BCC: R. E. Byrne, Jr.
J. F. Collins
W. C. Thurber
file

VI.E.2

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

August 31, 1977

PLAINTIFF'S EXHIBIT
Union Carbide 421

Ms. Linda Chaput
Emissions Standards and Engineering Div. (MD13)
Environmental Protection Agency
Research Triangle Park, NC 27711

Dear Ms. Chaput:

This letter is to confirm our telephone conversation on August 30 concerning the proposed wording of an exemption from the spraying prohibition.

It is my understanding that your current wording is something like the following:

> "The following materials are exempt from this paragraph (e): spray-on materials in which the asbestos fiber is encapsulated and/or impregnated with a bituminous or resinous binder during spraying and which are not friable after drying."

If the above is correct, we support such wording to prevent the prohibition of such products as auto undercoating and sealers, roofing compounds, etc. If "encapsulated and/or impregnated" is not acceptable, we think the word "encapsulated" is the more accurate and descriptive.

Dr. Rhodes will return to the office on September 12th, and I will check with him on the spraying information he has already supplied. If we have additional data or can provide more "justification" language, he will be in touch with you.

It was a pleasure talking to you and we appreciate the opportunity to express our comments. Don't hesitate to contact me before September 12, if you think I can be of any assistance.

Very truly yours,

John L. Myers
Marketing Manager

JLM:dal

CC: R. H. Mereness
H. B. Rhodes

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CC: ~~HBR~~ 1/22
Comments 2
Hill

SEP 12 1977

Mr. John L. Myers
Marketing Manager
Union Carbide Corporation
Metals Division
P.O. Box 579
Niagara Falls, New York 14302

Dear Mr. Myers:

Enclosed is a copy of the record of my recent telephone conversations with you and several other persons regarding the March 2, 1977, proposed amendments to the national emission standard for asbestos. I would appreciate your reviewing it and commenting on any inaccuracies you may find. Please feel free also to add any information you believe to be pertinent which is not included in the memo.

The memo will be placed in the file as part of the supporting documentation for the promulgated amendments to the asbestos standard. Therefore, it is important that it accurately reflects the information I obtained from you. Please let me know if you have any questions.

Sincerely yours,

Linda S. Chaput
Environmental Protection Specialist
Standards Development Branch

Enclosure

RECEIVED
SEP - 9 1977
UCC-CALIDRIA

A-16601

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: SEP 12 1977

SUBJECT: Asbestos-Containing Spray-On Materials

FROM: Linda S. Chaput
Standards Development Branch

TO: The Files

From August 24 to 30, 1977, I contacted by telephone several persons to obtain information on the properties of various asbestos-containing spray-on materials. It was necessary to request this information because of several comments submitted on the March 2, 1977, proposed amendments to the asbestos standard. The commenters stated that a non-friable material would not release asbestos fibers during spray application and that any material with a bituminous or resinous binder would not be friable and should, therefore, be exempted from the standard. Very little information was provided by commenters to support these statements, however. Therefore, the following persons were contacted to obtain the information discussed in the remainder of this memorandum.

Robert Mereness, Executive Director
Asbestos Information Association (8/24 & 25/77)

Richard Carter
Johns-Manville, Denver (8/24/77)

Dick Fricklas
Johns-Manville, Denver (8/24/77)

Ed Fenner
Johns-Manville, Denver (8/29/77)

Dick Alexander
Monsey Products (8/25/77)

John Myers
Union Carbide (8/30/77)

Questions and Responses

1. Does it necessarily follow that if a sprayed-on material is not friable, then it will not release asbestos fibers during spraying, and if so, why?

