunn and Warm Springs, in my judgment, appear to be overstated. We have never operated Dunn at full capacity with full management capabilities which should insure better efficiency.

We believe we still have a 45,000-plus ton per year business. Mining Division believes this business concentrated at Dunn will improve our profitability. We would like to stay in the California talc business at least until Penhorwood comes on stream, to maintain continuity in the market. The Desert Minerals operation should be reviewed for profitability progress after May results are in.

If this business, with the changes contemplated over the next two months, can be made profitable, it will remain a good small business as Penhorwood should have virtually no effect on Desert Minerals.

CONFIDENTIAL - FOR J-M INTERNAL USE ONLY

Johns-Manville Internal Correspondence

To: P. A. Martinson - 2W Date: March 20, 1975

From: R. S. Lamar - 2W

Copies: J. M. Fletcher - 2S H. R. Keefe - 2W J. M. Sharratt - 2S

Subject: AN ASSESSMENT OF THE J-M POSITION WITH TALC

Three years since J-M's entry into the talc business with the acquisition of Desert Minerals Company is time enough for an appraisal of our position. This assessment is broken down into eight sections as follows:

1. The Effects of Labeling: Our position here has been the only acceptable action J-M could take. According to the definitions that are a part of the law, our California talc products all contain asbestos in the form of tremolite. No play on words will change this fact.

   Originally, I had felt that if we could maintain the uniquely high brightness and relatively low acid soluble content of G-1 and G-2 talc ores, we could hold onto most of the critical markets, in spite of labeling. I now seriously doubt our ability to do this.

   The "talc-asbestos" problem is quite different from the "asbestos-asbestos" problem. In many applications for asbestos, there are no acceptable substitutes. With our asbestos-containing talc, there are numerous possibilities for substitution:

   (a) Non-asbestos containing talcs from both Pfizer and Cyprus from Montana sources and

   (b) Other extender pigments such as kaolin and calcium carbonate (in paints, for example, and in paper filling uses).

   We see this type of substitution being made and long-established markets for Desertalc products evaporating in the process.

CRMC-LLF-Pfizer-Micro-000031

2. The R. T. Vanderbilt Position: Their position with respect to labeling must be deliberately perfidious; they cannot be this misinformed. Slim Thompson, their technical director, has a Ph.D. in mineralogy. At the moment, Vanderbilt is misleading their customers and confusing ours with their decision not to label. Ultimately, the truth will out, and they will be forced to label.

   Pfizer's position is the same with their California talcs. With all asbestos-containing talcs labeled, far greater value and emphasis in the market will be applied to asbestos-free talcs. I seriously question the capacity of these asbestos-free talcs to satisfy the total market. Also, in some applications, the asbestos-free talcs are just not a suitable substitute quality-wise. For example, in ceramic wall tile (a major market for tremolitic talc) there are few, if any, asbestos-free talcs that show the same forming and firing properties. Penhorwood fires to a brown color due to high iron content. G-1 Fires white due to very low iron content.

   Nevertheless, it is a fact that the Montana talc (asbestos-free) business of both Cyprus Industrial Minerals and Pfizer is booming, while we are in the doldrums.

3. Quality: Historically, talc mining has been a high-grading operation with selective mining required to maintain acceptable quality for various uses. This type of selective mining was done successfully for over 25 years at the Grantham Mine. Proper quality and uniformity of ore were seldom, if ever, problems and sizeable markets were built on this foundation of quality.

   The unique high brightness of Cyclo-Fil (95% G.E.) was, in the past, properly maintained and a good and profitable market developed for this product in paper filling. With the brightness of current quality Cyclo-Fil dipping as low as 89%, there is no way we are going to maintain this business. Clays and other fillers at half the price of Cyclo-Fil can and are being used.

CRMC-LLF-Pfizer-Micro-000032

Other quality considerations relating to high acid soluble content and improper grind have caused an erosion of our paper industry business until virtually nothing remains.

4. Markets: At one time (less than three years ago) sizeable markets for Desertalc products existed in paper, paint, plastics, and ceramics. Both DT-51 and DT-57 were the most widely used fillers in 40% talc-filled polypropylene. We lost this business prior to labeling because of tremolite content. Many of our paint and paper accounts have been lost for the same reason and labeling has accelerated this loss. Labeling, plus the loss of proper quality, has been disasterous.

   Ceramic sales of DT-51 have been difficult to maintain. High acid soluble and water soluble contents of G-1 ore have resulted in casting slip gelation and rheological problems. The high acid soluble content of current quality G-1 and G-2 ore has increased the alum demand of both Cyclo-Sorb and Cyclo-Fil in paper applications to the point where, even if we had proper brightness, a paper mill could not afford to use our products.

   I can foresee no markets that can be built or rebuilt under present conditions.

5. New Technology: Froth flotation will reduce the tremolite content of G-2 ore to less than 1%, but will not remove all of the tremolite. In such a wet process, acid leaching will increase brightness several points. HIMS could probably also be used to remove even paramagnetic material to improve brightness still further.

   Newly developed sand or attritor milling procedures can grind down to a maximum particle size of under 2 microns, but I believe that all of these new techniques are a waste of time as long as we have to label. Also, the relatively high mining costs at Warm Springs, plus the absence of adequate water for these wet processing methods makes the development of other sources more attractive.

CRMC-LLF-Pfizer-Micro-000033

6. Penhorwood: Based on detailed testing, we feel certain that Penhorwood talc can be developed as a major source for pitch control and should be directly competitive with Mistron Vapor (Cyprus Industrial Minerals Montana talc). Other markets may be developed for Penhorwood in plastics filling, elastomer reinforcement, and paint. Although in this latter use, the relatively low brightness of Penhorwood is going to be difficult to overcome. If higher brightness grades could be developed from the same mining area, additional markets would become available.

   In paint uses, wet color uniformity is a major consideration and must be maintained with Penhorwood talc or any other extender pigment. Analyses of Penhorwood core samples suggest that this may become a major problem.

7. Other Worldwide Talc Sources: With the worldwide decline in the industrial use of tremolitic or asbestos-containing talcs, sources for asbestos-free talc will surely become more valuable. Major sources for this type of ore exist in France, Italy, Spain, India, Red China and other parts of the world. Generally, all of these deposits are selectively mined.

   Only Finntalc and Johnson and Johnson are using froth flotation to separate talc products of acceptable quality. We will do the same at Penhorwood, and the industry must move in this direction as deposits amendable to high-grading are depleted.

   Talc producing areas in California, Nevada, and Montana have been thoroughly--if not systematically and professionally explored. It is unlikely that new large-scale talc-mining properties could be developed. However, this possibility should be explored--but only for asbestos-free materials. There would appear to be an opportunity for good geological work.

CRMC-LLF-Pfizer-Micro-000034

8. Conclusions and Recommendations

a. Labeling, plus a general decline in quality, has caused a disasterous loss in J-M talc business. Some of this business might be regained in spite of labeling, providing we could re-establish prior high quality standards in both our mining and milling of these products. However, the effects of labeling will always place us in a serious competitive position. The economic viability of such an operation is also highly questionable.

b. Until Penhorwood is in operation, we should try to hold onto as much of our existing talc business as possible. Such a holding action will be difficult, expensive, and disheartening, but should be done. Penhorwood will not replace all existing markets for Grantham talc because of darker color and other differences.

c. Beyond the development of Penhorwood, J-M should attempt to develop on a worldwide scale, other asbestos-free sources for talc mineral. These will most surely become more valuable with time.

It would be unfortunate, indeed, if we were to let our poor performance with Grantham talc interfere with J-M development of other worldwide talc sources under more desirable conditions.

R. S. Dunn

CRMC-LLF-Pfizer-Micro-000035

IH X

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

27 JUN 1977

MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

MEMORANDUM FOR DESIGNATED SAFETY AND OCCUPATIONAL HEALTH OFFICIALS OF THE MILITARY DEPARTMENTS AND THE DEFENSE AGENCIES

SUBJECT: Trade Name Products with Carcinogenic Hazards

This is to provide you with a National Institute for Occupational Safety and Health (NIOSH) list of products which may contain one or more of the 16 carcinogens that the Occupational Safety and Health Administration regulates.

Your field safety and health personnel should find the enclosed list useful in their hazard surveillance programs. Since manufacturers frequently change their products, verification of constituents should be accomplished as soon as DoD usage has been ascertained. This type of information should be available through DoD channels once our material safety data sheet system becomes operational early next year.

This list was also mailed to about 20 labor unions by the Public Citizen's Health Research Group. Prompt action to insure protection of our employees who work with these products would be prudent.

George Marienthal
Deputy Assistant Secretary of Defense
(Environment and Safety)

Enclosure

cc: ASD (HA)

9-12970

D 000109

N-SHIP 1737

CRMC-LLF-Pfizer-Micro-000036

TRADE NAMES WITH CARCINOGENIC HAZARDS

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTUR
Adco Seal B-100	Asbestos	06	0905353
Aerobond 2199 Part A	Asbestos	09	0659607
All Purpose Joint System	Asbestos	01	0033872
Alum Anatia 301 Asbestos Fibred Aluminum Roofing	Asbestos	11	0241344
Aluminum Asbestos	Asbestos	50	0347007
Aluminum Roof Coating	Asbestos	03	0098758
Aluminum Roof Coating	Asbestos	10	0462681
Aluminum Roof Coating	Asbestos	07	0462685 - 3M
Amelco Adhesive	Asbestos	08	0829362
Armstrong Epoxy Resin A-6 and Activator	Asbestos	23	0148850 armstrong
Armstrong Tile Cement S-90	Asbestos	08	0434983
Asbestile Cement	Asbestos	10	0000367
Asbestine	Asbestos	99	0375573
Asbestine 325 (3X)	Asbestos	25	0404087
Asbestos No. 352	Asbestos	99	0462685 - 3M
Asbestos 7R-05	Asbestos	99	0462685 3M
Asbestos Fiber 7R06	Asbestos	99	0000367 - 3M
Asbestos Fibrous Roof & Equndation Coating	Asbestos	05	0462685
Asbestos Fibre Shorts 7M-90	Asbestos	99	0389817
Asbestos Plastic Roof Cement	Asbestos	19	0434948
Asbestos Plastic Roof Cement	Asbestos	14	0374915
Asphalt Flashing Cement	Asbestos	25	0058348
Asphalt Plastic Cement No. 050	Asbestos	13	0096017
Babbitrite #30	Asbestos	07	0243164

N-SHIP 1738

CRMC-LLF-Pfizer-Micro-000037

TRADE NAME PRODUCT	HAZARD	OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTU
Barret Aluminum Roof Coating	Asbestos	09	0109097 Celotex
Barret EZ2056 Wall Covering Cement	Asbestos	09	0109097 Celotex
Bitucote Sealer	Asbestos	03	0864365
Black Plastic Cement	Asbestos	10	0000278
Blackline Plastic Cement	Asbestos	05	0099471
Blind Nailing Cement	Asbestos	12	0462681
Bond Master G 458 Series	Asbestos	02	0710821
Bond Master M611	Asbestos	20	0710821
Bond Master W1371 Adhesive	Asbestos	12	07k0821
Buffing & Polishing Compound	Asbestos	01	0989959
Bull's Eye Plastic Cement	Asbestos	10	0058350
Butyl Tite Butyl Rubber Caulk	Asbestos	01	0015666
C-13-C4 Hydralt 800-13	Asbestos	03	0293882
Calidra Resin Grade 244	Asbestos	92	1013956
Carbonite Packing Material	Asbestos	46	0341462
Carbozinc No.11 Green 2G5416	Asbestos	05	0343207
Carey Mastic Heavy Trowel Grade Damp Resistant Coating	Asbestos	15	0364250 Celotex
Celluflow	Asbestos	80	0223783
Chlo Set 400 Birch	Asbestos	03	0417127
[illegible] & Quarry Floor Tilecement	Asbestos	02	02140[illegible]
Cermitalc	Asbestos	20	0275035
Chalking - Glazing Compound	Asbestos	02	0015674
Chemical Sealing SM-902	Asbestos	01	0780160
Chrysolite #5	Asbestos	50	0223783
CM Sealer	Asbestos	45	6000192
Coat Castrol Regal	Asbestos	04	0254254

