



INTERNAL CORRESPONDENCE

Lawe

MINING AND METALS DIVISION

4625 ROYAL AVE., P. O. BOX 573, NIAGARA FALLS, NEW YORK 14301

To (Name) Mr. J. V. Murray
Division UCC Law Department
Location 46th Floor
New York, NY

Date April 28, 1975
"Calidria" Asbestos
Originating Dept. — TECHNOLOGY DEPARTMENT

Answering letter date

Copy to R. F. X. Fusaro
J. L. Myers
W. C. Thurber
File

Subject Dow Toxicology Literature

The background information relative to our discussion of the Dow literature of October 16, 1974 is attached as agreed. It includes a formal paper, "Chrysotile Asbestos in Plastics" presented in San Francisco on May 14, 1974 and a script based on the paper Mr. Myers used for his NACE talk in Rochester on October 9, 1974. (The deletions were made for subsequent presentation in Europe and should be ignored). Also included is a brochure "The Safe Use of "Calidria" RG-244, February 1973." This was distributed to customers for a period following the date and we know that Dow had a copy of it.

Mr. Myers states that he does not follow the prepared text verbatim in his presentations of the toxicology subject matter but is always very careful to stating positive conclusions where discussing controversial medical data. He does not touch upon the "nuisance dust" analogy in the second paragraph of the Dow literature. Possibly they extrapolate this from our February 1973 brochure but no such analogy is implied.

H. B. Rhodes

H. B. Rhodes

Enc.
/ds



CHRYSTILE ASBESTOS IN PLASTICS

John L. Myers

"CALIDRIA" ASBESTOS

UNION CARBIDE CORPORATION
MINING AND METALS DIVISION
NIAGARA FALLS, NEW YORK

Presented on May 14, 1974 at the 32nd Annual Technical Conference of the
Society of Plastics Engineers in San Francisco.

INTRODUCTION

Asbestos has received a great deal of attention and publicity in recent years, especially after it was designated a "target health hazard" by OSHA and a "hazardous air pollutant" by the EPA. Many of the articles on asbestos by the press have been emotionally oriented or distorted and in some cases stories have been sensationalized, based on obvious misinterpretation of facts. The use of half-truths or unsubstantiated statements has led to general confusion and the unfair castigation of asbestos and products containing asbestos. The purpose of this paper is to put the matter of asbestos use and asbestos hazards in a logical and practical perspective. In this paper the different types of asbestos and their many uses are discussed along with government regulations controlling the use of asbestos. The health hazards associated with asbestos, both occupational and environmental, and some industrial experience with air sampling and dust control measures are also covered.

WHAT IS ASBESTOS?

Asbestos is a commercial or generic term used to describe six naturally-occurring "asbestiform" minerals that are fibrous, hydrated metal silicates. The six varieties are divided into two classes, serpentine and amphibole, based on their crystal structure. Chrysotile is the only member of the serpentine class while the amphiboles include crocidolite, amosite, anthophyllite, tremolite and actinolite. Chrysotile is by far the most used variety and accounts for over 95% of U.S. consumption, as noted in Table I.

Crocidolite, also known as blue asbestos, is imported from South Africa. Because of its high mechanical strength and good resistance to acids and alkalis, it is used to reinforce a limited variety of plastics where its pronounced color is not objectionable. Amosite, also imported from South Africa, is used primarily in thermal insulation. Although there are some deposits of anthophyllite in the U.S., most of it is imported from Finland. It is used primarily as a filler for polypropylene and in insulating materials. A comparison of the four varieties of asbestos which are of commercial importance is presented in Table II. It should be noted that there are significant differences between chrysotile and the amphiboles with regard to chemical composition and certain physical properties.

WHERE IS ASBESTOS USED AND WHY?

Asbestos has served mankind for over 100 years in a broad variety of applications. The general areas in which asbestos is used in the United States are shown in Table III. Based on information from asbestos producers and consumption surveys, it is estimated that the plastics industry uses about 1/3 of the 800,000 tons consumed annually, which makes it the largest single user of asbestos fiber.

The largest uses of asbestos by the plastics industry are in vinyl/asbestos floor tile and in phenolic molding compounds. It is also used in other plastics such as polypropylene, polyester, nylon, melamine, epoxy, silicones and vinyls. Asbestos provides

According to the 33-member Advisory Committee on Asbestos Cancers of the International Agency for Research on Cancer (a division of the World Health Organization):

"There is evidence of an association of mesothelial tumours with air pollution in the neighbourhood of crocidolite mines and of factories using mixtures of asbestos fibre types. The evidence relates to conditions many years ago. There is evidence of no excess risk of mesotheliomas from asbestos air pollution which has existed in the neighbourhood of chrysotile and amosite mines. There are reported differences on incidence of mesothelioma between urban and rural areas, the causes of which have not been established. There is no evidence of a risk to the general public at present." (5)

The same body quoted above has also concluded that there is at present no evidence of lung damage by asbestos to the general public; and such evidence as there is does not indicate any risk of cancer resulting from asbestos fibers present in water, beverages, food or in the fluids used for the administration of drugs.

While there seems to be general agreement that the public is not in any present danger from asbestos, it is also recognized that excessive, long-term occupational exposure can cause serious health problems. Also, if man-made emissions are not controlled, then environmental contamination could approach harmful levels. During the past two years, significant legislation has been enacted by the Federal Government to reduce and control occupational exposure to asbestos fibers and to minimize fiber emissions to the environment. Additional standards or regulations have been proposed or enacted by many state and local governments.

SUMMARY OF OSHA REGULATIONS

The Williams-Steiger Occupational Safety and Health Act of 1970 became effective on April 28, 1971, with the following Congressional purpose: "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources." The Act established the Occupational Safety and Health Administration (OSHA) within the Department of Labor, which has responsibility for administration and enforcement. Research and related functions are handled by the Department of Health, Education and Welfare (HEW) through the National Institute of Occupational Safety and Health (NIOSH). Five million employers and 60 million of the nation's 80 million workers are covered by OSHA. Specifically excluded from coverage are government employees and operations which are protected under other Federal health and safety laws. In a news release issued January 4, 1972, OSHA announced a Target Health Hazards Program aimed at improving health factors associated with working conditions. The following five substances were designated to be the focus of initial and concerted efforts by OSHA and NIOSH: Asbestos, Cotton Dust, Silica, Lead and Carbon Monoxide.

At the present time new standards have been established only for asbestos; although, of the 8,000 toxic substances on the

exposed. On March 31, 1971, asbestos, along with beryllium and mercury, was identified as a "hazardous air pollutant" by the Administrator of the EPA. National Emission Standards for asbestos were then published by the EPA in the Federal Register, Vol. 38, No. 66 - Friday, April 6, 1973. Although no numerical emission standards were established, operating criteria are prescribed to prevent or limit asbestos emissions to the outside air from asbestos mills, roadways, certain manufacturing operations, building demolition, and the spray-on application of materials used to insulate or fireproof equipment and machinery. The law further requires that spray-on materials used to insulate or fireproof buildings, structures, pipes, and conduits shall contain less than 1% asbestos on a dry weight basis. This should significantly reduce emissions to which the general public may be exposed, especially in large urban areas.

"...the Administrator (of the EPA) has determined that, in order to provide an ample margin of safety to protect the public health from asbestos, it is necessary to control emissions from major man-made sources of asbestos emissions into the atmosphere, but that it is not necessary to prohibit all emissions.

In this determination, the Administrator has relied on the National Academy of Sciences' report on asbestos, which concludes: 'Asbestos is too important in our technology and economy for its essential use to be stopped. But, because of the known serious effects of uncontrolled inhalation of asbestos minerals in industry and uncertainty as to the shape and character of the dose-response curve in man, it would be highly imprudent to permit additional contamination of the public environment with asbestos. Continued use at minimal risk to the public requires that the major sources of man-made asbestos emission into the atmosphere be defined and controlled.'" (7)

WHAT IS INDUSTRY DOING?

The Asbestos Information Association/North America reports that, during the past 30 years, the asbestos industry has spent millions of dollars to improve mining, milling, and manufacturing methods (8). The establishment of safer working conditions has been a prime target and this work continues unabated and in close association with government agencies and independent medical researchers (9). The ultimate goals of the asbestos industry are:

- Reduction of work-area dust to minimum levels.
- Protection of workers from asbestos-related diseases.
- Maintenance of environmental emissions at levels low enough to preclude public endangerment.

AIR SAMPLING

In order to comply with OSHA Standards and to determine the need for dust control measures, air monitoring should be conducted in areas where asbestos is regularly handled or used. OSHA Standards require that "all determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450X (magnification) (4 millimeter objective) with phase contrast illumination." (10) The equipment for collecting air samples costs less than \$400 and is readily available. A phase

this product serves a fair portion of the asbestos market. Pellets not only reduce dust during conventional handling but they are also available in bulk hopper cars and can be transferred and used in totally enclosed systems. Barring leaks in the system, dust in work areas is virtually eliminated. Used in bulk, asbestos pellets also reduce shipping costs, eliminate warehouse storage and handling, facilitate automation, reduce clean-up, and eliminate bag handling and disposal. The pellets contain no binder and are friable enough to be dispersed in dry form or in aqueous or resinous systems with conventional high-shear grinding equipment (13).

Several types of special packaging are currently available and suppliers consider customer requests for unusual requirements. The floor tile industry can obtain asbestos in plastic bags which can be added directly to the compounding operation. Asbestos in bleached paper bags assembled with water-soluble glue and printed with water-dispersible ink can be added directly to paper-making furnishes or acoustical ceiling tile formulations. Water-proof bags are available to permit slurrying of the asbestos in the bag. Wider use of shrink-filming is being offered to reduce dust during bag handling, transportation and storage.

Although "wetted" asbestos is not generally available, most suppliers are working with customers to provide "dustless" products. When justified by market demand, asbestos can be treated with water, mineral spirits, glycol or other materials compatible with the application or system.

CONCLUSION

Asbestos is one of industry's many raw materials which involves a potential hazard when not used with reasonable respect and care. Although all forms of asbestos are recognized as hazardous to health when inhaled excessively, there is growing evidence that crocidolite and amosite are more hazardous than chrysotile. Fortunately the plastics industry uses primarily chrysotile asbestos and in most products the fibers are locked-in to prevent airborne contamination. Although asbestos dust levels are generally lower than expected, industry continues to expend large amounts of time and money to further improve the quality of the workplace. Although the general public is not currently in danger, occupational controls are required to prevent future environmental contamination.

Chrysotile asbestos is an important and necessary raw material, vital to the nation's safety and economy; and, with proper control, it can be used safely and in compliance with government regulations. Medical, scientific, government, and industrial personnel must continue to work closely together to establish reasonable exposure limits, provide safe work areas, and eliminate any possibility of public endangerment.