To be non-friable after drying, a sprayed material would require a type of binder that would have a "sticky" consistency. Such a binder would so thoroughly coat the asbestos fibers that they could not be separated from the binder. During spraying, the binder takes on an

EPA Form 1320-6 (Rev. 3-76)

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oily form as a result of the solvents and acts in the same manner as a dust suppressant, completely saturating the asbestos fibers. The spraying action causes the material to be broken down into droplets which are actually small replicas of the total mass. If the total mass would not release fibers, then neither would the smaller replicas of it. Also, each droplet is many times larger than each asbestos fiber so that the fibers are surrounded by the binder. There was some disagreement among all the parties contacted as to whether the fibers are "encapsulated" or "impregnated" by the binder. "Encapsulated" implies surrounded while "impregnated" implies encapsulated as well as wetted through. Actually, the fibers are not completely encapsulated nor completely impregnated; there is generally a combination of the two mechanisms. Thus, encapsulation and/or impregnation may be total or partial for any one fiber.

2. What is the difference between the terms "bituminous" and "resinous"? Does "resinous" include "bituminous"?

The general consensus was that "resinous" may include "bituminous," but usually the terms are used to mean different things. "Bituminous" refers to asphalt- or coal tar-based materials while "resinous" refers to other natural or synthetic binder materials. Bitumens are normally soft and semi-elastic; resins may be either hard or soft, brittle or pliable, depending on their composition.

3. Are all resinous materials non-friable after drying?

Some resinous materials may be friable after drying or after aging. Such resins as epoxies and acrylics may be somewhat brittle. Bitumens normally are not friable and retain their soft, elastic quality.

4. Is there a minimum amount of binder necessary to bind the asbestos fibers during spraying and after application?

There is not an exact minimum percentage that should be used in all cases. The important thing is to have a proper combination of binder and pigment. Pigments are particles which are added to impart various properties to a material; asbestos is usually added to enhance the thixotropy (ability of the material to decrease in viscosity upon stirring or spraying and to return to the original viscosity when the stirring or spraying stops). When the mixture reaches the point where just enough binder is present to completely fill the voids left between the pigment particles, it has reached the critical pigment volume concentration (CPVC). If the CPVC is exceeded (too much pigment), the material will not wear or weather well and will not be competitive with other materials. If the CPVC is not exceeded, there is sufficient binder to keep asbestos fibers from being released. Therefore, it could be said that the minimum amount of binder necessary to bind the asbestos fibers during and after application is any amount which would not cause the CPVC to be exceeded.

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"ASBESTOS EDUCATION"

VI.E.

Union Carbide has mined asbestos ore and operated an ore benefication plant in California since 1963. We market asbestos fibers for industrial applications, but we do not make any products from asbestos.

We have provided medical surveillance for our asbestos plant employees and conducted air monitoring since 1963. Some of our plant areas are currently monitored as often as once per month to ensure that our dust control measures are effective. Safety meetings, posters, and individual consultations are some of the means used to advise employees of the asbestos health hazard. The use of safety equipment is rigidly enforced and employees are constantly reminded of safe procedures and precautions to take to preserve their health. Smoking has always been prohibited in certain plant areas and has been generally discouraged by communicating to employees the apparent connection between an increase in lung cancer and asbestos workers who smoke. Since January 1, 1977, smoking has been prohibited on all plant property. Medical surveillance has included chest X-ray and pulmonary function analysis, and we have recently added sputum cytology to our medical program. Before initiating new rules or programs, we thoroughly discuss them with employees. This facilitates the implementation of changes and demonstrates to our employees why we are making the changes. They can then understand our reasons and cooperate with us in establishing a safe working environment.

Our customer "education" includes mailings and personal contact through meetings, seminars and sales calls. Our salesmen are thoroughly familiar with the asbestos health hazard and are aware of regulatory requirements, safe handling methods, etc. Our bags of asbestos have carried a warning label since 1968, four years before the Federal OSHA standards were promulgated to require this, air monitoring, medical surveillance, and other safety measures. We have provided free air monitoring for our customers for several years. This often provides us with the opportunity to discuss the asbestos hazard and safety precautions with our customer's employees. We have prepared booklets containing information related to specific applications. These booklets contain general information on the asbestos health hazard, regulatory requirements, typical air monitoring results and other pertinent items. We have also prepared information for presentation to technical society meetings or any group who is interested in the asbestos/health story. We have in our files a large number of items which we send to customers, and including all of them with this document would make it very voluminous. The attached list of them is essentially complete and the items are available for immediate mailing, if so desired.