N-SHIP 1739

CRMC-LLF-Pfizer-Micro-000038

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURE
Cold Application Cement	Asbestos	10	0463685 - JM
Cold Application Cement No.203	Asbestos	01	0048371
Concrecive No.1 Part A	Asbestos	02	0413728
Concresive 1170 Parts A & B	Asbestos	04	0413728
Cooling System Sealer	Asbestos	04	0320009
Cope Seal	Asbestos	34	6000192
Culvert Pipe Joint Compound Talcote	Asbestos	14	0364493
Custom Seal Cope Seal	Asbestos	37	0981739
D-931 Undercoating	Asbestos	05	0725673
Dayco Wood Filler Golden Oak	Asbestos	08	0326842
Double Coverage Cement	Asbestos	10	0058348
Durex Flashing Cement	Asbestos	23	0341053
Duxseal Sealing Compound	Asbestos	50	0462685 JM
E905	Asbestos	01	0154049
Ebibond 122	Asbestos	20	0284558
Elastic Roof Sealer	Asbestos	20	0462681
Elastigum Roof Coating	Asbestos	05	0109097 Celotex
Elastigum Roofing Cement	Asbestos	20	0109097 Celotex
[redacted]	Asbestos	05	0284558
Epocast 2-D	Asbestos	01	0284558
Expoxo Floor Coating - Orange	Asbestos	01	0260383
Exterior Caulk 2541	Asbestos	01	0099471
Falcon Expo - Non-Slip Coating	Asbestos	01	0260383
Fedrox Safety Floor & Deck Covering	Asbestos	01	0918549
Fibre Glass Roof Coating	Asbestos	01	0462681
Fireite Asbestos Furnacecement	Asbestos	02	0462685 - JM

N-SHIP 1740

CRMC-LLF-Pfizer-Micro-000039

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTUR
Fisher Specification 1145	Asbestos	26	0780160
Fisher Specification 1237	Asbestos	10	0780160
Fisher Specification 1300 Deadener	Asbestos	02	0779967
Fisher Specification 1309	Asbestos	05	0780160
Fisher Specification	Asbestos	08	0779967
Flexigum roof Coating Asbestos	Asbestos	05	0109097
FM-37 Core Splice Adhesive	Asbestos	08	0383052
Fruehauf Adhesive Compound	Asbestos	01	6000668
Glazing Compound	Asbestos	02	0076985
Gray Metal Sash Putty	Asbestos	03	0447686
Grip Master Cement	Asbestos	02	0022961
Gripmaster Polishing Wheel Cement	Asbestos	02	0447539
Grizzly Saftigrip #16037	Asbestos	57	0080473
GS-3 Aircraft Sealant	Asbestos	10	0414648
Handi-Gard Asbestos Roof Cement	Asbestos	06	0137159
Heavy Duty Roofing Coating	Asbestos	05	0036004
Heavy Duty Sealer	Asbestos	02	0320009
Hercules Asbestos Furnace Cement	Asbestos	02	[illegible]
Hercules Sta Put Plumbers	Asbestos	03	0055863
High Velocity 10-108	Asbestos	02	0214068
Hydrocide Plastic Heavy Fibrated Bituminous Damproffing	Asbestos	04	0478483
Hydrocide Semi Mastic Semi Fibrated Asphalt	Asbestos	03	0478483
Hydroseal Black Cement	Asbestos	09	0462685
Insulkote Summer Grade	Asbestos	15	0462685

N-SHIP 1741

CRMC-LLF-Pfizer-Micro-000040

TRADE NAME PRODUCT	HAZARD	OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTUR
Insulmastic	Asbestos	05	0434983 armstrong
IPM #33	Asbestos	09	6000213
K92	Asbestos	04	0197510
K-326	Asbestos	02	0197510
K-361	Asbestos	02	0197510
K-682	Asbestos	02	0197510
Karnak Flashing Cement	Asbestos	25	0058348
Karnak Insulation Adhesive	Asbestos	10	0058348
Karnak Plastic Flashing Cement	Asbestos	16	0058348
Karnak Trowel Mastic 86	Asbestos	19	0058348
KAYLO	Asbestos	15	0000024 a.c.
KAYO17	Asbestos	11	0000024 a.c.
Knickerbocker Roof Coating	Asbestos	01	0567525
Liquid Asbestos Fiber Roof Coating	Asbestos	04	0374915
Loomie Talc	Asbestos	25	0275035
Luxall Fix It Plastic Cement	Asbestos	12	0704508
M242 Elastic Glazing Compound	Asbestos	03	0447686
Mack 2510-45	Asbestos	16	0254254
Manla Tradesman Plastic Roof	Asbestos	19	0567525
Manes Bond Safety Step Non-Skip Paint - Black	Asbestos	04	0043[illegible]
Marineco Coatings - Aluminum and Mastic R-13	Asbestos	10	6008157
Mastic	Asbestos	16	6008104
Metal Deadener	Asbestos	09	0098090
Metal Duct Sealer Gray 10-104	Asbestos	02	0316812
Metallic Sealant	Asbestos	02	0758237

N-SHIP 1742

CRMC-LLF-Pfizer-Micro-000041

TRADE NAME PRODUCT	HAZARD	% OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURE
Monsey Roof Fix	Asbestos	10	0462681
Mortite 74DBR	Asbestos	25	0441158
MS Plastic	Asbestos	20	0206704
Muffler Compound	Asbestos	28	0779967
Nicolet Asbestos Pipe Line Felt No. 15	Asbestos	69	0884445 N/C.
No Drip Tape	Asbestos	16	0441158
Noah's Pitch	Asbestos	10	0428880
OEM Aluminum Roof Coating	Asbestos	05	0447624
Pabco Wet-Patch Wet Surface Plastic	Asbestos	10	6000483
Palmer Mirro Mastic	Asbestos	06	0098765
Pecora Acitite Cement Type QD 2500F	Asbestos	02	0131390
Pecora BC 158 Butyl Rubber	Asbestos	03	0447686
Pecora Blk Special Mirror	Asbestos	32	0447686
Perm Seal Caulking Compound	Asbestos	05	0297479
Perma Gum Chords	Asbestos	40	0243792
Perma-Seal Caulking Compound Knife Grade #26 Gray	Asbestos	08	0297479
Pergum Sealant	Asbestos	30	0405366
Permaroof Wet Surface Type	Asbestos	02	0241344
~~Permatex Pipe Joint Compound~~	Asbestos	03	0260208
Perm-E-Lastic Glazing Compound	Asbestos	06	0211065
Phoenix Asphalt Plastic Cement	Asbestos	18	0068343
Plastic Elasticum	Asbestos	16	0109097 Celotex
Plastic Roof Cement 208	Asbestos	05	0048371
Plastic Roof Cement	Asbestos	20	0462685 J-M
Plastic Roof Cement	Asbestos	15	0832312
Plastic Roofing Cement	Asbestos	20	0462685 J-M

N-SHIP 1743

CRMC-LLF-Pfizer-Micro-000042

TRADE NAME PRODUCT		HAZARD	OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURI
Plastic Roofing Cement		Asbestos	20	0109097
Plastic Roofing Cement No. 204		Asbestos	04	0048371
Plastic Roofing Cement		Asbestos	16	6008104
Plastic Roofing Cement		Asbestos	16	6010169
Plastiseal Expanding Joint		Asbestos	10	0462685
Plastite Roof Cement		Asbestos	10	0900138
Presstite Products 440.22	Sealer	Asbestos	02	0405366
Pro Seal 700		Asbestos	05	0083854
PTI 707 Architectural Sealant		Asbestos	01	0154049
Quaker Coat Undercoating		Asbestos	10	0080746
Quaker Koat Solvent Type Undercoating		Asbestos	22	6008127
Quakercote Emulsion Type Undercoating		Asbestos	10	0080746
Radiator Sealer		Asbestos	01	0260208
Redy Coat Rain Patch 406 NTP		Asbestos	14	0515164
Roof Cement		Asbestos	14	6014020
Roof Coating Asphalt		Asbestos	06	0096017
Roof Finish Roofing Cement		Asbestos	10	0462681
Roof Fix Coating		Asbestos	04	0462681
Roof Koter 732-00		Asbestos	05	0352861
Roof Patch		Asbestos	11	0241331
Roof Preservative, Tar & Asphalt		Asbestos	04	0015674
Roofing Mastic		Asbestos	20	6008097
Rutland No.4 Roofing Cement		Asbestos	12	0146907
SC-150		Asbestos	30	0032589
SG-210 Sealant		Asbestos	05	0414648
Sherwin Williams Kemak (R) Hard Set B D65YA		Asbestos	08	0084642

N-SHIP 1744

CRMC-LLF-Pfizer-Micro-000043

TRADE NAME PRODUCT	HAZARD	% OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURER
S.I.S. Cement	Asbestos	10	0109097 Celotex
SM 475 Sealer	Asbestos	05	0780160
SM-856 Chemical Sealing	Asbestos	16	0780160
Stainless Putty	Asbestos	03	0130879
Supercote Roof Preservative	Asbestos	02	0241333
Talcote Cold Plastic Sewer Joint Compound	Asbestos	18	0096017
Thermobestos Pipe Insulation	Asbestos	07	0462685 3M
Tite Seal T-25LW	Asbestos	26	0340361
Transite Conduit Joint Sealing Compound	Asbestos	10	0000367 3M
Tremco Glazing Compound	Asbestos	02	001567
Tremco Mastic Roof Cement	Asbestos	15	0015674
Tremco Seam Sealer	Asbestos	02	0015674
Tremco Tremfix Emergency Roof Repair Mastic	Asbestos	16	0015674
Tremco 102 Texture Coating	Asbestos	13	0015674
Tremfix Emergency Roof Repairmastic	Asbestos	16	0015674
Tropical Roofkoater	Asbestos	05	0352861
Tru-Seal	Asbestos	13	0981254
[illegible]	Asbestos	42	0016847
[illegible]	Asbestos	71	0241520
Unibestos	Asbestos	02	0160450
Unipar Mils-7916B	Asbestos	30	0351230
Vulcatex P.C. Caulking Compound	Asbestos	12	0740988
Wall Board Adhesive No.36	Asbestos	46	0254594
Wards Brake Shoes	Asbestos	01	0109097 Celotex
Weatherized Plastic Cement	Asbestos	08	0097785
Weatherproofing Compound C 13A			

N-SHIP 1745

CRMC-LLF-Pfizer-Micro-000044

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURER
Weldcast C1 200	Asbestos	02	1020622
White Hydroseal #559	Asbestos	08	0469139 - Celotex
Winter Plastic	Asbestos	18	0206704
Wood Filler Paste	Asbestos	19	0066304
1-723 Light Gray Anti-Skid	Asbestos	07	0031132
5K04 Asbestos	Asbestos	99	0462685 - 3-M
#7 Roof Cement	Asbestos	31	0146907
7K05 Asbestos	Asbestos	99	0462685 3 M
8A Resin	Asbestos	01	0264680
8B Catalyst	Asbestos	03	0264680
#15 Asbestos Finishing Feltperforated	Asbestos	80	0462685
#54 Acoustic R-200	Asbestos	09	0151526
85% Magnesium Insulation	Asbestos	15	0462685 3 M
#164 Wet Patch	Asbestos	12	6010025
#165-100 Stapon C Tank Coating White Base	Asbestos	01	0859094
#165-101 C Stapon C Tank Coating Blue Base	Asbestos	01	0859094
#166-5 Epoxy	Asbestos	17	0440316
[redacted]	Asbestos	82	0758237
[redacted]	Asbestos	99	0000367
#352-7M Refractory Cement	Asbestos	99	0462685 3-M
#352 Mortar	Asbestos	07	0405366
421.83	Asbestos	01	0015666
600 Putty	Asbestos	23	0677924
#613WB Wet Patch Plastic Cement	Asbestos	03	0098758
627 Tough Film Mortex	Asbestos	06	0098090
#758 Ashphalt			