INTERNAL CORRESPONDENCE

~~PLANT AND~~ METALS DIVISION

4825 ROYAL AVE., P.O. BOX 573, PLACER PARKS, NEW YORK

To (Name) Mr. W. C. Thurber
Division Metals Division
Location 38th Floor - 270 Park Avenue
New York, N. Y. 10017

Date May 12, 1975

Originating Dept. - TECHNOLOGY DEPARTMENT

Answering letter date

Copy to Messrs. R. L. Folkman
R. E. X. Fusaro
F. H. Larrison
J. L. Myers
J. J. Welsh

Subject Roderman et al. v. Union
Carbide Corporation et al.

Attached are answers to questions 5 and 8, providing background information in the form of supplemental interrogatories.

Question 8 is specific for "trade" and "product" periodicals. Unfortunately I can only speak for this location and not for the Corporation. To list all journals pertinent to asbestos would be almost all published.

Question 5 is ambiguous, and I answered it the best I could without knowing exactly what the question really was. In the answer to Question 5 I also included the answer to one of Fusaro's throwaways at the end of his letter, i.e. the mill went on stream in October 1963 and up to then we didn't have "products".

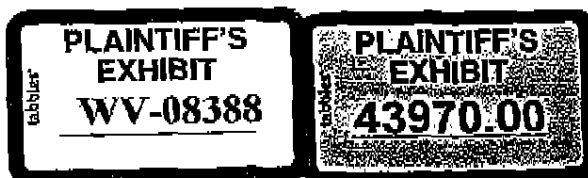
Jim Bright first examined asbestos claims in 1957, and we acquired our claims by the end of 1959. We began process development work in 1959. Product development came later, probably late 1959. The attached history should be of interest to the lawyers.

I can't understand how we are involved in this. The incubation period, or whatever they call the time between exposure and cancerous disease, for mesothelioma is 20 to 40 years. Anyone conking out now couldn't relate to us because we didn't ship product until late 1963 or early 1964, and our lawyers should have a cakewalk with the time element.

If you need my credentials for questions 1, 2, and 3 let me know or just bring my biography in American Men of Science up to date.

RJK:MM
Attach.

R. J. Klotzbach
R. J. Klotzbach



RECEIVED
MAY 13 1975

To: W. C. Thurber
From: R. J. Klotzbach
Date: May 12, 1975.

Roderman et al. v Union
Carbide Corporation et al.

Question 5

The question specifically asks whether we have or have ever had a "research and product control department". The answer is "no", specifically for the single department mentioned, and it is unlikely that any industrial organization has such a singularly-named department.

We have a Technology Department, existing in its present form since 1970, combining departments, most of which have been in continuous existence since 1955 at various locations. The oldest group, the metallurgical group, has been in continuous existence since 1917. None of the combined departments handled asbestos "products" prior to October 1963 when the King City Mill went on stream, or handled ores prior to 1959.

The Technology Department performs research, development, and engineering functions with the following functional groups:

1. Mineral Science
2. Process Development
3. Product Development
4. Process Engineering
5. Project Engineering
6. Analytical Laboratory
7. Metal Properties Laboratory
8. Quality Assurance
9. Administration

The present director of the department is Robert J. Klotzbach. The department provides business relevant mineral research, process and engineering development, product development, preliminary engineering and estimates, design and process engineering, project and construction engineering, plant technical assistance, technical sales assistance, new product uses, morphological and metallographic analyses and analytical services, and quality assurance for new and existing mineral deposits and manufactured chemical and metallurgical commodities won from these ores and related chemical and special metallurgical products. It supplies processes, facilities, products, technical services, capital forecasting and technical problem-solving to the Operating, Marketing, Exploration, and Mining departments.

Quality assurance is the regulatory process through which we measure actual product quality performance, by comparing it with standards and acting on the difference. At this time it consists of a manager, acting alone, who coordinates activities of seven people reporting at the plant and sales level. Quality assurance has been a continuous function since 1965. Quality assurance applies to all of our manufacturing and milling facilities.

To: W. C. Thurber
From: R. J. Klotzbach
Date: May 12, 1975

Roderman et al. v. Union
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Question 5 (continued)

A function of the engineering group is to provide a safe working environment, and design and construct process and plant facilities that equal or exceed Corporation and OSHA safety standards and exceed mining industry standards and comply with national, state, and local environmental quality standards.

A separate safety divisional department works outside the technical department and relates primarily to in-house safety.

To: W. C. Thurber
From: R. J. Klotzbach
Date: May 12, 1975

Roderman et al. v Union
Carbide Corporation et al.

Question 8

We have in the library at Niagara subscriptions to two product research and trade association periodicals which we have received since 1967:

ASBESTOS BULLETIN
Bimonthly
Science, Technology and Applications of Asbestos-
based Materials
Printed in England
ASBESTOS
Monthly
Willow Grove, Pa.

However, asbestos is an industrial mineral, and used in drilling muds, construction, water purification, etc., and constant reference is made to it in mining journals, chemical abstracts, engineering index, construction journals, oil and gas journals, sanitary journals, etc., ad infinitum. We subscribe to a host of these journals, abstracts, and indices, and have *done so continuously since the Corporation was formed in 1917* at all of our locations. In addition the Medical and Toxicology library located in New York City contains discipline-related journals from 1930 through 1975.

We have been aware of the hazardous potentials of asbestos consistent with the state of medical and toxicological knowledge at any particular time and are also aware of the degree of uncertainty, even at the present time, in defining what constitutes a biological hazard.

LEGAL DIVISION

100 JAYAL AVE. P. O. BOX 579, NIAGARA FALLS, NEW YORK 14302

Mr. W. C. Thurber
Metals Division
New York, NY

Date May 30, 1975
Subject "Calidria" Asbestos
Origin - TECHNOLOGY DEPARTMENT

Approved: After note

Messrs. R. E. Byrne
J. L. Myers
File

Subject OSHA Regulations - Asbestos
Use Warnings

This is in response to your request for comments on Marjorie Chamberlain's memorandum of May 5, 1975 on the above noted Subject. The suggestions made by the Law Department undoubtedly maximize protection against possible future product liability suits. On the other hand, cancer is a very emotional word and there is a strong possibility that people will react to it far beyond the real danger involved. This is particularly true when it appears on a label where the actual extent of the risk is not explained.

We cannot predict with certainty what effect the use of the proposed label will have on our business, but the general feeling here is that it is likely to vary somewhere between serious and fatal. RG-244 sales and the future of RG-600, where we have technical and economic advantages but also where substitutes are readily available, appear to be particularly vulnerable.

In view of this it is strongly recommended that the whole picture of business risks, medical risks and the potential liability risks be reviewed in detail and balanced against each other before we pioneer a new concept in asbestos warning labels.

In reality, the memorandum in question focuses on a problem that has been a major concern for the past several years; i.e., what is Union Carbide's basic position on the asbestos and health issue. In lieu of any specific definition of our own, we have been relying on the AIA/NA information which, as I understand it, can be summarized as follows:

1. The 2 fibers/cc limit is safe for chrysotile.
2. Increased incidence of lung cancer require both asbestos exposures sufficient to cause asbestosis and smoking. The effects of these two are synergistic, however.
3. Mesothelioma has only been clearly associated with crocidolite inhalation. There is a real doubt that it can be caused by inhalation of chrysotile fiber.

PLAINTIFF'S
EXHIBIT
WV-08390

PLAINTIFF'S
EXHIBIT
43972-00

A20883

The toxicological picture was outlined orally in general terms to Mr. Stephenson at an Asbestos Review Meeting in early 1974 and he found it acceptable. He also made it clear that Union Carbide Corporation should not be in a business that caused undue risks to people. It was also stressed that if any new medical information became available that would change the picture, we should review our position promptly.

I know of no new medical evidence to change this basic view. The Borel Case, however, seems to have altered the concurrent legal situations. The recommendations in the Chamberlain memorandum place the people in the asbestos business in the ambivalent position of being charged with the responsibility of maximizing the use of asbestos (in applications where it can be used in compliance with OSHA regulations) and simultaneously being obligated to inform the potential customer that he should really use something else because asbestos "can cause cancer."

Actually this problem is not unique to asbestos even within Union Carbide. Vinyl chloride is in a very similar situation and styrene, vinyl toluene, and phenol appear to be close behind. In fact, it is my understanding that almost any organic chemical based on the aromatic ring can be considered as a suspected cancer-causing agent. It is suggested that we need to look to broad corporate policy in the area of marketing of potentially hazardous materials for guidance in our particular problem.

In this connection it is relevant to mention that the Union Carbide Corporation vinyl latex marketing group has met their problem by reducing the VC monomer content in the latex to a level where there is little chance for the user's exposure to exceed the OSHA action level. They are not labeling. A competitor also lowered the monomer content to a comparable level but a corporate decision was made that they would also label to be on the safe side. The net result of this was a large "label removing ceremony" with pictures and union representatives participating at the customer's (PPG) plant.

Returning to the immediate question of the assessment of the various risks, Union Carbide does not appear to have "in-house" the specialized medical expertise on asbestos to judge the merits of the minority position on asbestos hazards as expounded by the Mt. Sinai group. It is to be expected, however, that all of the latest research results will be argued in great detail in the next few months during the hearings on the proposed amendments to the OSHA asbestos regulations. It is strongly recommended that we do not take any unilateral action until we have the benefit of this information and the decision of the U.S. Government on what they consider to be a safe level. If appropriate, an outside consultant such as Dr. Wright or Dr. Weill might be used at that time for a final review of our position.

We have been in the asbestos business about ten years, are complying with the OSHA regulations and urging our users to do so, and are looking at the possibility of medical problems which take 15-30 years to develop. A period of 3-6 months to study the very complex medical, legal and ethical problems in sufficient depth to reach a proper decision does not seem unreasonable. It is also possible that the labeling question will be taken out of our hands in this time period and be covered by government mandate for the entire asbestos industry. This may occur in the revised OSHA regulations or as a result of two current government studies on the labeling of hazardous materials.

A20884

To conclude these general comments, I would like to express two personal opinions which I am sure represent the attitude of the Asbestos Group at Niagara Falls:

1. If there is really an appreciable chance that the use of our product will result in serious injury to a substantial number of people we should not be supplying it for that end use.
2. If it should turn out that exposure to low levels of asbestos does cause serious injury to a substantial number of people, the courts will find a way to assign liability to the producer regardless of the type of warning labels and information dissemination that they may have used.

The first and most basic thing we need is our best assessment of the medical risk and our best judgment on the reliability of the assessment. When this is available, the legal and business problems can be examined in perspective and an objective decision made on the proper course of action.

The foregoing ideas have been used to prepare the attached commentary on Miss Chamberlain's letter. The comments are not intended to imply an adversary position with our Law Department at a time when communication and cooperation are urgently needed. It is my impression, however, that she was working without benefit of much information on the asbestos health controversy or on the nature of our business. One item not covered is our potential obligation to provide warning labels in the language of the countries to which we ship.

We must be sure that the conclusions drawn accurately represent our situation, so I suggest that we have a meeting with the Law Department soon after the new OSHA regulations are published.