The State of California recently enacted an Occupational Carcinogens Control Act, and asbestos is one of the 16 substances affected by it. The CAL-OSHA Asbestos Standards have been modified to include the provisions of the Act, which also provides for a massive education program. We have worked closely with State personnel to develop standards which are effective and also practical and enforceable. We have participated heavily in the education program, "Preventing On-The-Job-Cancer", by serving on panels and assisting in workshops held at four different California cities in June and July.

Asbestos can be used safely in essentially all of its many applications. The key to safe working and public environments is a thorough knowledge of its potential health hazards and how to handle and use it without creating excessive airborne contamination.

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PLAINTIFF'S EXHIBIT
UC-724

Prepared by John L. Myers, Marketing Manager
Union Carbide Corporation-Metals Division
Niagara Falls, NY - August 29, 1977

INFORMATION AVAILABLE FROM UNION CARBIDE CORPORATION ON THE HEALTH HAZARDS OF ASBESTOS AND HOW TO USE IT SAFELY

Material Safety Data Sheet & Typical Chemical & Spectrographic Analysis of "Calidria" Asbestos
Testimony by George W. Wright, M.D. before U.S. Dept. of Labor, Occupational Safety & Health Hearing on Proposed Occupational Asbestos Standard, March 14-17, 1972
Testimony by J. Corbett McDonald, M.D. - same as above
OSHA Regulations
EPA Regulations
"Airborne Asbestos" National Research Council, 1971
"Airborne Asbestos" - Summary
"Airborne Asbestos" - References
Asbestos Bulletin (Asbestos Information Committee, London - 9/72)
CIBA CEIGY - UK 2/72
QAMA Folder
WHO Report - 10/72
Dust Counting - S. G. Bayer, R. D. Zummalde, T. A. Brown - Feb. 1969 (NIOSH/HEW)
Dust Monitoring Equipment & Costs - 2/19/73
Instructions for Sampling of Airborne Asbestos Fibers
Procedure for Pump Calibration used for Monitoring of Asbestos Dust Emissions
AIA - "Protecting the Asbestos Worker
AIA - "Asbestos and Health"
AIA - "The Asbestos Information Association/North America"
AIA - "Asbestos and Health Questions and Answers"
AIA - "What Asbestos Is: How and Where it Is Used"
AIA - "What Every Employee Should Know About Asbestos" - 2/74
AIA - "Asbestos In the Atmosphere"
AIA - "Asbestos in Water"
AIA - Molding & Fabrication of Asbestos-Containing Plastic Products, Work Practices
Partnership for Prevention - "The Insulation Industry Hygiene Research Program"-4/70
Asbestos - Reprint from National Safety News - 10/73
"Asbestos Health Question Perplexes Experts," C & EN - 12/10/73
Disputes on the Safety of Asbestos - New Scientist 3/7/74
JLM - "Chrysotile Asbestos in Plastics"
Asbestos & Silica Dust in the Drywall Industry. Part 1-Nov./Dec. 1975
Asbestos & Silica Dust in the Drywall Industry. Part 2-Jan./Feb. 1976
Detection of Chrysotile Asbestos in Airborne Dust from Thermosetting Resin Grinding - 1975
"Calidria" Asbestos Pellets - Health and OSHA Information
"Calidria" Asbestos RG-244 - Health and OSHA Information
"Calidria" Asbestos RG-600 - Health and OSHA Information
"Calidria" Asbestos Pellets - JLM, "ASBESTOS" - 10/71

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