N-SHIP 1746

CRMC-LLF-Pfizer-Micro-000045

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURER
#999 Textured Vault Spray	Asbestos	03	0282768
21438 Base	Asbestos	10	0413728
2200 French Provincial Wiping Stain 544-D9-181	Asbestos	02	0032589
2510-45 Insulmat	Asbestos	12	0441158
5030 Hardener	Asbestos	27	0064224
5030 Resin	Asbestos	25	0064224
Benzidine Base	Benzidine	99	0058914
Blue Strip 371-81	Chloroethylene	56	0167311
Chemvic-450	Chloroethylene	47	0321526
Chrome Yellow Paste	Chloroethylene	15	0059049
Dynel	Chloroethylene	60	0102408
Fixative Concentrate 1852	Chloroethylene	34	0892007
Geon 222	Chloroethylene	60	0593176
Geon 552	Chloroethylene	54	0382027
GT-49-5 Power Roll Cam Cleaner-Lube	Chloroethylene	55	0474265
Hycar 1204 X 11	Chloroethylene	29	0236542
Light Chrome Yellow	Chloroethylene	15	0059049
Medium Chrome Green	Chloroethylene	20	0059049
[redacted]	Chloroethylene	13	0059049
Saran	Chloroethylene	13	0579999
TL-500-6-6 Medium Raphael Blue Lacque	Chloroethylene	16	0415471
TL-500-6-10 Editor 2 Blue	Chloroethylene	16	0415471
TL-500 27-14 Olivetti Gray	Chloroethylene	16	0415471
TL-500-27-19 Praxis Gray	Chloroethylene	16	0415471
TL-500 27-24 Dove Gray	Chloroethylene	16	0415471

N-SHIP 1747

CRMC-LLF-Pfizer-Micro-000046

TRADE NAME PRODUCT	HAZARD	PERCENTAGE OF HAZARD IN TRADE NAME PRODUCT	PRODUCT MANUFACTURER
TL-500 42-2 Teflon Tan	Chloroethylene	16	0415471
TL-500 42-4 Sandstone Beige	Chloroethylene	16	0415471
Topaz G77HC114 Wachtung Red	Chloroethylene	50	0084642
V5233 Dulling Agent Top Coat	Chloroethylene	12	0488524
Vinylite Paste	Chloroethylene	20	0059049
VS 6001 Cement	Chloroethylene	30	0211273
#1268 Vinyl	Chloroethylene	23	0207125
Thixon B	Methylenebis (2-Chloroaniline) 4,4'	12	0385830
#113-2 Epoxy	Methylenebis (2-Chloroaniline) 4,4'	09	0440316
Santo Flex 13	4-Aminidiphenyl	02	0389305