H. B. Rhodes

H. B. Rhodes

Attachment
/ds

420885

The commentary on the letter has been done in two parts; one covers the letter itself and the other presents specific remarks on the five recommendations. The memorandum opens with a discussion of §402A liability as it applies to a "defective" product. We are not selling a "defective" product so it is not clear how this is relevant to our problem. The real heart of the matter would seem to lie with comments k and l, i.e., "recognition has been given to those products which are inherently dangerous, incapable of being made safe, and yet their utility to the consumer market counter-balances the risk."

There are two portions of this statement which deserve careful examination, 1) "incapable of being made safe," and 2) "consumer market." If "consumer market" means the general public, that is the type of end use now being studied by the CPSC and the FTC. Very little of our product reaches this market without being materially altered in ways to reduce the potential to produce airborne dust. If "consumer market" means industrial users the situation is obviously different. We need an interpretation of this relative to where our warnings should go.

The phrase "incapable of being made safe" also presents an interesting consideration. Dry, open, asbestos fiber has a definite tendency to become airborne when handled. We have a great deal of data that shows that our asbestos can be handled in a way that the airborne fiber levels are below the OSHA limits. The potential is constantly present, however, that the material can be mishandled to exceed these levels by a substantial amount.

It is technically feasible to treat our opened products to greatly reduce or eliminate their potential to cause airborne dust under normal handling situations (except abrasion when held by certain binders). One of our competitors, Johns-Manville, has already done this with a product used in the drilling industry and the patent literature contains a substantial amount of information on other applications. It would seem to me that treating our products to make them virtually dustless would be an outstanding defense under general liability. On the other hand, failure to do so, particularly in areas where others have, might leave us wide open to charges of defective product; i.e., one which could be rendered safe but was not, regardless of the extent of our warnings. Commentary on this by counsel is suggested.

The next section of the letter where a question occurs is in the discussion of compliance with OSHA regulations as a defense against strict liability. A number of cases "brought by a private citizen" are cited and the statement is made that "Section 16 of the OSHA regulations provides that states may assume jurisdiction where OSHA does not apply." This leads to the critical conclusion that we must do considerably more than comply with OSHA to avoid responsibility under strict liability.

The mention of "private citizen" and "where OSHA does not apply" leads to the following areas that need clarification:

1. Do the cases cited cover the situation where the exposure causing the alleged injury took place only in the industrial situation and where the appropriate state or federal regulations were complied with?

A20888

2. Our products used in the United States will usually pass through an industrial handling that will be regulated by the Federal OSHA standards or by a state enforced standard that is at least as stringent as the Federal. We would not appear to be involved here with a situation here where the state is "assuming jurisdiction where OSHA does not apply." Is it correct that under these circumstances we can be sued for an occupational injury that occurs even though the employer complies with all applicable regulations?
3. Are we making a clear-cut distinction in our planning between an injury that occurs in an occupational setting and one which occurs to a private citizen who purchases a product containing our asbestos?

In essence, the thing that bothers me here is the situation where the Federal Government held extensive hearings, consulted a wide variety of experts, allowed cross-examination of witnesses, and, after evaluation of the input, promulgated a regulation that was required by law to protect the health and safety of the workers. The procedure used to arrive at the regulation was subsequently upheld in court. Is it really true that the company manufacturing asbestos must have superior wisdom and go beyond these regulations to protect itself against liability arising from occupational use of asbestos within the scope of the regulations?

The last general comment concerns the section that discusses "adequate warning" and concludes that the OSHA warning is obviously inadequate. The OSHA warning starts with the words "Caution" in capital letters on a single line. It is followed by the key statement:

"... breathing asbestos dust may cause serious bodily harm..."

In contrast the Borel label does not use any direct warning word, does not say that the effects may be serious and adds the qualifications of "excessive quantities" and "long periods of time." Thus:

"Inhalation of asbestos in excessive quantities over long periods of time may be harmful."

The OSHA wording is admittedly much less alarming than "can cause permanent lung damage such as asbestosis, mesothelioma or other cancers," but I submit that it is considerably stronger than the Borel label and it is by no means obvious that it is inadequate.

Comments on the specific recommendations are as follows:

1. There is no question that Union Carbide Corporation should continue to use the OSHA label.
2. The question of the second label has been discussed adequately elsewhere.
3. Regarding a literature file that includes both positive and negative articles, I feel that this is an ineffective way to handle the situation.

A20887

- a. The positive articles are used to counter the massive negative publicity that appears in the press. The customer already has the other side.
- b. Any customer who has the competence to read and evaluate the serious literature in the field already has access to it.
- c. Unless we put together a specified balanced package and insist that the field representatives use it, the negative information will stay in the files.

It is suggested that literature like "Asbestos and Health" and consensus articles like the "WHO Summary" and the "NAS Report" are adequate and appropriate to do the job. A more complex approach would be a summary like "Asbestos and Health" edited to mention the adversary position. This would have to be blessed by some recognized medical authority like Dr. Wright.

4. Regarding the MSDS, I agree that there are certain statements that can be misleading and should be changed. The same comments made previously regarding the wording of the revised warning apply here.
5. Regarding our obligations to make a reasonable effort to "acquaint anyone who comes into direct contact with asbestos with the hazards," some definition is needed. This should certainly be limited to those whose contact is above the action level. The OSHA regulations proposed recently contain an employee information requirement. This may help take care of the problem for all users who handle fiber.

6/2/75
ds

A20888



Calidria ASBESTOS

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N. Y. 14302 • TEL: 716-278-3376

July 22, 1975

Mr. Craig Ellsworth
Gold Bond Building Products
Division of National Gypsum Company
325 Delaware Avenue
Buffalo, NY 14202

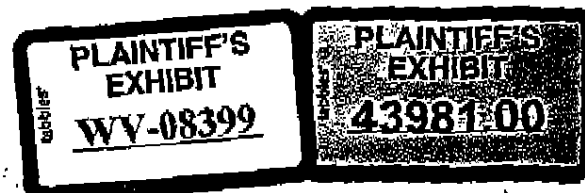
Dear Mr. Ellsworth:

To confirm our various discussions, we shall sell to you, and you shall purchase "Calidria" asbestos SG-210 (hereinafter referred to as "material") under the Terms and Conditions contained in Exhibit A attached hereto and under the following provisions:

1. Delivery of a minimum of 1200 tons of material shall be made to you during the term of this agreement in approximately equal monthly installments. We will use our best efforts to supply additional material from time to time if requested by you.

2. The term of this agreement shall commence on September 1, 1975 and shall terminate on December 31, 1976 and shall be renewable annually thereafter by mutual agreement.

3. We will have the right to increase or decrease the prices set forth herein by giving you written notice thereof. Said increase or decrease shall be effective as to all deliveries made on and after the date specified in the written notice; provided, however, that in the case of an increase: the effective date shall not be less than thirty (30) days after said notice; and if you, within fifteen (15) days after said notice, furnish us evidence that you can purchase asbestos from a responsible seller of the same quality, under similar conditions and at a lower delivered price, and if, with fifteen (15) days thereafter we do not agree to meet said lower price, you will have the right within ten (10) days thereafter to terminate this agreement by giving us not less than ten (10) days' prior written notice.



July 22, 1975

This offer shall terminate within 15 days after the date hereof if we have not received the duplicate copy of this letter signed by you indicating your agreement and acceptance.

Very truly yours,

UNION CARBIDE CORPORATION

By _____

Title Marketing Manager

Date _____

Agreed to and Accepted:

GOLD BOND BUILDING PRODUCTS

By _____

Title _____

Date _____

J.L.Myers:cjb
Attachment

EXHIBIT A

TERMS AND CONDITIONS

1. In addition to the purchase price, Buyer shall pay Seller the amount of all governmental taxes, excises and/or other charges (except taxes on or measured by net income) that Seller may be required to pay with respect to the production, sale or transportation of material delivered hereunder, except where the law otherwise provides.

2. Seller warrants that at the time of delivery the material will be of the Seller's standard specifications for the type and grade of the material described herein (unless otherwise specified herein) and will conform to the description thereof on the face of this document. THERE ARE NO EXPRESS WARRANTIES BY SELLER OTHER THAN THOSE SPECIFIED IN THIS PARAGRAPH 2. NO WARRANTIES BY SELLER OTHER THAN A WARRANTY OF TITLE AS PROVIDED BY THE UNIFORM COMMERCIAL CODE SHALL BE IMPLIED OR OTHERWISE CREATED UNDER THE UNIFORM COMMERCIAL CODE, INCLUDING BUT NOT LIMITED TO A WARRANTY OF MERCHANTABILITY AND A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

3. Buyer's receipt of material delivered hereunder shall be an unqualified acceptance of, and a waiver by Buyer of any and all claims (including, but not limited to, claims arising under the express warranties specified in Paragraph 2) with respect to such material unless Buyer gives Seller written notice of claim within thirty (30) days after such receipt; the damages available in such instance shall be limited to that provided in Paragraph 4.

4. Buyer assumes all risks and liability for use of the material; has full knowledge of all hazards to persons and property involved in handling and using the material; and warrants that employees, independent contractors, and others who handle and use the material for Buyer have been advised of all hazards to persons and property involved in handling and using the material. Buyer hereby assumes and agrees to hold Seller harmless from all liability resulting from the use of the material, whether or not such is in combination with other articles or substances or is used in any manufacturing process. No claim against Seller of any kind, whether as to the material delivered or for nondelivery, and whether or not based on negligence or warranty, shall be greater in amount than the purchase price of the material with respect to which such claim is made. In no event shall Seller be liable to Buyer for any special, indirect or consequential damages, whether or not caused by or resulting from the negligence of, or breach of warranty by, Seller hereunder.

5. In the event Buyer fails to fulfill Seller's terms of payment for the material or in case Seller shall have any doubt at any time as to Buyer's financial responsibility, Seller may decline to make further deliveries of material except upon receipt of cash or satisfactory security.

continued.....

**UNION
CARBIDE**

INTERNAL CORRESPONDENCE

RECEIVED

JUL 18 1975

MINING AND METALS DIVISION

P. O. BOX 579, NIAGARA FALLS, NEW YORK 14302

To (Name) Mr. W. C. Thurber
Division UCC Metals
Location 38th Floor
270 Park Avenue
New York, NY 10017

Date July 16, 1975

Originating Dept. "Calidria" Asbestos

Answering letter date

Copy to Messrs. R. E. Byrne, Jr.
J. L. Myers
R. L. Schult
File

Subject Metals Division - Terms and
Conditions of Order Acknowl-
edgement Form Used in the
Sale of Asbestos.

This is in response to your request for comments on Mr. Zupa's letter of July 2, 1975. Under Article 4 of the proposed "Terms and Conditions," we require that in return for the privilege of being allowed to purchase our material, the buyer:

1. Assumes all risks and liability for the use of the material.
2. Warrants to us that he has full knowledge of the hazards and has educated all who may come in contact with the material about such hazards.
3. Gives us a hold-harmless from all liability resulting from the use of the material.

The problem with this approach is that it puts total emphasis on building a defense against possible future product liability suits and completely ignores the realities of the marketplace. It may be possible to slip this sort of thing by on a certain percentage of customers who do not read their order acknowledgements. Some of the traditional large asbestos users would also be forced to accept it until the Canadian strike is over. It is extremely doubtful, however, that companies like Marco, Chrysler, Interplastics, Reichhold or any of our large RG-244 users with knowledgeable legal staffs and reasonable alternatives to asbestos would even talk about it.

