



INTERNAL
CORRESPONDENCE RECEIVED

PLAINTIFF'S EXHIBIT

UC-4169

APR 10 1987

P.O. BOX 44, TONAWANDA, NEW YORK 14151-0044
TELEX 754632

E. K. JENSEN

To	M. D. Brower - Danbury P-2623	Date	April 7, 1987
	D. Crowell - Danbury E-3246		
	N. A. DiFranco - Somerset		Gas Products Production
	E. K. Jensen - Danbury R-4667	Originating Dept.	
	R. S. Kramer - Danbury R-4655		<u>Vermiculite</u>
Copy to	W. M. Therrien - Danbury R-2676	Subject	
	D. E. White - Tonawanda		

W. R. Grace's letter of October 11, 1986 alerted us to a potential problem in that vermiculite produced by their Libby Montana mine may contain asbestos fibers. Grace's solution was to wet down the packaged vermiculite to reduce airborne asbestos to levels in compliance with OSHA standards. The solution is not acceptable to Linde in that we cannot tolerate wetted vermiculite as a cold box insulation.

A group met in Danbury in January 1987 to discuss the problem and it was agreed that further information was required in order to develop a plan of action. The following summarizes the information that has been developed since that meeting.

We have had 39 batch samples taken and tested by National Loss Control Service Corporation (NATLSCO). No asbestos content has been detected by NATLSCO in any of the samples. The vermiculite source at two locations; Wilmington and Pittsburg, California, has been positively identified by W. R. Grace as coming from the Libby mine. It is very likely that some of the other samples came from here also.

With Randy Kramer's assistance, all purchase orders to W. R. Grace for vermiculite dating back to 1983 were collected and transmitted to W. R. Grace with a request to identify the vermiculite source for each one. They responded within a week and were able to identify some and not others. A copy of Grace's March 19, 1987 letter to Randy is attached.

W. R. Grace also forwarded air sampling data collected while handling wetted vermiculite from the Libby mine. This data indicated that they were in conformance with OSHA's July 1986 regulations in all cases. The data really is not significant to Linde as we cannot tolerate wet vermiculite. Grace's March 19 letter also indicates that their South Carolina source is in conformance without wetting.

We have also had discussions with other suppliers of vermiculite. Strong-Lite Inc. is a midwest supplier of vermiculite with whom we have done very little business. They have submitted a study of air sampling conducted in 1986 covering their mining, processing and packaging operations, all of which were in compliance with OSHA regulations. Their mine source is also in South Carolina. Two companies supplying vermiculite to the Central region have also responded with test data. J. P. Austin Associates Inc. submitted information on a South African source and Therm-O-Rock Company submitted test data on a Virginia source. None of this information included any asbestos content to be alarmed about.

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Discussions have also been held with testing laboratories and bulk handlers to determine what on-site action would be required if we found an intolerable amount of asbestos in the vermiculite at any location. This now becomes a new ballgame. Most bulk handlers are not equipped to handle asbestos contaminated products. Those that are, such as Specialty Vacuum Inc. of St. Louis, Missouri, have limited capabilities and would handle and bag the insulation with equipment similar to that shown in the attachment. On-site air sampling would be required throughout the operation by a qualified lab such as NATLSCO and their quotation is also attached. It can be seen that this becomes a very expensive and time consuming operation. Nothing that we have uncovered so far indicates the need for any of these special precautions in handling vermiculite.

After developing the above information, it is recommended that we proceed as follows:

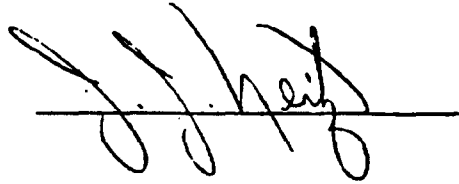
- (a) Revise MPS-201, the Material Purchase Specification for vermiculite to include a requirement that every batch be certified free of asbestos. Once revised, this specification should be enforced and the certification kept in a retrievable file if needed for future verification. Material Safety Data Sheets (MSDS) should also be requested with each order and kept on file.
- (b) Instruct all purchasing locations to avoid purchasing vermiculite from W. R. Grace's Libby, Montana source. If W. R. Grace is the chosen vendor, then supply must come from the South Carolina source and be certified to be "asbestos free." This could involve transportation penalties west of the Mississippi which must be evaluated.
- (c) We should continue to handle vermiculite taking the normal precautions for insulation handling as outlined in the Gas Products Production Safety Manual, Section 25.
- (d) We presently have vermiculite in 93 cold boxes at 35 locations around the country. The vermiculite has come from several sources and in many cases the source cannot be identified. As mentioned previously, we have tested 39 of these boxes without finding evidence of asbestos. This has cost us approximately \$2500. The remaining 54 boxes could be tested at an additional cost of \$3500. This is not recommended as the data we already have appears to be a good representative sampling and indicative that a field problem does not exist.
- (e) We could also hire NATLSCO or a similar laboratory to conduct air sample testing during a typical vermiculite transfer operation. This would cost several thousand dollars, and unless we are aware of asbestos content through prior batch testing, would probably reaffirm that a problem does not exist. This action is not recommended either.

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- (f) In summary, if we implement and enforce recommendations (a), (b) and (c) above, this should be sufficient to ensure that we don't purchase any asbestos-contaminated vermiculite and that the vermiculite is handled safely. From information developed to date, the existing cold box insulation does not appear to present a problem of asbestos content, and no further action is recommended to confirm this.

We would appreciate comments from the recipients of this letter on the recommended course of action. If another meeting of interested parties is required, please advise.

A handwritten signature in black ink, appearing to read "J. J. Neitz", is written over a horizontal line.

J. J. Neitz/jps
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