N-SHIP 1748

CRMC-LLF-Pfizer-Micro-000047

0007 1511

PRODUCT MANUFACTURER CODE REFERENCES

0000024 Owens-Corning Fiberglas Corp.
P.O. Box 901
Toledo, OH 43659

0000367 Johns-Manville Pdts. Corp.
Greenwood Plaza
Denver, CO 80236

0000856 Tuff Kote Co. Inc.
210-14 S. Seminary
Woodstock, ILL 60098

0015666 Dunn-Rainey Co. Inc.
3265 Bermude St.
Ferndale, Mich. 48220

0015674 Tremco Mfg. Co.
10701 Shaker Blvd.
Cleveland, OH 44104

0016847 Thiokol Chemical Corp.
P.O. Box 27
Bristol, PA 19007

0022961 Lea Mfg. Co.
P.O. Box 71
Waterbury, CT 06720

0031132 Matcote Co. Inc.
P.O. Box 10762
Houston, TX 77018

0032589 Reliance Universal Inc. Tex.
P.O. Box 1113
Houston, TX 77001

0033872 Hamilton Materials Inc.
345 W. Meats Ave.
Orange, CA 92667

0036004 Southwestern Petroleum Corp.
P.O. Box 789
Fort Worth, TX 76101

0043532 Manus Products Co. Inc.
2611 W. 14 Mile Rd.
Royal Oak, MI 48073

0043339 Lea-Michigan Inc.
237 E. Aurora St.
Waterbury, CT 06708

8371 Henry, W. W. Co.
5608 Soto
Huntington Pk., CA 90255

0055883 Hercules Chemical Co. Inc.
84 Fifth Ave.
New York, NY 10011

0058348 Karnak Chemical Corp.
330 Central Ave.
Clark, NJ 07066

0058350 Gardner-Martin Asphalt Corp
Florida Asphalt Div.
P.O. Box 5776
Tampa, Fla 33605

0058914 Allied Chemical Corp.
P.O. Box 3000
Morristown, NJ 07960

0059049 Inmont Corp. IPI Div.
1133 Ave. Americas
New York, NY 10036

0064224 Philadelphia Resins Co. In
P.O. Box 454
Montgomeryvl. PA 18936

0066304 Lawrence Mc Fadden Co.
7430 State Rd.
Philadelphia, PA 19136

0068343 Fry, LLoyd A. Roofing Co.
5818-24 S. Archer Rd.
Argo, Ill 60501

0076985 Deshler Products Co.
299 Chestnut Dr.
Deshler, OH 43516

0080473 Muremont Corp. Grizzly Div
700 W. Caroline
Paulding, OH 45879

0080746 Quaker State Oil Refin
Center St.
Oil City, PA 16301

0083854 Teledyne Inc.
Teledyne Coast Pro-Seal Di
P.O. Box 54748 Termin.
Compton, CA 90221

0084642 Sherwin-Williams Co.
101 Prospect Ave. NW
Cleveland, Ohio 44115

N-SHIP 1749

CRMC-LLF-Pfizer-Micro-000048

0096017 American Petrofina
P.O. Box 2159
Dallas, Tx 75221

0097785 Flintkote Co.
Central Ave. & Oak S&E
Rutherford, NJ 07073

0098090 Intercoastal Paint Corp.
2320 Edgewater
Baltimore, MD 21222

0098758 Mortell Co.
23333 Sherwood
Warren, MI 48091

0098765 Palmer Asbestos & Rubber Corp.
146 St. Matthews Ave
Louisville, KY 40207

0099471 Southern Protective Pdts. Co.
P.O. Box 10915
Atlanta, GA 30310

0102408 Union Carbide Corp.
270 Park Ave.
New York, NY 10017

0109097 Celotex Corp., The
P.O. Box 22602
Tampa, Fla 33607

0130879 Black Swan Manufacturing Co.
4540 W. Thomas St.
Chicago, ILL 60651

0131390 Pecora Corp Texas
2601 Oakland Ave.
Garland, TX 75040

0137159 Handi Products Co.
P.O. Box 1955
Cleveland, OH 44106

0146907 Rutland Fire Clay Co. inc
Curtis Ave.
Rutland, VT 05701

0148850 Armstrong Products Co. Inc.
P.O. Box 657
Warsaw, IND 46580

0151526 Roach Paint Co. Inc.
1306 River St.
Dallas, TX 75202

0154049 Protective Treatments Inc.
P.O. Box 14116
Dayton, OH 45414

0160450 Parker-Hannifin Corp
17325 Euclid Ave.
Cleveland, OH 44112

0167311 Reliance Universal Inc. II
1901 Sheridan Rd.
N. Chicago, ILL 60064

0187114 Dart Industries Inc. Fibe
1701 N. Heidelbach Ave.
Evansville, IND 47717

0197510 Kalman Paint & Chemical C
33 Tucker St.
Trenton, NJ 08618

0206704 Union Chemical & Oil Co.
3211 S. Wood
Chicago, Ill 60608

0207125 Lilly Industrial Coatings
666 S. California
Indianapolis, IN 46225

0211065 Perfection Model Products
4145 W. Kinzie Ave.
Chicago, ILL 60624

0211259 Moyen C.P. Co.
8157 Monticello
Skokie, [illegible] 60076

0214068 Chicago Mastic Co.
7100 N.Mannheim Rd.
Des Plaines, ILL 60018

0223783 Cellulo Co.
1321 First St.
Sandusky, OH 44870

0236542 Goodrich, B.F. Co.
Goodrich, B.F. Chemical
8 Main St.
Akron, OH 44318

N-SHIP 1750

CRMC-LLF-Pfizer-Micro-000049

0352861 Grow Chemical Corp.
Tropical Paint Div.
1246 W. 70th St.
Cleveland, OH 44102

0364250 Celotex Corp., The
Phillip Carey Co. Div.
Smith St & Convery Blvd.
Perth Amboy, NJ 08861

0364493 Hydro Conduit Corp.
P.O. Box 1609
Albuquerzue, NM 87103

0374915 De Witt Products Co.
5860 Plumer Ave.
Detroit, Mich 48209

0375573 Pfizer Inc.
235 E. 42nd St.
New York, NY 10017

0382027 Goodrich, B. F. Co.
500 S. Main St.
Akron, OH 44318

0383052 American Cyanamid Co.
Berdan Ave.
Wayne, NJ 07470

0385830 Whittaker Corp. Dayton Chemical
Products Div.
Electric St.
Alexandria, OH 45318

0389305 Monsanto Co.
800 N. Lindbergh Blvd.
St. Louis, MO 63166

0389817 Thompson-Hayward Chemical Co.
P.O. Box 2383
Kansas City, KS 66110

0405366 Inmont Corp.
3738 Chouteau Ave.
St. Louis, MO 63110

0413728 Adhesive Engineering Co.
1411 Industrial Rd.
San Carlos, Cal. 94070

0414648 General Sealants Inc.

0415471 Sprayon Products Inc.
26300 Fargo Ave.
Cleveland, OH 44146

0417127 Laurence-David Inc.
P.O. Box 2484
Eugene, OR 97403

0428880 Celotex Corp., The
Phillip Carey Co. Div.
320 S. Wayne Ave.
Cincinnati, OH 45215

0434948 Midwest Products of Illin
7327 S. Woodlawn
Chicago, ILL 60619

0434983 Armstrong Cork Co.
W. Liberty & Charlotte St
Lancaster, PA 17603

0440316 Ablestik Laboratories
833 W. 182nd St.
Gardena, CA 90247

0441158 Mortell Co.
550 N. Hobbie Ave.
Kankakee, ILL 60901

0447624 Electric Paint & Varnish
8001 Franklin Blvd.
Cleveland, OH 44102

0447686 Pecora Chemical Corp.
165 Wambold Rd.
Harleysville, PA 19438

0462681 Monsey Products Co.
Cold Stream Rd.
Kimberton, PA 19442

0462685 Johns-Manville Corp.
P.O. Box 5108
Denver, CO 80217

0469139 Pabco Paint Corp.
1710 59th St.
Oakland, CA 94608

0474265 Ames Supply Co.
2537 Curtiss St.
Downers Grove, ILL 6051

N-SHIP 1751

CRMC-LLF-Pfizer-Micro-000050

0478483 Sonneborn Building Products
7777 Computer Ave.
Minneapolis, MN 55435

0488524 R. A. Chemical Co.
774 E. 43rd St.
Brooklyn, NY 11210

0515064 Gilsonite Inc.
2946 NE Columbia Blvd.
Portland, OR 97211

0567525 Seaboard Plastics Corp.
10 Washington Ave.
Irvington, NJ 07111

0579999 Amtech Inc.
Telegraph Rd.
Odenton, MD 21113

0593176 Goodrich, B.F. Co.
3135 Euclid Ave.
Cleveland, OH 44115

0677924 Marvin Corp. The
Bluff Rd.
Montebello, CA 90640

0704508 National Mfg. Corp.
153 Fillmore Ave.
Tonawanda, NY 14150

0710821 National Starch & Chem
225 Bellville Ave.
Bloomfield, NJ 07003

0725673 Mastell Inc.
1926 Leininger
[illegible], IN 46514

0740988 Ohio Sealants Inc.
7249 Commerce Dr.
Mentor, OH 44060

0758237 Imprex Inc.
3260 S. 108th St.
Milwaukee, WI 53227

0779967 Mortell Co.
Industrial Blvd.
Griffin, GA 30223

0780160 Chemical Sealing Corp.
2016 Steel Dr.
Tucker, GA 30084

0829362 American Elastomer Co.
400 Linden
Wilmette, ILL 60091

0832312 Alcatraz Co. Inc. The
1900 Ellen Rd.
Richmond, VA 23230

0859094 Standard Paint & Varnish
3300 River Rd.
Harvey, LA 70058

0864365 Bitucote Products Co.
Smaller Rd. & Big Four RR
Cincinnati, OH 45215

0884445 Nicolet Industries
N/E Wissahickon & Maple
Ambler, Pa. 19002

0892007 Roymal Co.
Guild Rd.
Newport, NH 03773

0900138 Coopers Creek
Chemical Corp.
W/S River Rd.
W Conshohockn, PA 19428

0905353 Adco Michigan
4401 Page Ave.
Centre, MI 49254

0918549 AM Adhesive Metals Co.
460 Coit St.
Irvington, NJ 07111

0981254 Elixer Industries
17809 S. Broadway
Gardena, CA 90248

0981739 Bitco Sealant Inc.
5937 St. Louis Ave.
St. Louis, MO 63120

0989959 Harrison Co. Inc.
487 Groveland
Haverhill, MA 01830

N-SHIP 1752

CRMC-LLF-Pfizer-Micro-000051

13956 Union Carbide Corp.
4625 Royal
Niagara Falls, NY 14302

1020622 Youngstown Sheet & Tube Co.
100 S. Lincoln
Sand Springs, OK 74063

6000192 Ridco Sealants
5939 St. Louis Ave.
St. Louis, MO 63120

6000213 Gibson Homans
1623 E. Euclid Ave.
Des Moines, IA 50313

6000483 Napco Corp.
40600 Albrae Drive
P.O. Box 1910
Fremont, CA 94538

6000668 Stedi Products Co.
3802 E. 91st St.
Cleveland, OH 44105

6008065 Gibson Homan Co.
810 Market Ave.
Richmond, CA 94804

6008097 National Varnish Co.
609 St. Jean
Detroit, MI 48214

6008104 Overall Paint Inc.
26200 Richmond Rd.
Cleveland, OH 44146

6008127 Southwest Grease & Oil.
Rural Rt. 1
Bakerstown, PA 15007

6008157 Unicorn Chemical Coating Inc.
Standard Paints
700 Allston Way
Berkeley, CA 94710

6010025 American Tar Co.
1700 Nothlake Way
Seattle, Wa. 98103

6010169 Overall Paint Inc.
P.O. Box 860
Cleveland, OH 44122

6014020 Devitt Products Co.
5860 Plumer Ave.
Detroit, MI 48209

N-SHIP 1753

CRMC-LLF-Pfizer-Micro-000052

DEPARTMENT OF THE NAVY
MARE ISLAND NAVAL SHIPYARD
VALLEJO, CALIFORNIA 94592

IN REPLY REFER TO:
134.05-Ser 376
9631

JAN 07 1980

From: Commander, Mare Island Naval Shipyard
To: Commander, Naval Sea Systems Command (05D21)

Subj: Asbestos content of talc suitable for use in MIL-P-24441 paint

Ref: (a) NAVSEA ltr 05D2/6101C/JJT 9631 Ser 55 of 30 May 1979

Encl: (1) Project Proposal, Evaluating the Airborne Asbestos Released by Grinding, Sanding, and Blasting Asbestos Containing Paints

1. Reference (a) requested Mare Island Naval Shipyard to examine four talcs for asbestos content and for comparability to the Pfizer Microtalc CP 20-30 talc used to make reformulated MIL-P-24441 paints.

2. The asbestos content of the talcs was determined by microscopic analysis using dispersion staining. The oil absorptions are based on data reported by the National Paint and Coatings Association and by the talc suppliers. The oil absorptions were determined according to ASTM D-281 which has a reproducibility of ± 25%. The results are as follows:

Source	Oil Absorption	Asbestos Content
Cyprus Mistron 139	33	Slight amount of fibrous tremolite in one of two samples.
Desert Minerals Talc Co., Hi-Fine 80	36	Large amounts of fibrous tremolite present.
Pfizer Microtalc CP 20-30	29	Slight amount of fibrous tremolite in one of two samples tested.
R. T. Vanderbilt, Nytal 300	29	Large amounts of fibrous tremolite and a small amount of anthophyllite present.

3. The airborne dust hazards of asbestos in paint are unknown. Asbestos fibers that are tightly bound into a paint should not be a problem. However, when paints are removed by dust generating methods, such as sanding or abrasive blasting, asbestos fibers could be released. Dried paints are brittle and the shattering action of abrasive removal could break the paint vehicle away from the asbestos and release the fibers.

C_8553 (Rec'd)

CRMC-LLF-Pfizer-Micro-000053

134.05-Ser 376
9631

Subj: Asbestos content of talc suitable for use in MIL-P-24441 paint

Talc is a common paint ingredient and is used in a wide variety of paints sold to the Navy. Some talcs are relatively free of asbestos while others may contain from 20 to 60% asbestos. Hence, it is safe to assume that all commissioned ships are coated with asbestos containing paints. The potential for generating airborne asbestos particles during grinding, sanding, or abrasive blasting of ships coated with asbestos containing paints will depend on the amount of asbestos in the dried paint being removed. Unfortunately, there is no standard analytical method for measuring the asbestos content of dried paint and the actual amount of airborne asbestos released by surface preparation of such paints is not known.

4. The potential problem of generating airborne asbestos particles during surface preparation can be prevented by: (a) prohibiting the use of high asbestos content talc in Navy formula paints and, (b) requiring the use of Navy formula paints whenever practical. However, this approach will not work for proprietary formulas such as those procured under TT-E-490 (silicone-alkyd topside paint). Standard analytical methods for measuring the asbestos content of paints do not exist and there is no accepted limit for the asbestos content of paints. Consequently, there is no way to establish and enforce practical asbestos limitations for proprietary paints.

5. Based on these observations, it is recommended that:

a. The airborne asbestos generated during the surface preparation of high asbestos content paints be investigated. Such an investigation will have to determine the airborne asbestos dusting hazard posed by using different surface preparation methods to remove paints of known asbestos content. A major part of such a task will be to develop analytical methods for determining the asbestos content of wet and dry paints. Enclosure (1) outlines a project to accomplish such a study.

b. Approve Mistron 139 and Microtalc CP2030 for use in MIL-P-24441 paints.

6. Mare Island Naval Shipyard has trained personnel and equipment needed to accomplish the recommended task. However, no technical personnel are available for assignment to the task at this time. The potential airborne asbestos problem associated with asbestos containing paints should be investigated. Mare Island is willing to support such a project to the fullest extent possible but cannot take the lead on such a task until FY 81. It is estimated the project can be completed within 12 months for $75,000.

M. L. PITTMAN
By direction

D0554

CRMC-LLF-Pfizer-Micro-000054

RTTUZYUW RULSSGG6492 2341639-UUUU--RUEBJIA.

ZNR UUUUU

R 221941Z AUG 78

FM COMNAVSEASYSCOM WASHINGTON DC

TO ZEN/COMNAVSUPSYSCOM WASHINGTON DC

ZEN/NAVSEC WASHINGTON DC

ZEN NAVSHIPYD

INFO RUENAAA/CNO WASHINGTON DC

RUENAAA/FLEMATSUPPO MECHANICSBURG PA

RUENAAA/SPCC MECHANICSBURG PA

RUCLRBA/DESC RICHMOND VA

RUCTHBA/NAVENVIRHLTHCEN CINCINNATI OH

RUEBJIA/BUMED WASHINGTON DC

BT

UNCLAS //N09100//

CNO FOR 845; BUMED FOR 55; FLEMATSUPPO FOR 99221; SPCC FOR 5431;

NAVSUP FOR 6311A, 6311D; NAVSEC FOR 61810, 6181E, 6181F, 6185F,

61570, 61580, 6159C

[redacted]

A. NSN 9G-6[redacted]-278-9959

B. NAVSHIPYD CHARLESTON SC LTR 5400:JN 6400 OF 2 AUG 78 (NOTAL)

C. NAVSUP INST 6400.12D

PAGE 2 RULSSGG6492 UNCLAS

D. NAVSHIPS TECHNICAL MANUAL, CHAPTER 635

1. SUMMARY. THIS MESSAGE IDENTIFIES SOURCES OF ASBESTOS FREE MATERIAL WHICH ARE ACCEPTABLE SUBSTITUTES FOR REF A MATERIAL. END SUMMARY.

2. BY REF B NSY CHASN REPORTED THAT TECHNICAL TALC PROCURED TO REF A CONTAINS NINE PERCENT ASBESTOS AND THAT LOCAL USE HAS BEEN SUSPENDED. NSY CHASN IS SUBMITTING REPORT REQUIRED BY REF C.

3. UNTIL A NEW NSN BECOMES AVAILABLE AND A CENTRAL SUPPLY POSITION

6260.4

AUG 22 1 06 PM '78

BUREAU OF MEDICINE & SURGERY

CRMC-LLF-Pfizer-Micro-000055

MATERIAL WHICH ARE ACCEPTABLE SUBSTITUTES FOR REF A MATERIAL. END SUMMARY.

2. BY REF B NSY CHASN REPORTED THAT TECHNICAL TALC PROCURED TO REF A CONTAINS NINE PERCENT ASBESTOS AND THAT LOCAL USE HAS BEEN SUSPENDED. NSY CHASN IS SUBMITTING REPORT REQUIRED BY REF C.

3. UNTIL A NEW NSN BECOMES AVAILABLE AND A CENTRAL SUPPLY POSITION IS ESTABLISHED, LOCAL PROCUREMENT OF SUBJECT MATERIAL IS AUTHORIZED. SEVERAL PROCUREMENT SOURCES FOR AN ACCEPTABLE SUBSTITUTE ARE:

A. PFIZER, INC.
MINERAL, PIGMENTS AND METALS DIV
235 E. 42ND STREET
NEW YORK, NY 10017
PRODUCT: MP 25-38

B. MALLINCKRODT, INC.
SECOND AND MALLINCKRODT STREETS
ST LOUIS, MO 63160
PRODUCT: 1-4160, TECHNICAL TALC

C. J.T. BAKER CHEMICAL CO.
223 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
PRODUCT: TALC, USP 4100

PAGE 03 RULSSGG6452 UNCLAS

PROCURING ACTIVITIES ARE REQUESTED TO BASE ACCEPTANCE OF MATERIAL UPON RECEIPT OF SUPPLIERS TEST DATA INDICATING THE TALC IS FREE OF ASBESTOS AND OTHER FIBROUS ASBESTIFORM MINERALS AND THAT LABELS ON SHIPPING CONTAINERS REFLECT SUCH INFORMATION.

4. ACCEPTABLE ANALYTICAL TECHNIQUES FOR DETERMINING PRESENCE OF ASBESTOS ARE DISPERSION STAINING MICROSCOPY OR X-RAY DIFFRACTION. IF ASSISTANCE REGARDING ANALYTICAL TECHNIQUES IS REQUIRED CONTACT NAVENVHLTHCEN (NEHC) CINCINNATI, OH (MR. J. CRAWL) AUTOVON 999-3863 OR COMMERCIAL (513) 684-3[illegible].

5. IF [illegible] MATERIAL IS NOT AVAILABLE [illegible]

CRMC-LLF-Pfizer-Micro-000056

PAGE 03 RULSSGG492 UNCLAS

223 RED SCHOOL LANE

PHILLIPSBURG, NJ 08865

PRODUCT: TALC, USP 4106

PROCURING ACTIVITIES ARE REQUESTED TO BASE ACCEPTANCE OF MATERIAL UPON RECEIPT OF SUPPLIERS TEST DATA INDICATING THE TALC IS FREE OF ASBESTOS AND OTHER FIBROUS ASBESTIFORM MINERALS AND THAT LABELS ON SHIPPING CONTAINERS REFLECT SUCH INFORMATION.

5. ACCEPTABLE ANALYTICAL TECHNIQUES FOR DETERMINING PRESENCE OF ASBESTOS ARE DISPERSION STAINING MICROSCOPY OR X-RAY DIFFRACTION. IF ASSISTANCE REGARDING ANALYTICAL TECHNIQUES IS REQUIRED CONTACT NAVENVHLTHCEN (NEHC) CINCINNATI, OH (MR. J. CRAIG) AUTOVON 969-3863 OR COMMERCIAL (513) 684-3863.

6. IF USE OF REF A MATERIAL IS REQUIRED BEFORE ACCEPTABLE SUBSTITUTE MATERIAL IS OBTAINED, INSTITUTE THE SAFETY REQUIREMENTS OF APPENDIX A OF REF D OR CONTACT NEAREST NAVY REGIONAL MEDICAL CENTER FOR GUIDANCE.

6. FOR ALL NAVSHIPYDS: SUSPEND USE OF REF A MATERIAL IMMEDIATELY.

7. FOR NAVSEA: FORWARD A PURCHASE DESCRIPTION TO SPCC FOR ASBESTOS FREE FORMULATION OF TECHNICAL TALC TO FACILITATE ESTABLISHING A NEW SOURCE. INITIATE CHANGE TO MIL-STD-1044 TO DELETE THE REQUIREMENT FOR

PAGE 04 RULSSGG492 UNCLAS

ASBESTOS CONTAINING TALC.