This proposal, and the recent recommendations for labeling from the Law Department, emphasize the need for a UCC policy on the myriad of products they sell which can be hazardous under certain conditions. We need to strike a reasonable balance between the legal and business risks.

H. B. Rhodes

H. B. Rhodes

HBR:cjb

EXHIBIT A

TERMS AND CONDITIONS

1. In addition to the purchase price, Buyer shall pay Seller the amount of all governmental taxes, excises and/or other charges (except taxes or measured by net income) that Seller may be required to pay with respect to the production, sale or transportation of material delivered hereunder, except where the law otherwise provides.

2. Seller warrants that at the time of delivery the material will be of the Seller's standard specifications for the type and grade of the material described herein (unless otherwise specified herein) and will conform to the description thereof on the face of this document. THERE ARE NO EXPRESS WARRANTIES BY SELLER OTHER THAN THOSE SPECIFIED IN THIS PARAGRAPH 2. NO WARRANTIES BY SELLER OTHER THAN A WARRANTY OF TITLE AS PROVIDED BY THE UNIFORM COMMERCIAL CODE SHALL BE IMPLIED OR OTHERWISE CREATED UNDER THE UNIFORM COMMERCIAL CODE, INCLUDING BUT NOT LIMITED TO A WARRANTY OF MERCHANTABILITY AND A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

3. Buyer's receipt of material delivered hereunder shall be an unqualified acceptance of, and a waiver by Buyer of any and all claims (including, but not limited to, claims arising under the express warranties specified in Paragraph 2) with respect to such material unless Buyer gives Seller written notice of claim within thirty (30) days after such receipt; the damages available in such instance shall be limited to that provided in Paragraph 4.

4. Buyer assumes all risks and liability for use of the material; has full knowledge of all hazards to persons and property involved in handling and using the material; and warrants that employees, independent contractors, and others who handle and use the material for Buyer have been advised of all hazards to persons and property involved in handling and using the material. Buyer hereby assumes and agrees to hold Seller harmless from all liability resulting from the use of the material, whether or not such is in combination with other articles or substances or is used in any manufacturing process. No claim against Seller of any kind, whether as to the material delivered or for nondelivery, and whether or not based on negligence or warranty, shall be greater in amount than the purchase price of the material with respect to which such claim is made. In no event shall Seller be liable to Buyer for any special, indirect or consequential damages, whether or not caused by or resulting from the negligence of, or breach of warranty by, Seller hereunder.

5. In the event Buyer fails to fulfill Seller's terms of payment for the material or in case Seller shall have any doubt at any time as to Buyer's financial responsibility, Seller may decline to make further deliveries of material except upon receipt of cash or satisfactory security.

continued.....



INTERNAL CORRESPONDENCE

MINING AND METALS DIVISION

P. O. BOX 579, NIAGARA FALLS, NEW YORK 14302

Name: Mr. W. C. Thurber
Division: UCC Metals Division
Address: 38th Floor
270 Park Avenue
New York, NY 10017

Copy to: Messrs. R. E. Byrne, Jr.
R. F. X. Fusaro
B. L. Ingalls
J. V. Murray
J. L. Myers
R. L. Schult

Date: July 24, 1975
Originating Dept.: "Calidria" Asbestos
Answering letter date:

Subject: Dust Controlled "Calidria"
Products

File

This is in response to your letter of May 20, 1975, requesting a delineation of the advantages of a dustless Super Visbestos product. Since the potential for dustless asbestos applies across much of our product line, the question will be discussed in general terms with Super Visbestos treated as a special case where appropriate.

Several of the most important advantages to be described depend on the interpretation of the law and of the federal regulations. Comments from counsel on the correctness of our understanding of the points of law are requested. If we are correct, the main advantages of dustless products can be summarized as follows:

1. The health risk to users of our product is not well defined and will not be defined in the foreseeable future. Whatever this risk may be, it will be very substantially reduced with dustless products.
2. Provides a strong defense against future product liability suits.
3. Provides a strong psychological counter to militant union activities against handling asbestos.
4. Provides a good defensible position that the OSHA monitoring and medical examinations do not apply. This position becomes very solid if the "action level" concept is incorporated in the revised regulations.
5. Provides a good defensible position that EPA source registration is not needed and bag disposal requirements are being met.
6. Reduces our shipping costs and largely eliminates the in-transit spout leakage problems which have been much improved by shrink-film but are still present.

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EXHIBIT
43982.00

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Before describing the reasoning for these advantages, it is necessary to define the vague term, "dustless." For purposes of this discussion, a dustless product is one which, under reasonably anticipated handling conditions while in the raw state, does not release airborne fibers at concentration levels which can be distinguished from background by analytical procedures prescribed in the OSHA regulations. These specific limitations are necessary because our data on spraying and sanding of materials containing wetted and/or bound asbestos indicated that airborne fiber levels that are very low but still distinguishable from background can be obtained from any asbestos-containing material if sufficient mechanical energy is applied.

One further point should be made in considering the "dustless" condition. It is possible to treat asbestos with water and render it dustless as long as a substantial proportion of the water remains. Spills and damaged packages, however, would dry out in a fairly short period and become about like unwetted asbestos. It is also possible to use higher molecular weight, relatively nonvolatile wetting material that would retain dust suppression activity for extended periods. This distinction can be important when looking at the interactions with the OSHA regulations.

The most fundamental question in assessing the need for a dustless asbestos is the possible health hazard to the users of our product. Dry, opened asbestos has a potential to become airborne in substantial quantities every time it is handled or disturbed. Although most of the fiber counts we have made are at or below the allowable limits, they do demonstrate that it takes only a little carelessness to exceed the ceiling limits by substantial margins for short-time periods. This is particularly true for random accidents that occur and are not picked up by the dust counts.

If the potential to become airborne were removed, it would largely remove the chance for the accidental high exposure and would also reduce the average occupational exposure level to our product by an order of magnitude or more. If the 1976 OSHA levels do in fact contain a good margin of safety, are generally being observed by industry, and random short excursions at high concentrations are not a significant factor, the health hazard problem is under control. If we are not quite confident that this is the case, however, the incentive for a dustless product becomes strong.

The other important aspect of health risk concerns general liability. In a recent memorandum, April 30, 1975, Ms. Marjorie Chamberlain discussed the doctrine of general liability and the Borel asbestos case. To quote a key point:

"recognition has been given to those products which are inherently dangerous, incapable of being made safe, and yet their utility to the consumer market counter balances the risk."

The phrase, "incapable of being made safe," raises several interesting questions. There is considerable literature in existence right now about treating asbestos to control dust. The main competitive product to Super Visbestos has been water wetted to make it dustless. If the medical experts prove to be wrong and the two fiber limit does result in serious injury to a substantial

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number of workers, wouldn't we be extremely vulnerable to the contention that the product was "capable of being made safe" and we chose not to do it? From the positive side, if we do make our products dustless, it would set us apart from most of the other asbestos products and give a strong argument to get out of the typical class action suits.

The last medically related problem to consider is militant union pressure against handling asbestos. This is an emotional issue and is hard to combat when it is obvious to the worker that he is breathing asbestos dust and has it all over his clothes. An asbestos product that does not dust, comes clean from the container, and does not whiten the workers' clothes should have a very strong psychological effect to counter this growing problem.

The interaction of a dustless product with the OSHA regulations obviously depends on how the regulations are interpreted. If the "action level" concept is introduced in the revised regulations, as expected, the need for interpretation is largely eliminated and our position becomes that much stronger.

The biggest problems which our customers have with the present OSHA regulations stem from the monitoring and medical examination requirements. There have been sporadic, often nuisance problems with signs, housekeeping, and waste disposal.

Regarding monitoring, paragraph f(1) of the regulations states,

"every employee shall cause every place of employment where asbestos fibers are released to be monitored..."

With a dustless product as defined earlier, we should be able to demonstrate at a reasonable number of industrial locations that the airborne fiber counts are indistinguishable from background. On this basis, we should be able to take and, if necessary, defend the position that asbestos fibers are not released so monitoring is not necessary. The main weak spot here is that water is the most likely liquid to be used, particularly for Super Visbestos. Spills and broken bags may be a source of low levels of dust. If a 1 fiber/cc TWA Action Level goes into effect, however, the chance that this will be exceeded is quite small if the user exercises modest precautions.

Regarding medical examinations, paragraphs j(2), (3), and (4) require medical examinations in "occupations exposed to airborne concentrations of asbestos fibers." The same arguments used to show that monitoring is not necessary for the dustless product can be applied to the medical examination question.

In addition to the monitoring and medical requirements, the regulations state:

Paragraph (g) (1) Signs

"Caution signs shall be provided and displayed at each location where airborne concentrations of asbestos fibers may be in excess of the exposure limits..."

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Paragraph (h) (1) Housekeeping

"All external surfaces ... shall be maintained free of accumulations of asbestos fibers if, with their dispersion, there would be an excessive concentration."

Paragraph (h) (2) Waste Disposal

"Asbestos waste, scrap, debris, bags, ... which may produce in any reasonably foreseeable use, handling ... concentrations of asbestos in excess of the exposure limits..."

Although all of these paragraphs refer to concentrations over the allowable limit, we have had a number of cases where the inspector gave out citations without monitoring on the basis that asbestos was present in the plant. With the present opened products, our data show he was probably incorrect. It is, however, certainly possible to exceed the limits with gross mishandling. With a dustless product, the chances of such an occurrence are reduced essentially to zero. We should be able to convince OSHA these would be frivolous citations.

In the Super Visbestos market, unfortunately, we encounter all of these OSHA related problems. Asbestos is handled in individual bags at a great multiplicity of temporary field locations by transient labor. Although the men work for subcontractors, the ultimate safety responsibility in the drilling rigs goes back to the major oil companies with their large professional safety and industrial hygiene staffs. A number of the major companies have taken the position that there is no practical way to meet the monitoring and medical examination requirements and have stopped using asbestos in their rigs. Several of the smaller contractors have been inspected and when told that warning signs were required immediately stopped using asbestos. Our only competitor in the field, Johns-Manville has come out with a product wetted with water to make it dustless. If the decision is made to proceed with a dustless product, this market will be the first one attempted.

In the EPA area, our customers report that there has been little federal enforcement activity so far. We have no way of knowing how long this situation will continue and there are a couple of points in the regulations that can turn into serious problems with our specialty product customers if active enforcement gets under way.

The EPA regulations require the registration of all "stationary sources" that fall in the industrial categories covered by the regulations. A "stationary source" is defined as:

"... any building, structure, facility, or installation which emits or may emit any air pollutant which has been designated as hazardous by the Administrator."

In the majority of cases, the users are already in compliance with the other provisions of the regulations so registration is largely a formality. There is a great reluctance, however, to volunteer for another government list. It would seem that a dustless product would provide a very good argument that the product would not fall under "may emit" and registration is unnecessary.

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The EPA regulations are now being revised to include much more stringent provisions on the disposal of asbestos shipping bags and asbestos containing waste. The final details are not settled but will undoubtedly be built around the "no visible emissions" criteria now in effect for manufacturing operations. Wetting to suppress dust has been emphasized in the proposed changes. A prewetted product should make it much more practical for our specialty customers to achieve compliance.

The foregoing advantages for a dustless product are primarily customer oriented. There are two additional points relating to shipping that involve us more directly.

First, our opened fiber products are packed in valve pack bags which leak asbestos whenever the bag is handled. This leakage has been largely eliminated with Super Visbestos by the fairly expensive procedure of shrink-filming the individual bags. With the other opened products, the entire pallet is shrink-filmed. The pallet shrink-filming has greatly improved but not eliminated the leakage problem. A dustless product in a suitable bag would eliminate both of these cumbersome procedures.

Secondly, a wetted product will have a bulk density of 40-60-lb./ft.³, comparable to pellets. This will sharply reduce shipping costs.

This completes the six main advantages that we can see for providing dustless asbestos products. There are obviously some very strong reasons to move in this direction that must be balanced against the obvious disadvantages of added product cost. The key ingredient needed now is advice from counsel on the validity of the legal and regulatory points made. It is suggested that we move to obtain this and plan to meet during the first half of September to settle on a course of action for Super Visbestos.

H. B. Rhodes
H. B. Rhodes ✓

HBR:pcr

A06200



INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION

270 PARK AVENUE, NEW YORK, NEW YORK 10017

(Name) Mr. Robert F. X. Fusaro
(Division) Law Department
(Location) 47th Floor

Date May 22, 1973
Originating Dept. Medical Department
Answering letter date
Subject

Dear Mr. Fusaro:

We have carefully studied the Calidria Asbestos study from Mining & Metals Division in Niagara Falls. The study was divided into a seven page report and a six page slide presentation.

Both were very well done and represent much study on the part of the author. However, we seem to differ in our interpretation of the literature as presented. Going through the seven page study, "The Safe Use of Calidria RG-244" and comparing it with the NIOSH criteria document for asbestos, paragraph by paragraph, we find these variations in interpretations.

Section 2, Asbestos Toxicology, paragraph 2. "It is important to note, however, that asbestosis and statistical excess occurrences of bronchogenic carcinoma (lung cancer), the two most common asbestos-related diseases, have occurred only in workers with long term exposures to massive concentrations of asbestos dust. The risk of this type of exposure is usually in asbestos mines and mills and in large manufacturing operations..." NIOSH III-7 reports "a number of trades experiencing

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Mr. Robert F. X. Fusaro

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May 22, 1973

intense intermittent exposures are also suspect" and "positive x-ray finding among individuals having had known exposures to asbestos as short as one day". III-8 says, "This excess of lung cancer was demonstrated among those workers with jobs which entailed heavy exposures irrespective of the duration of employment." III-18, "In 1968, Balzer and Cooper reported asbestosis among insulation workers exposed at levels not exceeding the time-weighted average of 5 mppcf."

On III-21, NIOSH states. "In a recent unpublished paper, Williams, Baier, & Thomas compiled data from the Pennsylvania Department of Health files on exposure levels at various textile processing operations in two plants. The data included dust concentrations from 1930 through 1967 in one plant and from 1948 through 1968 in the second plant. Even though controlled exposures were for the most part below 5 mppcf and in many cases below the 1968 ACGIH Notice of Intended Change to 2 mppcf, 64 cases of asbestosis were reported from these two asbestos textile plants. The authors conclude that: "If asbestosis is to be prevented, airborne asbestos dust must be stringently controlled in the working environment."

III-22 concludes, "Champion's two cases seem to support earlier data of family cases with reasonably short and/or low levels of exposure."

Concerning the risk due to mining and milling, the NIOSH document has this to say on pages 18 and 19 of Section III: "The authors (McDonald

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Mr. Robert F. X. Fusaro

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May 22, 1973

et al) concluded that the additional data supports evidence of other studies that even heavy exposure to asbestos in mining and milling carries only modest risk of contracting lung cancer and less still of contracting malignant mesothelioma." Another quotation on page 19 is "Wright pointed out that others have noted the striking differences in the health experiences of workers in mines and mills as compared to other workers, specifically in comparison to insulation operations, but that he felt the question was still unresolved. In contrast to populations exposed to mixed environments, those engaged in the mining and milling of asbestos fibers showed no augmented frequency of bronchogenic cancer."

NIOSH concludes "Although it has been suggested that the risks associated with asbestos exposure may be less in mining than in industrial operations, additional study will be necessary to confirm if such is true, based upon the comparison made by Selikoff".

On pages 23 & 24 there are comments on the occurrence of two cases, one mesothelioma and one asbestosis, in floor tile installers, and specifically comments on the very low levels encountered in this work on a time-weighted average.

To continue with the third paragraph under Asbestos Toxicology, in which it is stated that chrysotile asbestos does not cause an excess of mesotheliomas. NIOSH in V-1 says, "The consumption of asbestos in this

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Mr. Robert F. X. Fusaro

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May 22, 1973

country is overwhelmingly in the form of chrysotile. Where other forms of asbestos are used, such as crocidolite and amosite, they are often mixed chrysotile and are encountered alone, mainly in research and specialty situations." It is the predominant opinion of the scientific community that an excess of mesothelioma is found in workers in the asbestos industry in the United States.

In Section III, page 11, is found the statement "It must be pointed out that a clear picture of the relationship between the type of asbestos and the production of asbestosis, neoplasms, and mesotheliomas is not defined in the exposures reported."

NIOSH describes in III-22 a case of mesothelioma occurring in which "it was believed that he was exposed only to chrysotile..."

Continuing to paragraph 4 of Asbestos Toxicology, where it says "Finally, there is no evidence that the general public is in any danger from the amount of asbestos fiber in the community air. The U. S. National Academy of Science states in an October, 1971 publication, "Asbestos - The Need For and Feasibility of Air Pollution Controls":

"At present, there is no evidence that the small number of fibers found in most members of the general population affect health and longevity."

We submit that these statements are not precisely the same.

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Mr. Robert F. X. Fusaro

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May 22, 1973

In Section III, page 23, NIOSH states "...however, some question may be raised of a possible neighborhood exposure even if it only concerned going to work. The possibility of such exposure must be considered in view of the neighborhood case noted by Selikoff."

In Section 3 of "The Safe Use of Calidria", paragraph 3, there is discussion of the meaning of the phrase "exposed to asbestos", and the advice is given to follow the NIOSH recommendation that "exposed to asbestos" means "average exposures above one fiber per cc or peak exposures above five fibers per cc." This has no validity: the OSHA regulation is interpreted to mean "regular exposure to asbestos as part of the job, or exposure to asbestos as a usual part of a regular job assignment". There is no minimum number of fibers designated below which ^{is} not required to follow all the stipulated procedures if such an exposure occurs, and we feel we are obligated to give this information to customers.

In Section 4, "Calidria RG-244 in Polyester Resin" we question whether the sampling and counting were done by registered Industrial Hygiene Engineers: if they were not, then the results would not be likely to be acceptable to any regulatory agency, and we would not want to convey a contrary impression to a customer.

Section 5 - Silica Toxicology. This is not mentioned in the NIOSH document or the OSHA regulation. Is it part of "Safe Handling of 'Calidria' RG-244"?

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In Section 6 - Dust Control. When exhaust ventilation is discussed it should be pointed out that it "shall be designed, constructed, installed and maintained in accordance with the American National Standard Fundamentals Governing the Design & Operation of Local Exhaust Systems, ANSI Z-9.2-1971". Failure to comply with this standard would lead to citation and penalty.

Slide Commentaries

Slide 3 - this is misleading.

Slide 4 - "excess" in fact may be less than the allowable concentration and "many" may be a few or less.

Chrysotile is not an important distinction.

Slide 5 - massive long term exposure to asbestos has caused asbestosis and cancer, but so have some low level short term exposures; this is a half truth, and is misleading.

Slides 7 through 10 - the discussion of the varieties of asbestos is interesting but irrelevant to the fact that all varieties produce disease.

Slide 11 - we are discussing chrysotile; this is a diversionary tactic.

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Slide 12 - advise deleting "strong" from the first sentence.

Five cases did occur, and this is likely to be
considered an excess for a group of 9304 employees.

Dr. Selikoff has studied the John Manville manufacturing
plant in New Jersey as well as the insulation workers.

Slide 20 - monitoring and record keeping requirements are
stipulated in the regulation, including methods and
frequency of monitoring. These requirements stay
in force no matter how good the compliance is or how
long it continues.

Slide 21 - the minimum medical examinations required are
more extensive and specialized and frequent than
those generally performed in industry, and therefore
more expensive. The statement about NIOSH recommending
"exposed to asbestos" to mean "average exposures above
one fiber per cc" is obsolete and should be deleted. The
OSHA regulation does not say this: they mean a regular
exposure to any asbestos. There is no point in speculating
or showing a slide of naturally occurring outcrops of
asbestos.

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Mr. Robert F. X. Fusaro

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May 22, 1973

Slide 25 - It is theoretically possible to ship, store, transfer and use asbestos without releasing any to the environment, but how many installations actually manage to do it? This glib statement makes a difficult job seem simple. The statement "More is probably known about the potential health hazards of asbestos and the proper means for controlling or eliminating them than would be the case with possible substitute materials." is certainly debatable; and is clearly not true universally.

Questions

Wasn't the Academy of Science quote regarding fibers found in most members of the general population rather than asbestos in air and water?

Dr. Selikoff's work is no longer limited to a "very limited group of workers, none of whom were exposed only to chrysotile". And importantly, don't forget chrysotile causes disease.

Very truly yours,

K. S. Lane, M.D.

K. S. Lane, M. D.
Assistant Medical Director

KSL:lk

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UCC 014317



INTERNAL CORRESPONDENCE

METALS DIVISION

P. O. BOX 579 • 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 143

To (Name) Messrs. R. E. Byrne, Jr.
 Division G. L. Dickson
 Location E. J. Kleber
 T. P. Norris
 J. E. Walsh

Date November 30, 1977
 Originating Dept. "Calidria" Asbestos
 Answering letter date

Copy to Messrs. J. F. Collins
 H. B. Rhodes
 E. W. Shortridge
 W. C. Thurber

Subject CPSC/TJC

File

The CPSC is expected to publish a final ruling on patching and similar compounds on December 12, 1977..

According to information we have obtained from reliable sources, the ruling will prohibit the intentional addition of asbestos to products for consumer use.

This may not sound too bad, but: the ban applies not only to products sold for consumer use but also to compounds containing asbestos which are used by anyone in residences, schools, hospitals, public buildings or other areas where consumers have customary access.

It is expected that the ban will be effective 30 days after the ruling is published, presumably on December 12. This would mean that asbestos-containing products cannot be sold for consumer use after that date (Jan. 11, 1978).