8. FOR NAVSUP: REQUEST ISSUE OF A DEFECTIVE MATERIAL SUMMARY BULLETIN FOR REF A MATERIAL INCLUDING INFO IN PARAGRAPHS 3, 4, AND 5. REQUEST IDENTIFY ADDITIONAL STOCK NUMBERS FOR TALC PROCURED TO MIL-STD-1044, OBTAIN SAMPLES AND COORDINATE WITH NEHC TO OBTAIN ANALYSIS OF ASBESTOS CONTENT. REQUEST NAVSEA 04F AND NAVSEC 6101 BE APPRISED OF TEST RESULTS.

BT

CRMC-LLF-Pfizer-Micro-000057

REC COMMUNICATIONS

REV	50
ROUTE	
CHECK	26
PLUG	
SUPVR	

ROUTINE • U N C L A S S I F I E D • OCT 5 7 50 AM

PT 03338 977 191228

RTTUZYUW RHMNS668771 2771500-UUUU--RUWGS4A.
ZNR UUUUU
R 3315132 OCT 78
FM NAVSHIPYD MARE ISLAND CA
TO RUEJNAA/SPCC MECHANICSBURG PA
INFO RUCITNK/NAVSHIPYD CHARLESTON SC
RUWGS4A/NAVSHIPYD LONG BEACH CA
ZEN/NAVSHIPYD PEARL HARBOR HI
RUECMHA/NAVSHIPYD PHILADELPHIA PA
RUEOMPA/NAVSHIPYD PORTSMOUTH NH
RUEBLAA/NAVSHIPYD NORFOLK VA
RUWPWA/NAVSHIPYD PUGET SOUND WA
RUESSAA/CNMAVSEASYSCOM WASHINGTON DC
RUENAAA/CNO WASHINGTON DC
ST
UNCLAS //N05100//
SPCC FOR 5041
NAVSEA FOR 04H, 06F, 0731
CNO FOR 345
ASBESTOS FREE TECHNICAL TALC
A. YOUR 2832092 SEP 78
B. NAVSEC LTR 6101E/AW 5100 SER 170 OF 12 SEP 78

Code	A	I	Code	A	I
100			600		
110			600		
130			800		
140			800.05		
190			830		
200			800.22		
300			800.25		
400	5				
500					
330					
600					
AMP 2000			RED.	CELL	
			0		

PAGE 02 RHMNS668771 UNCLAS
1. REF A REQUESTED THAT SPCC (5041) BE PROVIDED ANNUAL DEMAND FOR ASBESTOS FREE TECHNICAL TALC AND UNIT PACKAGE DESIRED (5 LB BAG OR 55 LB DRUM) IN ACCORDANCE WITH REF B.
2. BACKGROUND
A. ON 7 JUNE 1978 NAVSHIPYDMARE REPORTED TO NAVSEA (073C) THAT THROUGH MICROSCOPIC EVALUATION, TALC USED IN PRODUCTION FACILITATING PROCESSES APPEARED TO CONTAIN ASBESTOS FIBERS.
B. A HOLD WAS PLACED ON ALL TALC USED IN PRODUCTION FACILITATING PROCESSES.
C. THE INDUSTRIAL LAB AT MARE ISLAND PERFORMED LAB TESTS OF SAMPLES SUBMITTED OF TALC USED ON THE SHIPYARD.
D. ALL IDENTIFIED TALC WHICH CONTAINED ASBESTIFORM MINERALS WAS REMOVED FROM PRODUCTION FACILITATING PROCESSES.
E. FIFTY-EIGHT BAGS (WEIGHING 50 LBS. EACH) OF TALC, CERTIFIED BY THE MANUFACTURER TO BE FREE OF ASBESTI-FORM MINERALS WAS PROCURED FROM PFIZER, INC. OF EMERYVILLE, CALIFORNIA. THE TALC WAS RECEIPT INSPECTION BY THE INDUSTRIAL LAB AT MARE ISLAND AND

PAGE 1 OF 2 PAGES

424 5995

ROUTINE • U N C L A S S I F I E D • 051112Z OCT 78

CRMC-LLF-Pfizer-Micro-000058

ROUTINE

****
* U N C L A S S I F I E D *
****

FOUND TO CONTAIN NO ASBESTI-FORM MINERALS.
F. A LABEL WAS DEVELOPED FOR THIS NON-ASBESTIFORM TALC
WHICH STATES: "NOTICE. TALC DOES NOT CONTAIN ASBESTIFORM

PAGE 03 RHHMS668771 UNCLAS
MINERALS." AND WAS AFFIXED TO THE 50 BAGS.
3. SUMMARY
A. ON 8 JUNE 1978 NARF ISLAND ORDERED THE 50 BAGS OF NON-
ASBESTIFORM TALC FROM PFIZER, INC. AT A COST OF $.70/LB AND IT
WAS SHIPPED ON 14 JUNE 1978.
B. THIS SHIPMENT MEETS THE ANNUAL DEMAND FOR ASBESTOS FREE
TECHNICAL TALC FOR NARF ISLAND.
BT
#8771

NNNN

PAGE TWO

****
* U N C L A S S I F I E D *

CRMC-LLF-Pfizer-Micro-000059

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. [redacted]

~~-260-A~~
6260.4L

IN REPLY REFER TO
Ser 454/220702
5 Jul 1977

From: Chief of Naval Operations
To: Commander, Naval Sea Systems Command

Subj: [redacted]

Ref: (a) COMNAVSEASYSCOM ltr 04H4/MDH & 0492/JAM, 5100 ser 357 of 12 May 1977 (NOTAL)
(b) COMNAVSEASYSCOM msg 021904Z JUN 77
(c) OPNAVINST 6260.1, Control of asbestos exposure to naval personnel and environs of 9 April 1974

1. Reference (a) provided CNO (OP-45) a copy of an asbestos audit conducted at [redacted], and noted actions being taken by COMNAVSEASYSCOM and the Shipyard. Reference (b) discussed airborne asbestos sampling schedule in support of subject program. These initiatives, as discussed in references (a) and (b), are concurred in wholeheartedly. It is suggested, however, that future audits also reflect reference (c), the current Navy policy directive governing asbestos use and control in Navy working environments.

2. It is noted that the Naval Shipyard, Charleston, has recently placed in operation a new pipe insultation working facility (FY 74 MCON Project P-872). A list of facilities or projects, similar to P-872, which are planned for other shipyards, is requested for CNO programming information.

3. It is requested that CNO (OP-45) be kept apprised, via the Chief of Naval Material, of significant findings or deficiencies resulting from future efforts of a nature similar to those discussed in references (a) and (b).

JOHN D. CHASE
Deputy Chief of Naval Operations (Logistics)
Acting

Copy to:
CNAVMAT (MAT 04)
[redacted]
NAVENVIRHLTHCEN
NAVSHIPYD NORFOLK
NAVSHIPYD CHARLESTON
NAVSHIPYD LONG BEACH
NAVSHIPYD MARE ISLAND
NAVSHIPYD PEARL HARBOR
NAVSHIPYD PHILADELPHIA
NAVSHIPYD PORTSMOUTH
NAVSHIPYD PUGET SOUND

CRMC-LLF-Pfizer-Micro-000060

NNNNCZ¢1JA113

RTTEZYUW RULSSGG3334 1821428-EEEE--RUEBJIA.

ZBY EEEEE

P 0114082 JUL 77

FM COMNAVSEASYSCOM WASHINGTON DC

TO RUWMHOA/NAVSHIPYD MARE ISLAND CA

RUWNBUA/[redacted]PUGET SOUND WA

INFO RUCINNA/NAVENVIRHLTHCEN CINCINNATI OH

RUEBJIA/BUMED WASHINGTON DC

RUWNCKA/NAVREGMEDCEN OAKLAND CA

RUWNBUA/NAVREGMEDCEN BREMERTON WA

BT

UNCLAS E F T O ///N03260///

SUBJ/ NAVSHIPYD ASBESTOS CONTROL PROGRAM AUDIT

A. COMNAVSEASYSCOM LTR 8492/JAM SER 987 OF 11 FEB 77 (NOTAL)

B. COMNAVSEASYSCOM LTR 8440/VBK SER 359 OF 7 JUN 77 (NOTAL)

1. FOL PERS WILL CONDUCT ASBESTOS AUDIT OF NAVSHIPYD MARE ISLAND ON 13-15 JUL AND NAVSHIPYD PUGET SOUND ON 18-20 JUL (REFS A AND B PERTAIN):

A. J.A.MACK, III, CDR, SEA 8492, U.S. CITIZEN; CLEARED SECRET, BI BY AG PHNC COMP 17 DEC 58.

B. E.E. HOLTGREN, CIV, GS-14, SEA 8492, U.S. CITIZEN; CLEARED

PAGE 02 RULSSGG3334 UNCLAS E F T O

SECRET, NACI BY CSC 28 SEP 66.

C. R.B. PATTERSON, CIV, GS-13, SEA 8711, U.S. CITIZEN, CLEARED SECRET, NACI BY CSC 21 JUL 67.

D. J.R. CRAWL, CIV, GS-12, NENC 42, U.S. CITIZEN; CLEARED SECRET, NACI BY CSC 21 SEP 66.

2. REQ FOLLOWING ARRANGEMENTS IN SUPPORT OF ABOVE AUDITS:

A. ARRANGE CONFERENCE AT 0900 DURING FIRST DAY OF AUDIT WITH SHIPYD CDR AND COGNIZANT PERSONNEL TO INCLUDE APPROPRIATE MGMT

55 copies # 626 ayl
55-1 copy
55C - MT.
100 copy
TO
NAVSEA
folder
my desk

BUREAU OF MEDICINE & SURGERY
JUL 14 11 44 AM '77

CRMC-LLF-Pfizer-Micro-000061

PAGE 02 RULSSGG3334 UNCLAS E F T O

SECRET, NACI BY CSC 28 SEP 68.

C. P.D. PATTERSON, CIV, GS-13, SEA 8731, U.S. CITIZEN, CLEARED SECRET, NACI BY CSC 21 JUL 67.

D. J.R. CRAWL, CIV, GS-12, NEHC 62, U.S. CITIZEN; CLEARED SECRET, NACI BY CSC 21 SEP 68.

2. REQ FOLLOWING ARRANGEMENTS IN SUPPORT OF ABOVE AUDITS:

A. ARRANGE CONFERENCE AT 0800 DURING FIRST DAY OF AUDIT WITH SHIPYD CDR AND COGN IZANT PERSONNEL TO INCLUDE APPROPRIATE MGMT OFFRS, SHOP SUPTS, SHIPYD SAFETY MANAGER, AND NAVY REGIONAL MEDICAL CENTER REPS.

B. PLANNED/SCHEDULED INSPECTION OF ALL REPRESENTATIVE ASBESTOS OPERATIONAL AREAS ASHORE AND AFLOAT DURING FIRST MORNING OF AUDIT.

C. PERSONNEL PASSES AND ONE VEHICLE PASS TO FACILITATE ENTRY OF PERSONNEL TO CIA.

D. OFFICE SPACE WITH PART TIME CLERICAL SUPPORT FOR ADMIN PURPOSES.

E. REQ FOL INFO BE AVAIL UPON TEAM ARRIVAL:

(1) COMPILATION OF ALL COMMAND AND LOCAL DIRECTIVES PERTINENT TO ASBESTOS OPERATIONS AND CONTROL. INSTS SHOULD BE INDEXED TO FACILITATE REFERENCE AND USE.

PAGE 03 RULSSGG3334 UNCLAS E F T O

(2) PROVIDE LIST OF COGNIZANT KEY PERSONNEL BY SHOP/DEPT, PHONE EXT, BLDG NO.

(3) ALL RPTS OF INDS HYG SURVEYS TAKEN IN LAST 3 YRS INVOLVING ASBESTOS OR FIBROUS GLASS EXPOSURE. INCLUDE NO. AND TYPE OF SAMPLES COLLECTED WITH RESULTS/RECOMMENDATIONS.

(4) TRAINING PLANS, OUTLINES, HANDOUTS, ETC. USED TO APPRISE WORKERS OF ASBESTOS HEALTH HAZARDS INCLUDING COURSES SKED LAST 3 YEARS AND THOSE PROPOSED FOR NEXT YEAR.