Compounds which are labeled as, marketed, and sold solely for industrial use in non-consumer environments are not subject to the ban. If our customers have any asbestos-containing products on hand after the cut-off date, they could move them into this type of construction.

I presume that you have kept your customers aware of the CPSC activities and that those still using asbestos are doing so with full knowledge of the situation. You can decide whether or not to discuss the contents of this letter with your customers. There is always the possibility that the CPSC could revise their ruling or delay action and we could lose some business prematurely or unnecessarily. We plan to draft a customer letter for mailing on December 13, or as soon as the CPSC acts and we know the final wording of their ruling.

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PLAINTIFF'S
EXHIBIT
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Do not offer to buy back any asbestos. If the customer mentions it, try to discourage them. If they are insistent, our regular terms will be used:

1. Accept only full pallets of re-salable product.
2. Customer pays freight to King City or a warehouse of our choice.
3. Credit will be at 75% of their original purchase price.


John L. Myers

JLM:da1

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UNION CARBIDE CORPORATION
METALS DIVISION

P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 14302

December 14, 1977

Individual letters sent to:

The Honorable S. John Byington, Chairman
Barbara Franklin, Commissioner
R. David Pittle, Commissioner
Consumer Products Safety Commission
1111 - 18th Street, NW
Washington, DC 20207

Although we are aware that the Commission has moved to publish a ban on the consumer use of joint taping compounds containing free-form asbestos, we wish to reiterate for the record our contention that the finding of "unreasonable risk" is not supported by the available evidence and we question whether "due process" was properly applied in this case.

During the Commission's consideration of the ban, the Union Carbide Corporation has provided extensive technical data on the exposure to free-form asbestos fiber during the use of these materials. These data have included:

1. A presentation and analysis of all of the commercial use data available, including data from a number of OSHA compliance inspections.
2. Detailed studies of a large and a small consumer installation of drywall. It should be noted these were the only exposure data presented during the proceedings that bear directly on the ban in question.

The Union Carbide work was checked by two independent laboratories and there is certainly no reason to doubt the levels found in the OSHA compliance inspections. In spite of this, your staff has continued to quote an analysis of risk based on exposures found in one commercial study of only 30-60 minutes duration that was conducted at vaguely defined operating conditions. This latter study showed exposures that were much higher than all of the other results including the OSHA data.

The staff also based its estimate on an assumption of four extensive consumer exposures over the period of a year. While we have no objection to this as a maximum case, provided the appropriate exposure levels are used, risks are also quoted for five years of exposure at the same time. This number of exposures is far beyond that which can be expected for consumers. In view of the statutory requirement for a showing of "unreasonable risk," we feel it is extremely important to draw these points to your attention.

In the installation of drywall, three successive applications of taping compound are made about a day apart. The compound, when dry, may be sanded after the second and third application. On this basis, two extended exposures can occur during the complete finishing, or extensive remodeling, of a full room. The four exposures over a year used by the staff in their risk analysis thus corre-

ACC480

sponds to finishing two rooms. Although this extent of exposure is not by any means experienced by the entire population of the country, it appears to be a reasonable upper limit for estimation purposes as long as it is recognized as such. The further extension of this to the five years cited would correspond to consumer contact with active finishing operation for about ten (10) rooms. Exposure of this extent is so rare that it is not relevant and should not be used in the estimation of risk.

Let us assume that the four exposures in a year are taken as correct and that Bayard modification of the Enterline model is also accepted. The excess risk estimate of 10 deaths per million over a 40-year period presented by the staff assumes an 8-hour time-weighted average exposure of 10 fibers/cc $>5\mu$. This is based on a test where an unidentified number of professionals conducted pole- and handsanding for about 15 minutes each, mixed an undefined amount of dry compound, and dry swept under unspecified conditions. The handsanding exposure, which is the procedure used by consumers, averaged 5.3 fibers/cc, but much higher levels were present for short periods during mixing and sweeping so the higher level was assumed. The 15-minute exposure level was also assumed to occur over a full eight hours which is far longer than occurs in consumer use. The value of 10 fibers/cc $>5\mu$ for eight hours is clearly much too high and, in fact, is not even supported by the handsanding data of the work upon which it is based.

The OSHA compliance inspection data presented to the Commission showed a range of 0.1 to 4 fibers/cc during sanding and 0.6-2.7 fibers/cc during cleanup. Using the highest values found for two hours of sanding and one-half hour of cleanup, which is a reasonable approximation of consumer operations, and a value of 0.5 fibers/cc in the room during the remainder of the day, the eight-hour time-weighted average becomes 1.5 fibers/cc $>5\mu$. The Bayard model predicts a risk of 0.0016 excess deaths over a 40-year period per million persons exposed. If the consumer data for the installation of drywall in a large room are used, the eight-hour time-weighted average is only 0.2 fibers/cc $>5\mu$. The corresponding risk for the finishing of two rooms over a year is something less than 0.000001 excess deaths per million over a 40-year period.

Application of the values of 0.0016 per million estimated from the OSHA compliance information and the value of less than 0.000001 per million predicted from the actual consumer exposure data to the present U.S. population of about 250 million persons yields calculated excess deaths of 0.4 and less than 0.00003, respectively, over a 40-year time span. It should be noted particularly that the value of 0.4 is based on the maximum not the average exposure values reported by OSHA, and the assumption that the entire population is exposed at this maximum level during substantial installation of drywall in two rooms. To the extent that these conditions are not met, the risk would be less.

The Consumer Product Safety Act requires a finding of an "unreasonable risk" as a basis for the banning action by the Commission. The following listing of U.S. deaths from various causes is provided for reference:

A06401

<u>Type of Accident or Cause</u>	<u>U.S. Deaths*</u>
Bites and Stings	53 (1974)
Lightning	112 (1974)
Suffocation by Food Ingestion	2181 (1974)
Poisoning in the Home	4300 (1975)
Fires in the Home	5100 (1975)
Falls in the Home	8400 (1975)

*From 1976 edition of "Accident Facts" published by the National Safety Council.

As discussed above, the highest excess of risk estimate from the OSHA exposure data was 0.4 asbestos-related deaths over a 40-year period. This is almost 300 times less than the chances of being struck by lightning in a single year and approximately 5,000-20,000 times less than the annual risk from such common consumer hazards as food ingestion, poisoning, fires and falls.

We submit that the risk from consumer exposure to asbestos during joint taping is not an "unreasonable risk" within the meaning of the statute. The evidence available to the Commission contradicts rather than supports the finding that such a risk exists.

Very truly yours,

Signed by John L. Myers for

H. B. Rhodes, Ph.D.
Technology Manager

J. F. Collins
Vice-President

HBR/rmm

BCC: A. L. Bayes
R. E. Byrne, Jr.
T. W. Carmody
J. F. Collins

T. D. Finnigan
R. F. X. Fusaro
J. L. Myers
W. C. Thurber

R. H. Mereness - AIA/NA

A08402



INTERNAL CORRESPONDENCE

METALS DIVISION

To (Name) Mr. W. C. Thurber
Division UCC - Metals Division
Location 270 Park Avenue - 38th Floor
New York, NY

Copy to Messrs. R. E. Byrne, Jr.
R. F. X. Fusaro
D. E. Hamby
H. M. Humphreys
F. J. McCarthy
— L. Myers

P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 14302

Date December 20, 1977
Originating Dept. "Calidria" Asbestos
Answering letter date
Subject A. T. Kearney Inquiry re
Certain UCC Patents

This confirms our telephone conversation of December 20, 1977 on the above-noted subject. A. T. Kearney is conducting a survey study under contract with the CPSC to identify asbestos-containing products which may present a "hazard" to "consumers". The CPSC intends to move to protect consumers from such hazards.

I have had numerous dealings with Mr. Jim Lewis of that firm during the extended proceedings on tape-joint compounds. They did a reasonable, economic impact study for TJC and they are trying to do an objective, balanced, non-sensational report on the other products. In view of the potential value of such an objective study in blunting possible future CPSC actions, I have tried to help Mr. Lewis as much as possible in a general way without getting into sensitive areas. Numerous requests to identify specific products and name manufacturers thereof have been refused.

Mr. Lewis called me several days ago to obtain information about the following four patents that a computer search had identified with Union Carbide:

3,891,565 - Gravel Packing Composition - Colpoys
3,888,085 - Latex Paint - Myers
3,558,485 - Fire-Fighting Composition - Skvarla
3,947,286 - Pigmented Latex Coating - Myers

He indicated that they had written Dr. Humphries and had not received an answer and were in a tight deadline situation. I told him that 3,891,565 and 3,558,485 had never been practiced. After consulting with Mr. Raeburne, he was informed that the two latex cases had enjoyed very limited commercial success and at most represented an extremely minute fraction of the market for asbestos-containing paints. This seemed to satisfy him.

A00403

H. B. Rhodes
Harrison B. Rhodes

HBR/rmm

→ "Intentionally added asbestos" is specified in 1304.3(f) as asbestos which is:

"(1) added deliberately as an ingredient intended to impart specific characteristics; or, (2) contained in the final product as the result of knowingly using a raw material containing asbestos. Whenever a manufacturer finds out that the finished product contains asbestos, the manufacturer will be considered as knowingly using a raw material containing asbestos, unless the manufacturer takes steps to reduce the asbestos to the maximum extent feasible."

→ Banned consumer products which are mentioned specifically as containing respirable, free-form asbestos fiber include drywall spackling compounds and tape joint compounds (commonly known as joint cement or tape joint mud). The ban does not cover caulks, sealants, and similar materials which are not available in a dry form and which are not ordinarily sanded.

3. *Export*

4a. After January 16, 1978, the banned products cannot be manufactured or shipped from the manufacturer's facility.

5a. After June 12, 1978, the banned products cannot be sold or used, regardless of the date of manufacture.

Union Carbide Corporation and others have spent considerable amounts of time, effort and money in an unsuccessful attempt to oppose or modify the CPSC action. We do not believe that the ban was justified by the evidence presented and we have presented oral and written testimony in support of our belief. A copy of our most recent letter is enclosed.

Although subsequent action may be taken, there is little possibility that the CPSC will make any beneficial changes, at least not in the near future.

We appreciate your past business and look forward to continuing to supply you with asbestos if you make compounds for industrial use or export.

Let us know if you have any questions, or if we can be of any assistance.

Very truly yours,

John L. Myers
Marketing Manager

JLM:dal
Enclosure 5

A08485

UNION CARBIDE CORPORATION
270 PARK AVENUE, NEW YORK, N. Y. 10017
LAW DEPARTMENT

December 22, 1977

Mr. J. L. Myers
Metals Division
Niagara Falls, New York

Re: Metals Division - Consumer Product Safety
Commission - Regulations on Asbestos in
Wallboard Compounds

Dear Mr. Myers:

Reference is made to your draft letter, dated December 20, 1977, in connection with the above-captioned regulations. Pursuant to our discussion, I advise that the following changes be made therein:

1. Paragraph 1 of your letter should be revised as follows:

add as noted
1. ~~The CPSC ban covers only consumer products and does not cover industrial products or products (including consumer products) for export. For more details on the use of asbestos in industrial products, please see paragraph 2 below and on the use of asbestos in products for export, please see paragraph 3 below.~~

~~2. A new paragraph 2 should be inserted and should read as follows:~~

3. "The ban shall not apply to any consumer product if (1) it can be shown that such product is manufactured, sold, or held for sale for export from the United States (or that such product was imported for export), unless such consumer product is in fact distributed in commerce for use in the United States, and (2) such consumer product when distributed in commerce, or any container in which it is enclosed when so distributed, bears a stamp or label stating that such consumer product is intended for export; except that this chapter shall apply to any consumer product manufactured for sale, offered for sale, or sold for shipment to any installation of the United States located outside of the United States."

408426

-2-

3. Paragraphs 3 and 4 of your letter should be
renumbered paragraphs 4 and 5.

If you have any questions, I will be happy to discuss
them with you.

Very truly yours,

Robert F. X. Fugate
Robert F. X. Fugate

RFXF/ob

cc: W. C. Thurber
C. F. Raeburn/File

A08487

W C Thurber

I would appreciate your comments
and/or approval today so we
can get this in mail.

December 20, 1977

12/20/77 OK w/ WCT

12/21/77 OK at RFF w/ changes *

J. M.
12/20/77

About 30 customers,

Dear Mr. Former customers, and distributors in U.S., Canada
and Puerto Rico.

Because of the extensive publicity and since we have attempted to keep many
of you directly informed, you should not be surprised that the Consumer Product
Safety Commission has finally published their ban on "Consumer Patching Com-
pounds Containing Respirable, Free-Form Asbestos". A copy of the Federal
Register notice, dated December 15, 1977, is enclosed for your information
and file.

To assist you in understanding the extent and effect of the CPSC action, we
call your attention to the following items:

1. ~~The CPSC bans products to prevent their use by or effect on consumers in
the United States and its territories. They can prevent the distribution
of banned products, but they cannot prevent their manufacture for
industrial use or for export industrial use as described in 1304.1(c) below.~~
2. The ban only applies to "consumer patching compounds" which contain "inten-
tionally added asbestos" from which "respirable free-form asbestos fibers"
can become airborne under reasonably foreseeable conditions of use.

Industrial In the ban, a "consumer" product is defined very broadly as follows:

1304.1(c) "Only consumer products are subject to this regula-
tion. Patching compounds which are consumer products include
those which a consumer can purchase. Merely labeling a patching
compound for industrial use would not exclude such articles from
the ban. If the sale or use of the product by consumers is facil-
itated, it is subject to the ban. Patching compounds which are
labeled as, marketed, and sold solely for industrial use in non-
consumer environments are not subject to the ban. In addition
to those products which can be sold directly to consumers, the
ban applies to patching compounds containing respirable free-
form asbestos which are used in residences, schools, hospitals,
public buildings or other areas where consumers have customary
access."

A08434



INTERNAL CORRESPONDENCE

METALS DIVISION

P. O. BOX 579 - 4825 ROYAL AVE., NIAGARA FALLS, NEW YORK 14

To (Name) Messrs. R. E. Byrne, Jr.
 Division G. L. Dickson
 Location E. J. Kleber
 T. P. Norris
 J. E. Walsh

Date December 20, 1977
 Originating Dept. "Calidria" Asbestos
 Answering letter date

Copy to Messrs. J. F. Collins
 T. D. Finnegan
 R. F. X. Fusaro
 R. H. Mereness
 H. B. Rhodes
 W. C. Thurber
 Ms. Stella Miller - NPCA
 File

Subject Letter to Customers about
 CPSC Action

Enclosed is a copy of the Subject, the Federal Register Notice, our last letter to the CPSC and a list of those to whom the letter was sent. Although the same letter was sent to all, we typed the addressee's name and address on each one.

Please let me know if you have any questions or if we should send the letter to anyone else. Please remind your distributors that they are responsible for advising their customers as appropriate.

John L. Myers

JLM:dal
 Enclosures

A06408

December 22, 1977

Dear Mr.

Because of the extensive publicity and since we have attempted to keep many of you directly informed, you should not be surprised that the Consumer Product Safety Commission has finally published their ban on "Consumer Patching Compounds Containing Respirable, Free-Form Asbestos". A copy of the Federal Register notice, dated December 15, 1977, is enclosed for your information and file.

To assist you in understanding the extent and effect of the CPSC action, we call your attention to the following items:

1. The CPSC ban covers only consumer products and does not cover industrial products or products (including consumer products) for export. For more details on the use of asbestos in industrial products, please see paragraph 2 below and on the use of asbestos in products for export, please see paragraph 3 below.
2. The ban only applies to "consumer patching compounds" which contain "intentionally added asbestos" from which "respirable free-form asbestos fibers" can become airborne under reasonably foreseeable conditions of use.

In the ban, a "consumer" product is defined very broadly as follows:

1304.1(c) "Only consumer products are subject to this regulation. Patching compounds which are consumer products include those which a consumer can purchase. Merely labeling a patching compound for industrial use would not exclude such articles from the ban. If the sale or use of the product by consumers is facilitated, it is subject to the ban. Patching compounds which are labeled as, marketed, and sold solely for industrial use in non-consumer environments are not subject to the ban. In addition to those products which can be sold directly to consumers, the ban applies to patching compounds containing respirable free-form asbestos which are used in residences, schools, hospitals, public buildings or other areas where consumers have customary access."

A08483

"Intentionally added asbestos" is specified in 1304.3(f) as asbestos which is:

"(1) added deliberately as an ingredient intended to impart specific characteristics; or, (2) contained in the final product as the result of knowingly using a raw material containing asbestos. Whenever a manufacturer finds out that the finished product contains asbestos, the manufacturer will be considered as knowingly using a raw material containing asbestos, unless the manufacturer takes steps to reduce the asbestos to the maximum extent feasible."

Banned consumer products which are mentioned specifically as containing respirable, free-form asbestos fiber include drywall spackling compounds and tape joint compounds (commonly known as joint cement or tape joint mud). The ban does not cover caulks, sealants, and similar materials which are not available in a dry form and which are not ordinarily sanded.

3. The ban shall not apply to any consumer product if (1) it can be shown that such product is manufactured, sold, or held for sale for export from the United States (or that such product was imported for export), unless such consumer product is in fact distributed in commerce for use in the United States, and (2) such consumer product when distributed in commerce, or any container in which it is enclosed when so distributed, bears a stamp or label stating that such consumer product is intended for export; except that this chapter shall apply to any consumer product manufactured for sale, offered for sale, or sold for shipment to any installation of the United States located outside of the United States."
4. After January 16, 1978, the banned products cannot be manufactured or shipped from the manufacturer's facility.
5. After June 12, 1978, the banned products cannot be sold or used, regardless of the date of manufacture.

Union Carbide Corporation and others have spent considerable amounts of time, effort and money in an unsuccessful attempt to oppose or modify the CPSC action. We do not believe that the ban was justified by the evidence presented and we have presented oral and written testimony in support of our belief. A copy of our most recent letter is enclosed.

Although subsequent action may be taken, there is little possibility that the CPSC will make any beneficial changes, at least not in the near future.

We appreciate your past business and look forward to continuing to supply you with asbestos if you make compounds for industrial use or export.

Let us know if you have any questions, or if we can be of any assistance.

Very truly yours,


John L. Myers
Marketing Manager

JLM:da1
Encs.

A96490

Mr. Gib Kinney
Apperson Chemicals, Inc.
P. O. Box 2555
Jacksonville, FL 32203

Beadex Mfg. Company
833 Hauser Way N.
Renton, WA 98055

Attn: Purchasing Agent

Mr. Alex Callas
A.T. Callas Company
2300 West Big Beaver Rd.
Troy, MI 48084

Mr. Gil Carpenter
Florida Rolling Mills Inc.
850 SW 21st Terrace
Ft. Lauderdale, FL 33312

Mr. Robert Favero
Georgia Pacific Corp.
P.O. Box 776
Marietta, GA 30060

Mr. E. L. Aasen
Georgia-Pacific Corp.
900 SW 5th Avenue
Portland, OR 97204

Mr. Sterling Clark
Georgia Pacific
Bestwall Div.
P.O. Box 330
Quanah, TX 79252

Mr. Gail Ellings, President
Greater Iowa Drywall Corp.
1834 Fuller Road
W. Des Moines, Iowa 50265

Mr. Kerwin Lebeis
Harrisons & Crosfield (Pacific) Inc.
4000 Birch Street
Newport Beach, CA 92660

Mr. William Clary
Harrisons & Crosfield (Pacific) Inc.
Benson Chemical Div.
2450 8th Avenue S.
Seattle, WA 98134

Mr. D. J. Boyd
Harrisons & Crosfield (Canada)
4 Banigan Drive
Toronto, Ontario M4H 1G1
CANADA

Mr. R. A. Goddard
Harrisons & Crosfield (Canada)
3070 Kings Way St.
Vancouver, British Columbia V5R 5J7
CANADA

Mr. Fran O'Connor
Harwick Chemical Corp.
60 S. Seiberling Street
Akron, OH 44305

Mr. George Proodian
Harwick Chemical Corp.
7225 Paramount Blvd.
Pico Rivera, CA 90660

Highland Stucco Products
3650 N. 40th Avenue
Phoenix, AZ 85019

Attn: Purchasing Agent

Mr. Lloyd Johnson
J & A Mfg. Enterprises
Calle No. 13, F-17
Jardines de Caparra
Bajamon, Puerto Rico 00619

A08401

Mr. Wayne Harp
Kelly Moore Paint Co.
301 W. Hurst Blvd.
Hurst, TX 76053

Mr. Doug Merrill
Kelly Moore Paint Co.
909 Old County Rd.
San Carlos, CA 94070

Mr. Wilmer Davis
Monarch Paint Company
P.O. Box 55604
Houston, TX 77055

Mr. Kelly Booth
Proko Company
1910 Wall Street
P.O. Box 15768
Dallas, TX 75215

Mr. Jerry Nichols
Roach Paint Company
1301 Broom Street
Dallas, TX 75202

Mr. Robert Mueller
Ruco of Atlanta Inc.
468 Bishop St. NW
Atlanta, GA 30318

Mr. Rick Rew
Ruco Inc.
9190 Johnson Drive
Shawnee Mission, KS 66023

Mr. Ray Groya
Technical Products Inc.
3500 Ridge Road
Cleveland, OH 44102

Mr. Robert Higgins
Texas Texture Paint Co.
P.O. Box 14347
Farmers Branch, TX 75234

Mr. Chuck Ragland
Union Oil Co. of Calif.
AMSCO Div.
1100 Milam Bldg. Suite 2675
Houston, TX 77002

Mr. James Schneiter
Jim Walter Research Corp.
10301 9th Street N.
St. Petersburg, FL 33702

Mr. Hale Parker
Western Chemical Mfg. Co.
3270 E. Washington
Los Angeles, CA 90023

Hutson Industries
1805 W. Irvington Place
Denver, CO 80223

Attn: Purchasing Agent

A08402



INTERNAL CORRESPONDENCE

METALS DIVISION

To (Name) Mr. W. C. Thurber
 Division UCC - Metals Division
 Location 38th Floor
 270 Park Avenue
 New York, NY 10017

Copy to Messrs. R. E. Byrne, Jr.
 R. F. X. Fusaro
 J. L. Myers
 File ✓

P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 14302

Date September 22, 1976
 Originating Dept. "Calidria" Asbestos
 Answering letter date
 Subject Material Safety Data Sheet

Suggested revisions in the asbestos Material Safety Data Sheet are attached. An annotated copy of Mr. Raeburn's suggestions is also attached for convenient reference.