(5) DETAILS OF HEALTH MONITORING PROGRAM SPECIFICALLY

CRMC-LLF-Pfizer-Micro-000062

A. ARRIVAL CONFERENCE AT [illegible] WITH SHIPYD CDR AND COGNIZANT PERSONNEL TO INCLUDE APPROPRIATE MGMT PERS, SHOP SUPTS, SHIPYD SAFETY MANAGER, AND NAVY REGIONAL MEDICAL CENTER REPS.

B. PLANNED/ESCORTED INSPECTION OF ALL REPRESENTATIVE ASBESTOS OPERATIONAL AREAS ASHORE AND AFLOAT DURING FIRST MORNING OF AUDIT.

C. PERSONNEL PASSES AND ONE VEHICLE PASS TO FACILITATE ENTRY OF PERSONNEL TO CIA.

D. OFFICE SPACE WITH PART TIME CLERICAL SUPPORT FOR ADMIN PURPOSES.

E. REQ FOL INFO BE AVAIL UPON TEAM ARRIVAL:

(1) COMPILATION OF ALL COMMAND AND LOCAL DIRECTIVES PERTINENT TO ASBESTOS OPERATIONS AND CONTROL. INSTS SHOULD BE INDEXED TO FACILITATE REFERENCE AND USE.

PAGE 3 RULSS66333R UNCLAS E F T O

(2) PROVIDE LIST OF COGNIZANT KEY PERSONNEL BY SHOP/DEPT, PHONE EXT, BLDG NO.

(3) ALL RPTS OF INDS HYG SURVEYS TAKEN IN LAST 3 YRS INVOLVING ASBESTOS OR FIBROUS GLASS EXPOSURE. INCLUDE NO. AND TYPE OF SAMPLES COLLECTED WITH RESULTS/RECOMMENDATIONS.

(4) TRAINING PLANS, OUTLINES, HANDOUTS, ETC. USED TO APPRISE WORKERS OF ASBESTOS HEALTH HAZARDS INCLUDING COURSES SKED LAST 3 YEARS AND THOSE PROPOSED FOR NEXT YEAR.

(5) DETAILS OF HEALTH MONITORING PROGRAM SPECIFICALLY PERTAINING TO SPIROMETRY, X-RAY EVALS PERFORMED AND EQUIPMENT UTILIZED.

(6) DATA PERTINENT TO LEVELS OF X-RAY DOSAGE RECEIVED BY PERSONNEL COVERED IN SURVEILLANCE PROGRAM.

F. REQUEST ARRANGE EXIT INTERVIEW WITH SHIPYD CDR AND DESIGNATED REPS FOR DEBRIEF/DISCUSSION OF AUDIT FINDINGS TENTATIVELY SKED AT 1500 ON THIRD DAY OF AUDIT AT EACH SHIPYARD.

3. INFORMATION AND DATA DEVELOPED AS A RESULT OF ABOVE AUDITS ARE FOR OFFICIAL NAV USE ONLY AND ARE RELEASABLE ONLY WITH PRIOR NAVSEA APPROVAL.

CRMC-LLF-Pfizer-Micro-000063

TOPICS FOR NAVMAT MEETING 6/28/77 RE. NAVY OCCUPATIONAL SAFETY AND HEALTH PROBLEMS OF MUTUAL CONCERN TO MAT/SYSCOMS

1. Controversion of OWCP Claims: In a recent article in Trade Talk (Vol. XI No. 1 - Jan/Feb/Mar 1977), the OCP noted a method of assisting in the controversies of claims which other Federal agencies are employing. It is the "fitness-for-duty examination" which assures that employees are actually incapacitated for duty. Employees who are suspected of abusing the COP may be requested to report for a fitness-for-duty examination and, if the medical findings are contrary to those of the employee's physicians, the examination results may be reported to OWCP for final determination of employee's entitlement to COP. Rather than submit to medical examination, employees who are not actually incapacitated usually return to duty.

The procedures are defined in FPM Chapter 339, Subchapter 1-3 and FPM Supplement 752-1, Subchapter S1-3.

This appears to be a worthwhile method to use and should be fully explored for routine application in COP controversion procedures.

CRMC-LLF-Pfizer-Micro-000064

2. Workplace Toxic Materials and Harmful Physical Agents: NIOSH's increased emphasis regarding toxic materials and harmful physical agents in the workplace and OSHA's pronounced intention of promulgating revised standards based on NIOSH studies and recommendations, presages increased DOD/Navy involvement in assessing impact (technical and economic) of proposed standards. As of 12/31/76, NIOSH has submitted 57 criteria documents to OSHA for consideration in standards development and intends to submit 51 additional documents over the next two years. The task facing the Navy in conducting meaningful assessment of proposed standards is extensive.

PPN #76-8 addresses procedures for review of NIOSH Criteria Documents and, for each document reviewed, requires DOD components to provide a precursory assessment of uses of the materials whenever possible. Recently, OSHA issued a proposed standard for benzene on which OPNAV requested urgent review for technical accuracy and impact on the Navy. Additionally, DOD requests all components to advise of the number of employees (civilian and military) occupationally exposed to benzene. This necessitates a survey of all subordinate activities. A recent proposed OPNAVNOTE on Nitrosamines will also require a survey of subordinate activities when promulgated. Undoubtedly, there will be a need for other surveys to be conducted.

Guidelines are required to:

a. Define "precursory assessment" in terms of data scope and accuracy sought; and,

b. Establish a procedure for conduct of such assessments.

Inasmuch as the proposed NIOSH criteria documents topics are known, perhaps consideration should be given to a one-time survey of

CRMC-LLF-Pfizer-Micro-000065

subordinate activities to assess usage of all materials covered in NIOSH documents vice the case-by-case basis of survey as is now practiced.

3. Medical Monitoring Program: Medical monitoring for effects of exposure to asbestos, benzene, nitrosamines, beryllium, isocyanates and other industrial substances which present health hazards is now or will be required by law. As the number of toxic industrial substances is expected to increase, the need for a comprehensive, well coordinated health monitoring program is paramount. The medical monitoring procedures for the effects of exposure to various toxic substances should be integrated into a structured program which recognizes that some toxic substances require similar types and frequency of examinations and provides for one-time evaluations for the effects of exposure to multiple toxic substances.

CRMC-LLF-Pfizer-Micro-000066

Johns-Manville

Internal Correspondence

To: R. Lamar - 3-05

Date: October 29, 1976

From: E. M. Fenner - 1-06

Copies: G. R. Kinzer - R&D

Subject: PFIZER TALC SAMPLES

Harold D. Stanley, Jr., Group Leader - Testing in the Minerals, Pigments and Metals Division of Pfizer called me today to report on their analysis results of the five talc samples you furnished them at the end of their visit on Tuesday, August 31.

Research ID No.	Pfizer Code No.	Total Tremolite - %
RC-74340-3	CP 38-33	13-14
RC 74340-4	CP 20-30	3-4
RC 74340-5	CP 14-35	7-8
RC 74343-1	CP 38-33	10-11
RC 74343-2	CP 14-35	5-6

The total percentage of tremolite present in the samples was determined by x-ray diffraction and included both fibrous and particulate material.

The samples were also examined by transmission electron microscopy. The results of this analysis indicated that less than 0.1% was fibrous by the OSHA definition. Mr. Stanley stated they were observing an average of 7 fibers in 100 microscope fields.

E. M. Fenner

EMF:jh

CRMC-LLF-Pfizer-Micro-000067

DEC 1 1975

MINUTES OF STAFF MEETING
F&M DIVISION
Large Board Room
November 13, 1975

Present: C.A. Carlson, R.K. Comann, W.M. Palmer, H.N. Havens, T.M. Jackson, H.R. Keefe, H. Kranich, C.I. Keelan, R.S. Lamar, A.T. Stroebel, P.A. Martinson, F.D. Richards, S.W. Schulmeyer, J.H. Swensen

Assignment

1. Timely Items of Interest
   - In the future, all meetings will start at 8:00 A.M. sharp.
   - Eagle-Picher in Nevada shut down by EPA due to heavy dust counts. H.N. Havens to contact Armstrong Cork to see if J-M can give them some help. HNH
   - NIOSH issued "cease and desist" order to Grefco and Silbrico at No Agua. J-M received citation.
   - Pfizer and Sierra have raised prices.
   - No. 4 System back on stream; all systems on line until end of the year.
   - District Sales Managers meeting held in Denver November 4-6.
   - Vacation schedule to be reviewed to be certain there is proper coverage during the holiday season. JHS/SS
2. Review Minutes of October Meeting
   - Color standards for natural, direct run and baghouse grades lowered two points. Specifications to be changed.

   - Quality Control and Service
     - Discussed natural powder problem. 40,000 tons of variable, dark color crdue in glory holes; problem will continue. Investigating burning out of organic dark color using fuel mixed with this crude to produce filter aid. Uniformity of baghouse color is major concern. Questions are how to handle in the marketplace and what can Marketing do to help in this area after more information is developed. T.M. Jackson to discuss with C.A.Carlson. Tom to schedule meeting to discuss options available. TMJ
       T.M. Jackson will report next staff meeting on status. TMJ

     - J.J. Chierichetti's visit to Turtle Wax and Sherwin-Williams very beneficial. Program set up for A.W. Wilson, J.J. Chierichetti and a loading foreman to visit customers experiencing problems.

copy routed to staff
12-1-75 RC
-ak-

CRMC-LLF-Pfizer-Micro-000068

Assignment

- H.N. Havens assigned as Quality Control Coordinator for Talc and Perlite.

- Corporation is placing increased emphasis on quality control. All specifications are to be in order. T.M. Jackson and H.N.Havens assigned responsibility to monitor specifications. TMJ/HNH

- SFSF/White Mist: Shipping Bauer Mill White Mist as SFSF. Very satisfactory. Problem resolved.

- PE bags for recooperage - will try first on a few warehouses and customers for reaction before making final decision. T.M. Jackson to follow. TMJ

- Reviewed status of Rockdale assets - C.I. Keelan recommended that retirement should be in by end of year and assets written off in 1975. ATS/HNH

- Form answering inquires from customers on fuel curtailment- no action - pending.

3. T.M. Jackson and H.N. Havens reviewed ESL loss locations.

4. Review Physical Dist. Questionnairre - FDR
   - Outstanding items were: bad arrival condition of diatomite, shipping errors, rail equipment, dust free package for asbestos products, direct order placing on Lompoc and be certain recooperage bags are in car.

   - Added cost to provide an unbreakable package averages $4 to 5/ton.

   - Grefco shipping free dunnage to some accounts.

   - Subjects to covered in more detail at SHARP meeting.

5. Lompoc Operations - CAC
   - Reviewed order load. Estimating about 18,000 tons to be shipped in November.
   - Delayed cars.
   - C.A. Carlson to investigate adding another layer ($1\frac{1}{2}$ tons) to a car to eliminate phantom freight.
   - Reviewed problem of oil smell in product.
   - PD car utilization about 70% for November.
   - Export direct order placing will be completed third week in November.
   - Domestic order writing - have 530 customers on computer; all customers will be on after the first of the year.
   - Direct order placing on Lompoc sometime in the future.

DFB

CRMC-LLF-Pfizer-Micro-000069

Assignment

- Personnel: 389 hourly, 115 salaried.
- Reviewed complaints.
- Reviewed competitive samples. Have requested samples from Europe.
- Anti static material on order. Will plan to make the switch about first quarter, 1976.
- C.A. Carlson requested help regarding return of pallets. There is a serious problem; plant is receiving junk material and very few pallets.
  H. Kranich to follow. — HKr
- T.M. Jackson to follow with C.A. Carlson on SPPI form. — TMJ
- Bag coding equipment on order.

6. FG Operations - no report
   - T.M. Jackson to follow and have someone attend from FG. — FG

7. Status of Contract Plan - CIK
   - Reviewed. 90% complete. Expect to have out on schedule.

8. October Results - CIK
   - Reviewed projection.

9. Trade Associations - Costs/Benefits - PAM
   - Membership in associations, participation, costs and benefits to be reviewed by department heads and recommendations to be submitted to J.H. Swensen. — JHS/SS

10. Terra Diatomacea - PAM
    - Should be issued first week of December.

11. Perlite - RKC/HNH
    - Cost/ton now $12.
    - Capacity to produce 19 to 20,000 tons in November.
    - Four cars loaded ahead.
    - Need orders in some grades.
    - Union negotiations underway; vote to be taken next week.
    - Reviewed projects, reorganization and mining plans.
    - A.T. Stroebel reviewed roll crusher situation.
    - Communications meeting to be scheduled to review quality versus capacity. — RKC/HNH/BGR
    - H.N. Havens reviewed order situation.
    - Mining Division to advise Marketing when Abollo unit is working. Marketing to request samples. — RKC/HNH

12. Talc - RKC
    - Reviewed shipments, organization and L.A. plant schedule.
    - Nothing new on legislation on Warm Springs.
    - Flotation tests for Penhorwood scheduled for middle of January; should be in production April 1976.