Basically, Mr. Raeburn's recommendations have been followed with occasional minor editorial revisions except as follows:

1. Instead of deleting the respirator use table entirely, it has been updated to fit the current regulations and specific references to products have been removed. Acceptable products are referenced to NIOSH approval. This will change from time to time but will not affect the validity of this sheet. I think it will be to our advantage to show in a simple way what type of respirators are acceptable for the various concentration ranges.
2. The idea that contaminated protective clothing should not be removed from the plant premises has been added to "OTHER PROTECTIVE EQUIPMENT".
3. The "no smoking" concept is added under VIII SPECIAL PRECAUTIONS.

H. B. Rhodes

H. B. Rhodes

HBR:dal
 Attachments

UCC 007416

A20713



PRODUCT: Chrysotile Asbestos
TRADE NAMES: ~~Chrysotile~~ Asbestos

CHEMICAL FORMULA: $Mg_3(OH)_6Si_2O_{10}$

I. PHYSICAL DATA

BOILING POINT AND MELTING POINT: Not Pertinent

SPECIFIC GRAVITY ($H_2O = 1$): 2.45

VOLATILE CONTENT: Absorbed Water 1 - 4% By Weight. Structural Water Approximately 13% By Weight.

APPEARANCE: Pellets or Fine White Powder. No odor. Very Slight Solubility in Water.

II. HAZARDOUS INGREDIENTS

Asbestos contains no hazardous ingredients. However, the material itself can be hazardous under certain conditions. (See V below.)

III. FIRE AND EXPLOSION HAZARD DATA

Material is not Combustible. No Fire or Explosion Hazard.

IV. REACTIVITY DATA

INERT MATERIAL: No Decomposition or Polymerization Conditions.

V. HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE TO AIRBORNE CONCENTRATION: ^{Standard (CFR 29, 1910.1041)}
The current standard of the Occupational Safety and Health Act of 1970 contains the following exposure limits:

The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed 2 fibers, longer than 5 micrometers per cubic centimeter of air, as determined by the membrane filter method at 400-450 X magnification (4 millimeter objective) phase contrast illumination. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers per cubic centimeter of air as ~~determined by the method just stated.~~
~~CFR 1910.1041~~

EFFECTS OF ~~POSSIBLE~~ EXPOSURE: CAUTION: Breathing asbestos may cause serious bodily harm.

EMERGENCY AND FIRST AID PROCEDURES: No acute toxicity. Use respirator if airborne asbestos fibers concentration exceeds OSHA limits.

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Avoid inhalation of dust. Remove spilled material by vacuum cleaner or by water wash.

WASTE DISPOSAL METHOD:

If reasonably foreseeable handling will not produce airborne concentrations in excess of exposure limits, no special procedures are required. When limits are likely to be exceeded, waste and scrap shall be collected and disposed of in impermeable sealed bags or other closed, impermeable containers, suitably labelled.

UCC 007417

Union Carbide Corporation assumes no responsibility and makes no warranty, expressed or implied, representation, promise or statement of fact.

420722

upper case,
bold type

VII. SPECIAL PROTECTION INFORMATION

VENTILATION:

Local exhaust for each operation is preferable. (See American National Standards Institute booklet, Z8.2 - 1971.) General area exhaust is acceptable. No special considerations.

PROTECTIVE GLOVES: None

EYE PROTECTION: None

RESPIRATORY PROTECTION⁽¹⁾

The current Occupational Safety and Health Standard CFR 29, 1910.1001 contains the following requirements for respiratory protection.

AIRBORNE CONCENTRATION ⁽²⁾		REQUIRED MASK TYPE
8-HOUR EXPOSURE ⁽³⁾	CEILING CONCENTRATION	
2 maximum	10 maximum	None required when allowable limits are not exceeded.
50 maximum	100 maximum	U.S. Bureau of Mines Schedule 218. Negative pressure or breathing. Can use any mask with reusable or single use air purifying respirator.
200 maximum	1000 maximum	U.S. Bureau of Mines Schedule 218. Powered filter positive pressure.
Over 200	-	U.S. Bureau of Mines Schedule 19B. Type C positive pressure, air supplied.

- (1) Allowed only during the time required for installation of engineering controls, when engineering controls are not technically feasible or adequate, and in emergencies. An employee may not be assigned to tasks requiring respirator if his most recent medical examination indicates he will be unable to function normally.

Only masks certified by MSHA as acceptable for the exposures encountered may be used.

- (2) Fibers per milliliter greater than 5 microns in length, as determined by the membrane filter method at 400-450X magnification (4 millimeter objective) phase contrast illumination.
- (3) 8-Hour time weighted average.

OTHER PROTECTIVE EQUIPMENT:

If time weighted average or ceiling concentration limits are exceeded, clothing providing whole body covering shall be supplied and its use required. Contaminated protective clothing should not be removed from the plant premises.

VIII. SPECIAL PRECAUTIONS

If the time weighted average and ceiling concentration limits are not exceeded, no special precautions are required except:

- Bag damage and dusting should be minimized and dust inhalation avoided.
- Every place of employment where asbestos fibers are released must be monitored by December 7, 1972 to determine exposure levels.
- A comprehensive medical examination is required for any employee exposed to airborne fibers within 30 days of first such employment, annually thereafter and on termination of employment.

When exposure limits are exceeded, reference should be made to the regulation for details on caution signs, monitoring, change rooms, protective clothing laundering and record keeping.

d.) IT IS STRONGLY URGED THAT PERSONS WHO WORK WITH ASBESTOS DO NOT SMOKE.

UNION CARBIDE CORPORATION
270 PARK AVENUE, NEW YORK, N. Y. 10017
LAW DEPARTMENT

RECEIVED
FEB 6 1976

February 5, 1976

Mr. W. C. Thurber
Metals Division
38th Floor

Re: Metals Division - Material Safety
Data Sheet - CALIDRIA Asbestos

Dear Mr. Thurber:

At Bob Fusaro's request, I have reviewed the Material Safety Data Sheet dated September 1, 1972 for Chrysotile Asbestos, as sold by Union Carbide. I have the following comments:

1. Under the heading "TRADE NAMES," the term "Calidria" refers to a trademark. I suggest that this trademark be set in all capital letters, without quotation marks. O.K.

2. Under the heading "HAZARDOUS INGREDIENTS," the words "Not Applicable" should be deleted and the following words substituted therefor:

Asbestos contains no hazardous ingredients.
However, the material itself can be hazardous
under certain conditions. (See V below.) O.K.

3. Under the heading "HEALTH HAZARD DATA," "PERMISSIBLE EXPOSURE TO AIRBORNE CONCENTRATION," the present language should be deleted and the following language substituted therefor:

Effective July 1, 1976, the following exposure limits under the Occupational Safety and Health Act of 1970 shall apply:

*limits are really
under 1970.1721 not
the Act itself.*

The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed 2 fibers, longer than 5 micrometers per cubic centimeter of air, as determined by the membrane filter method at 400-450 X magnification (4 millimeter objective) phase contrast illumination. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers longer than 5 micrometers per cubic centimeter of air ~~as determined by the method just noted.~~

*Minor change
suggested.*

~~G.F.R. 1910.1001)~~

determined by the method just noted.

A20720

UCC 007419

The heading "EFFECTS OF OVEREXPOSURE" should be modified to read "EFFECTS OF EXPOSURE" and the existing language should be deleted and the following language substituted therefor:

CAUTION: Breathing asbestos may cause serious bodily harm.

O.K.

Under the heading "EMERGENCY AND FIRST AID PROCEDURES," the existing language should be deleted and the following language substituted therefor:

No acute toxicity. Use respirator if airborne asbestos fibers concentration exceeds OSHA limits.

O.K.

4. The disclaimer statement at the bottom of the Safety Data Sheet should be set in upper case bold type.

O.K.

5. Under the heading "SPECIAL PROTECTION INFORMATION," "OTHER PROTECTIVE EQUIPMENT," the words "time weighted average or" should be deleted. The sentence will then read as follows:

If ^{the} ceiling concentration limits ^{is} are exceeded, clothing providing whole body covering shall be supplied and its use required.

G. is with minor change shown.

The chart which is printed under the heading "RESPIRATORY PROTECTION" and the accompanying footnotes should be deleted from the Material Safety Data Sheet. This information is subject to frequent change and the Data Sheet is therefore subject to going out of date. The following sentence should be inserted under the heading "RESPIRATORY PROTECTION":

Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z 88.2-1969, and any subsequent regulations on the selection of respirators enacted by the National Institute for Occupational Safety and Health (NIOSH).

See all time revision

6. Under the heading "SPECIAL PRECAUTIONS," the first sentence should be modified to read "If ceiling concentration limits are not exceeded..." and the last sentence should be modified to read "When exposure limits may be exceeded..."

O.K.

If you have any questions about the above comments, I will be pleased to discuss this matter further. Also, I can review the new Safety Data Sheet in proof form before it is finally printed, if you wish.

Very truly yours,

Charles F. Raeburn
Charles F. Raeburn

CFR:bl

cc: J. V. Murray

R. F. X. Fusaro/File

A20723

UCC 007420

Call Report

MM2/FILE
TOMOE

DATE: September 27, 1979

SUBJECT: Broken SG-100 Bags

COMPANY: Nitto Boseki Co.

INTERVIEWED: Mr. Kanno, Deputy Manager, Tile Production Section
Mr. Tajima

A considerable number of broken bags were found among total 2,250 bags SG-100 delivered under order B-11930. Called upon the factory to check into the problem.

Situation:

Of 2,250 bags, 49 (1,111 kgs) were found broken, the asbestos powder from such bags flying around and piling up on the container floor.

During palletizing operation some more broke and how many more get broken during onward handling was unknown.

Problems:

1. Decreased work efficiency - difficulty in palletization
2. Dusting problem - exposure to asbestos dust (how to dispose of broken bags)

Nittobo's request:

1. Nittobo no longer accepts PE bags, so future delivery be made in paper bags.
2. Unbroken bags be replaced with rigid ones for the delivery made today.
3. Broken bags be returned to the shipper.

Countermeasures:

For the request 2 above, replacement is impossible at this moment, and improvement appears difficult for the next order because of the time limit. (The manager Mr. Tsuda said the situation calls for a discount of at least ¥5 or over, for the drop in the work efficiency much disturbed the production manager.) Tomoe will telex UCC for improvement, and based upon its reply will negotiate again.

UCC 007421

with Nittobo.

We will comply with request 3 above.