LA112 06 2255

CRMC-LLF-Pfizer-Micro-000070

Miscellaneous Items	Assignment
- President's Review Committee approved reorganization.	
- Literature to be audited by Market Managers.	
- Celite literature to Wayne Palmer.	SS

Minutes by: S. Shultis

Next Meeting: December 19, 1975
Large Board Room
8:00 A.M.

cc:
L.P. Clemens
J.J. Brooks/E.G. Hammel
J.R. Hovde
R.E. Warrick
R.K. Jones
G.R.S. Smith
N.B. Scheffel
J.L. Harrier
D.C. Perry
J.P. Cashman
R.G. Riede
C.W. Sphar
V.F. Swanson
J.M. Sharratt
D
C

LA112 06 2256

CRMC-LLF-Pfizer-Micro-000071

RFB

41

Desert Minerals, Inc. - Long Beach

December 13, 1972

H. R. Keefe

cc: P. A. Martinson
R. F. Bassett
H. M. Jackson
F. D. Richards
R. S. Lamar
N. B. Scheffel

STATUS REPORT FDA - OSHA TALC CONSIDERATIONS

Here is the December 15 status report:

I. Developments to date:

Four meetings have been held at DHQ concerning both FDA and OSHA problems as follows:

First meeting, October 4: Joint meeting of Celite Division, Environmental Departments and Legal Department to define plans of action for:

A. Postponement and elimination of proposed amendment to Part 121 (Food additives) of the Federal Food and Drug Act incorporating the phrase "free of asbestiform minerals" after the word talc relating to food or food packaging material.

B. Establishing a variance or amendment to OSHA regulations Part 1910 to eliminate or modify the terms concerning tremolite as related to asbestos fibers, and

C. Develop a positive marketing program to ensure against deterioration of our talc market because of existing regulations. A draft of letter authored by Dick Carter directed to the Department of HEW edited and finalized and subsequently mailed under date of October 3 requesting six-month postponement for preparation of documents concerning proposed regulation. Initiated action on follow up documents and data concerning five areas of activity:

1. Definition of asbestiform particles.
2. Measurement of content, size, and identification of particles contained in talc.

LA112 14 2979

CRMC-LLF-Pfizer-Micro-000072

3. Migration studies from paper food packaging material.

4. Processing to remove asbestiform particles.

5. Medical evidence concerning carcinogenic aspects.

Develop plans and action concerning OSHA regulations in relation to reclassification, competition, bag labeling, and marketing program.

Second meeting, October 12, 1972: R&D marketing conference concerning new product development or product modification program compatible with regulations. Further development program for migration studies on paper, plastics, and coatings. Initiated plans to develop densified products (pellets), slurry systems, binder systems, and new products conforming to OSHA standards.

Third meeting, November 9: Meeting with Dr. George Wright exploring medical aspects of FDA proposed regulations and OSHA standards. Develop program for literature search into biological studies epidemiological considerations and other medical aspects.

Fourth meeting, November 28, 1972: Update all programs in progress concerning five areas of study regarding FDA proposal. All studies programed for conclusion by December 30, intending first draft of documents to be prepared early January.

Fifth meeting scheduled December 18: For preliminary preparation of reports.

Although no official word has been received concerning the postponement of the FDA deadline for comments on the regulations, communications with FDA in Washington indicate that the six-month postponement will be secured. Approximately 30 responses received at FDA have been forwarded to Carter's office reinforcing the fact that additional study is needed before an appropriate regulation can be defined. Preliminary reports of migration studies indicate no migration at commercial levels of usage of talc in food packaging papers. Medical literature search to date is developing a favorable case for lack of evidence supporting original claim of carcinogenic influence as defined.

As to OSHA regulations, two environmental studies of use conditions have been completed at Lompoc and a third study is in progress. Conclusions of these studies resulted in corporate approval of a marketing letter dated October 24 concerning usage of DESERTALC® and CYGLONIZED® products in relation to airborne contamination and fiber count.

LA112

CRMC-LLF-Pfizer-Micro-000073

II. Customer Reaction:

Much confusion exists with our customers as to the requirements, conformance, inspection, and enforcement of OSHA standards. Our letter dated October 24 has been well received as a positive step toward handling of DESERTALC and CYCLONIZED products but competitive activities continue troublesome (See IV below). Sales office receiving growing customer requests from West and East for low-tremolite products. We are submitting G-2 samples at lowest tremolite content.

III. Lost of Potential Lost Business:

Lost business at Sinclair Paint, Los Angeles; Crown Simpson Pulp Company, Arcata; Crown Zellerbach, Wauna; North Western Pulp and Paper, Hinton; National Gypsum, Long Beach. Partial lost business at growing list of accounts include North West Paper, Cloquet; Weyerhaeuser, Miquon; Flambeau, Park Falls; and Brown Paper, Kalamazoo. Most of the potential accounts are awaiting development concerning FDA and expressing considerable concern as to final standards and enforcement.

IV. Competitive Activities:

United Sierra Division and Pfizer are adding to the problem because of marketing statements concerning their products that are marketed to be free of asbestos minerals. Competitive claims assert that their products are not affected by the OSHA regulations or the proposed FDA regulations because they do not contain asbestos or asbestos-type particles. It is primarily the response of our customers to these claims that are causing our problems because of our inability to make similar claims. Our present marketing program seems to be working with our customers as a delaying action but our activities must be directed more aggressively and positively.

V. Planned Action:

A. Develop documents to prove the non-hazardous nature of the usage of our products for food packaging materials. Both the non-migration and medical studies are expected to be acceptable.

B. Develop further information for marketing concerning customer usage of our products for conformance to standards.

LA112 14 2481

CRMC-LLF-Pfizer-Micro-000074

C. Develop a source of tremolite-free talc as alternative under competitive pressures. Muir Talc in California is being explored as alternative for short-range. Reeves, Canadian Magnesite, and other new sources are being explored for long-range considerations.

D. Pellets, slurry, and dry-bulk handling systems are being evaluated for customer handling under OSHA regulations.

E. Bag labeling alternatives are being considered to avoid marketing complications in relation to competitive efforts.

Any and all new ideas and suggestions will be considered and programed for action.

Earl B. Smith
EBS:jec

LA112 14 2482
CRMC-LLF-Pfizer-Micro-000075

GRANTHAM PROPOSITION.

Prepared by

Celite Division

Johns-Manville Products Corporation

January 1972

LA112

CRMC-LLF-Pfizer-Micro-000076

The Celite Division proposes that Johns-Manville enter the talc business. We propose to do this by:

1) Buying (for stock or cash) from the Louise Grantham Trust and the minority holders, the assets of the Louise Grantham Corporation (and subsidiaries) and the Trust's and others' interests in mining claims. The principal assets are mines at Warm Springs Canyon, California, and a talc grinding mill in Los Angeles.

2) Buying grinding and loading facilities at Dunn Siding, California from the Pfizer Corporation.

3) Expanding production facilities at Dunn and Los Angeles.

4) Installing environmental control facilities at Los Angeles, Dunn and the mines.

Our investment would be:

Allocation of Mutual Assets on Purchase of Grantham	1) Assets - Trust and minority holders	$3,900,000
	2) Pfizer facilities	500,000
	3) Expansion	1,400,000
	4) Environmental control	500,000
	Total	$6,300,000

Warm Springs Mine

LA112

CRMC-LLF-Pfizer-Micro-000077

Talc Industry

Talc is a natural mineral, generally magnesium silicate, mined and processed throughout the world. Principal operations in the United States are in New York, California, Montana and Vermont. So-called "eastern" talc tends to be fibrous, while "western" talcs are softer, whiter, and have a platey structure. For low grade applications, either can be used and business is divided geographically. For applications requiring high brightness and low abrasiveness, western talc is preferred, and high quality grades are marketed on the east coast.

In 1971, total market was 875,000 tons, and nearly $25,000,000. During the 1960 decade, ton sales increased at a rate of about 4%; dollar sales at a rate of 5½%.

Major uses are in ceramics, paint, paper, plastics, insecticides and roofing. Paint and paper applications have shown the greatest recent growth -- up 54% and 112% respectively in the last decade.

Growth has been most rapid in highly processed, highest priced specialty markets, particularly in the past few years.

Talc Quality

Processed (ground) talc in general has commercial utility as an inert filler/extender pigment because of

... color (whiteness)

... low abrasion (relative)

CRMC-LLF-Pfizer-Micro-000078

... chemical purity

... fibrous or not

Desertalc is recognized world-wide as one of the brightest. Desertalc is recognized world-wide as having low abrasion index and this relates to good chemical purity. Desertalc is non-fibrous, and as such has application where fibrous talcs are deficient.

Grantham in the Industry

Grantham sales are 45,000 tons and $2,300,000 of ground talc; 6% of tons and 9% of the dollar market.

Grantham also sells 25,000 tons ($700,000) of crude talc to the United Sierra Division of Cyprus Mines.

Reserves

The "opened" talc mines at Warm Springs number three. Two are being worked at this time. Based upon geological data furnished by Grantham, together with Johns-Manville mining surveys, there are

Estimated recoverable - first layer	- 1.2 million tons
Estimated recoverable - second layer	- 1.5 million tons
Total	- 2.7 million tons

On a gross basis there are

Estimated - first layer	- 2.1 million tons
Estimated - second layer	- 2.5 million tons
Total	- 4.6 million tons

LA112

CRMC-LLF-Pfizer-Micro-000079

Some portion of tonnage between gross and recoverable may be mineable. A drill program would dictate action to be taken. At current and forecasted withdrawal rate, reserves are assured for in excess of 25 years.

Clay reserves at Mohave, California, are estimated in excess of one million mineable tons. At current and forecasted annual withdrawal rate, the reserves are ample for in excess of 50 years.

People

Grantham's current employment is approximately 65 hourly and 15 salaried employees. Key people in the latter are, and each of whom very probably would join J-M:

Rolf F. Bassett	-	Finance-Management	- Age 60
*Richard Lamar	-	R&D	- Age 50
Earl Smith	-	Sales	- Age 48
Richard Franklin	-	Mining	- Age 42
*Norman B. Scheffel	-	Sales	- Age 43
Daniel B. Tash	-	LA Plant Supt.	- Age 53

* Now on contract with Grantham

Included in this group are considerable talents and capabilities related to the talc business, resulting from years of exposure in Grantham and formerly with other western talc businesses.

We plan also to have a five-year Consultant Contract with W. B. Grantham for $60,000 per year.

CRMC-LLF-Pfizer-Micro-000080

Mines

The Warm Springs Canyon talc mining operation includes 80 lode claims. Not all are being worked. Those that are not are adjacent to or contiguous with those that are worked. By virtue of the "Apex Law" as related by Grantham mining engineers, additional claims are included. The Apex basis is that any ore body continuous beyond an established claim is considered to have common ownership.

The Warm Springs operation is in Inyo County, California (lower Death Valley) and is

130 miles to Union Pacific rail head (Field or Dunn Siding, California)

140 miles to Las Vegas, Nevada

300 miles to Los Angeles

The Warm Springs operation includes

Diesel-operated electrical generation (no outside power);

Well equipped base-camp living and recreation facilities, including outside swimming pool;

An ample source of spring-fed fresh water supply;

E & R facilities.

Ore is hauled by contract carrier from Warm Springs to rail head. Mining is all underground, using room and pillar method.

The clay operation is at Jaw Bone Canyon, Kern County, California. From mine to rail head (Southern Pacific - Cantel, California) is

LA112

CRMC-LLF-Pfizer-Micro-000081

11 miles.

Ore is contract mined and hauled. Contract included in the "Grantham package" calls for availability until "mine is exhausted." Mining is all open pit.

Dunn Option

Johns-Manville has option to purchase plant, auxiliary buildings and land (approximately 280 acres) from Pfizer. The latter acquired the total facility in 1967 from Kennedy Minerals, including talc mines. Pfizer had at the time milling facilities at Victorville, California, and a second plant was soon considered excess. The Dunn plant has been operated off and on during the past few years. Lompoc plant engineers have surveyed and examined the Dunn facilities and concur with the option list of equipment and facilities in general.

Option expires in late February 1972.

Financial Projection - 5 Years

Sales

Grantham's sales, limited by capacity, are $3.0 million — 9% of the market.

Using Grantham's high quality talc and our sales force in our markets, we plan a vigorous expansion to $5.2 million sales in 1976, attaining 14% of the market.

CRMC-LLF-Pfizer-Micro-000082

Earnings

We plan ~~$280,000~~ 300 of earnings the first year (current level), growing to ~~over $500,000~~ 450,000 by 1976.

Tax depletion is very important to earnings. Grantham now has an effective tax rate of 25% of pretax earnings; we have used this for 3 years. On the advice of the Tax Department, we have used 35% after that.

Investment and Cash Flow

Of the $6.3 million requested, ~~$5.0~~ about 1.3 million will be spent now. In the next few years, we schedule $900,000 more -- with present forecasts, most of this in 1975 and 1976.

At the end of the first year we will be out ~~$5.0~~ 4.6 million in cash flow. In the next few years we expect to pay for the future expansion and generate a positive flow of ~~$2.2~~ 1.9 million.

We do not pretend to know the long-run future of talc or our participation, but we believe we can eventually attain sales of $10,000,000 and earnings of $1,000,000. However, if we can hold our sales and earnings after 1976, we will attain a DCF yield of ~~11%~~ 13.2 on this venture.

LA112

CRMC-LLF-Pfizer-Micro-000083

Geology - Chemical - Health Aspects

Talc

Geologically, Grantham talc is in the Crystal Spring Formation (part of the Pahrump Group in Death Valley) of the Panamint Range. There are three principal layers of ore bodies. There are outcroppings of the ore bodies, and portals are located at these points. Ore strata are separated by dolomitic, diabase and volcanic rock formation. There are faults in the deposit which have been established in terms of quarrying procedures. The mineable ore beds are 10-15 feet in thickness and lie with dip of 9° to 20° generally.

Chemically, the talc is essentially magnesium silicate. Minor composition is calcium carbonate, sodium carbonate and potassium oxide. Trace composition is oxide of aluminum, iron, titanium, manganese and copper.

Petrographically, talc is major; tremolite small or minor; calcite trace to small.

The following points are significant:

1) Grantham talc vs. eastern talc is softer, platey-like, and current and projected uses other than in cosmetics and food products.

2) No health cases are on record with working people -- mine or other -- related to dust or other exposure.

CRMC-LLF-Pfizer-Micro-000084

3) Reportedly other (particularly United Sierra Division, Cyprus Mines and Vanderbilt) have had no cases related to environmental exposure.

Clay

Grantham clay (on contract not ownership) is geologically/chemically a claystone highly siliceous in composition. Minor composition is aluminum and potassium oxide; trace is oxide of iron, calcium, magnesium and sodium. The composition may be considered an aluminum silicate but not kaolinic in type.

In terms of health hazards, it is conjectured that environmentally "treat as a nuisance dust."

CRMC-LLF-Pfizer-Micro-000085

FINANCIAL DATA

(M's)

	1972	1973	1974	1975	1976	
Sales	3600	3900	4300	4700	5200	
Net Earnings	~~280~~ 300	~~370~~ 397	~~450~~ 480	~~400~~ 340	~~530~~ 467	
Cash Flow	~~-5000~~ -4630	~~4660~~ +580	~~+830~~ +760	~~+380~~ +320	~~+340~~ +270	
Investment	~~5410~~ 5000	~~100~~ 700	~~40~~ 140	~~290~~ 390	~~470~~ 570	Total 6300

Rate of yield - ~~11%~~ 13.2

CRMC-LLF-Pfizer-Micro-000086

TALC MARKETS

(000 Tons)

	Ceramics	Paint	Paper	Insecticides	Roofing	Rubber	Cosmetics	Plastics	Other
Talc Ind.	246	166	55	54	30	24	12	?	288
Grantham	18	12	5	0	0	0	1.5	2.5	?
%	7.5	7.5	9.5	0	0	0	11	?	?
Celite		X	X	X		X		X	X

LA112

Paint Industry Customers Include:

- Celanese Coatings
- Desoto
- Glidden
- National Lead
- Sherwin-Williams

Paper Industry Customers Include:

- American Can
- Georgia Pacific
- Kimberly-Clark
- Oxford Paper
- Westvaco
- Weyerhaeuser

CRMC-LLF-Pfizer-Micro-000088

Exterior Latex Tint Base

Reference:

Formula No. S-66009-6
E.I. DuPont de Nemours & Company, Inc.
Pigments Department
Wilmington, Delaware 19898

FORMULATION

INGREDIENTS	POUNDS	GALLONS
DISPERSION		
Water	150.0	18.03
Carbitol	30.0	3.51
Daxad 30	5.0	0.52
Igepal CA360	5.0	0.57
Ti-Pure® titanium dioxide R-960	175.0	5.32
Talc	116.0	4.88
Mica 325 mesh waterground	30.0	1.27
CELITE 281	50.0	2.60
Colloid 581-B	1.0	0.15
REDUCTION		
Cellosize WP-4400 (2% solution)	118.0	14.10
Colloid 581-B	1.0	0.15
Witco 912	4.0	0.48
Elvacet® 1454	432.0	48.00
2amino-2methyl-1propanol	4.0	0.51
Super-Ad-It	10.0	1.23
	1,131.0	101.32

Pigment Volume Concentration = 36.4%
Viscosity (overnight) = 70-75 KU

Disperse in high speed disperser

LA112

CRMC-LLF-Pfizer-Micro-000089

Interior White

Reference:

Formula 50021
Airco Chemicals and Plastics
A Division of Air Reduction Company, Inc.
150 East 42nd Street
New York, N.Y. 10017

FORMULATION

INGREDIENTS	POUNDS
Natrosol 250 HR (2% solution)	250
R & R 551	3
Igepal CO-610	3
Tamol 850*	8
Ethylene glycol	25
Nopco NDW	2
Phenylmercuric acetate (18% mercury)	0.3
Titanox RA-46	250
MICRO-CEL T-70	25
Satintone #1	125
Talc	50
Gold Bond R Silica	75
Water	163
Aircoflex 500	240
YIELD	100 gallons
SOLIDS	54%
PVC	59.5%

*Either Tamol 850 or Daxad 30 is specifically recommended, in order to prevent excessive viscosity buildup upon aging.

INTERIOR
Water Thinned Paint

LA112 11 1830

CRMC-LLF-Pfizer-Micro-000090

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

Litoff – Box 101 folder 7 PUGET SOUND NAVSHIPYD CODE 200 ASD CORresp 1978 – 1979

LTC001

Info 237.1
10-3-78
6000/Asbestos
X4400.

Action 502.32

Info 100 200-300
229-
383.3-185.

CO EUW RTD 502.32 600
RTTUZYUW RHMMSGG8771 2771530-UUUU--RUWMBWA.
ZNR UUUUU
R 0315 11Z OCT 78
FM NAVSHIPYD MARE ISLAND CA
TO RUEDMAA/SPCC MECHANICSBURG PA
INFO RUCITNK/NAVSHIPYD CHARLESTON SC
RUWGSAA/NAVSHIPYD LONG BEACH CA
ZEN/NAVSHIPYD PEARL HARBOR HI
RUEOHUA/NAVSHIPYD PHILADELPHIA PA
RUEDMPA/NAVSHIPYD PORTSMOUTH NH
RUEBLBA/NAVSHIPYD NORFOLK VA
RUWMBWA/NAVSHIPYD PUGET SOUND WA
RULSSAA/COMNAVSEASYSCOM WASHINGTON DC
RUENAAA/CNO WASHINGTON DC
BT
UNCLAS //N05100//
SPCC FOR 5641
NAVSEA FOR 04H, 04F, 0731
CNO FOR 045
ASBESTOS FREE TECHNICAL TALC
A. YOUR 2802 00Z SEP 78 ✓ 6000/Asbestos
B. NAVSEC LTR 6101E/AW 5100 SER 172 OF 12 SEP 78

PAGE 02 RHMMSGG8771 UNCLAS
1. REF A REQUESTED THAT SPCC (5641) BE PROVIDED ANNUAL DEMAND FOR ASBESTOS FREE TECHNICAL TALC AND UNIT PACKAGE DESIRED (5 LB BAG OR 55 LB DRUM) IN ACCORDANCE WITH REF B.
2. BACKGROUND
A. ON 7 JUNE 1978 NAVSHIPYDMARE REPORTED TO NAVSEA (073C) THAT THROUGH MICROSCOPIC EVALUATION, TALC USED IN PRODUCTION FACILITATING PROCESSES APPEARED TO CONTAIN ASBESTOS FIBERS.
B. A HOLD WAS PLACED ON ALL TALC USED IN PRODUCTION FACILITATING PROCESSES.
C. THE INDUSTRIAL LAB AT MARE ISLAND PERFORMED LAB TESTS OF SAMPLES SUBMITTED OF TALC USED ON THE SHIPYARD.
D. ALL IDENTIFIED TALC WHICH CONTAINED ASBESTIFORM MINERALS WAS REMOVED FROM PRODUCTION FACILITATING PROCESSES.
E. FIFTY-EIGHT BAGS (WEIGHING 50 LBS. EACH) OF TALC, CERTIFIED BY THE MANUFACTURER TO BE FREE OF ASBESTI-FORM MINERALS WAS PROCURED FROM PFIZER, INC. OF EMERYVILLE, CALIFORNIA. THE TALC WAS RECEIPT INSPECTION BY THE INDUSTRIAL LAB AT MARE ISLAND AND FOUND TO CONTAIN NO ASBESTI-FORM MINERALS.
F. A LABEL WAS DEVELOPED FOR THIS NON-ASBESTIFORM TALC WHICH STATES: "NOTICE, TALC DOES NOT CONTAIN ASBESTIFORM

PAGE 03 RHMMSGG8771 UNCLAS
MINERALS," AND WAS AFFIXED TO THE 58 BAGS.
3. SUMMARY
A. ON 8 JUNE 1978 MARE ISLAND ORDERED THE 58 BAGS OF NON-ASBESTIFORM TALC FROM PFIZER, INC. AT A COST OF $.70/LB AND IT WAS SHIPPED ON 14 JUNE 1978.
B. THIS SHIPMENT MEETS THE ANNUAL DEMAND FOR ASBESTOS FREE TECHNICAL TALC FOR MARE ISLAND.
BT
#8771

CRMC-LLF-Pfizer-Micro-000091

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

Litoff – Box 101 folder 7 PHOTOCOPY
SOUND NANSHYD CODE 200
RSD CORESP 1978 – 1979

LTC001

DETACH FROM CORRESPONDENCE

ROUTE SHEET
13ND GEN 5216/1 (Rev. 4-65)
SIL. 0192-000-5100

DO NOT DETACH FROM CORRESPONDENCE

ACTION CODE			COPIES FURNISHED	LOCAL FILE NO.
ROUTING CODE/SHOP	INITIALED BY	INITIALED DATE	REMARKS	
3272	DAK	12/11/8	Subj: Logging removal.	
211			1. Total logging removal should not be seriously considered. Many pipe runs are logged but are not modified as they are also inaccessible and relogging will be an unending process.	
			2. If we decided to go for just an annual common sense and as replace accessible lines it would still be a long job. I concur with Dan Eder's 12-[illegible]	
RETURN TO CODE/SHOP			CROSS FILE	

Fold back and use reverse side for additional Office Routine

CRMC-LLF-Pfizer-Micro-000092

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

Litoff — Box 101 folder 7 PUGET SOUND RANGER DIST CODE 200 1978 - 1979

LTC001

estimate, but consider that if we try to do it all.

3. There aren't enough ~~330~~ loggers in the entire state to take on total logging removal on Cavalla while we are handling Enterprise.

330

ROUTING SHEET
JEN 5210/1 (Rev. 4-65)
0107-00004100
ACTION CODE
ROUTING CODE/SHOP
BY
INITIALED
DATE
COPIES FURNISH
DO NOT DETACH

CRMC-LLF-Pfizer-Micro-000093