PLAINTIFF'S EXHIBIT

UC-2539

UNION CARBIDE INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS • P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

o (Name) Mr. A. A. Sousa
vision Building 741-101
ocation

Date November 17, 1977

Originating Dept. IH/EP

opy to Mr. J. W. Biddle
Dr. J. A. Durden

Subject:

PROJECT

Measure dust and asbestos levels during preparation of synthetic soil in Building 741.

DATE OF SURVEY

September 15, 16, and October 25, 1977.

SUMMARY AND CONCLUSIONS

The OSHA Threshold Limit Value (TLV) for asbestos exposure is 2.0 fibers per cubic centimeter (f/cc) for an eight-hour time-weighted average (TWA) and five (5) f/cc for a 15-minute Ceiling Limit Value. The OSHA standard for nuisance dust is 15 milligrams per cubic meter for an eight-hour TWA. Both the levels of asbestos (0.004 - 0.007 f/cc) and total dust (0 - 2.4 mg/m3) found during the soil mixing operations were well below these standards.

DATA AND RESULTS

Asbestos

Date	Employee	Air Conc.	TWA	Operation
9/15/77	O.N. Payne	0.23 f/cc	0.004 f/cc	Pouring Vermiculite
9/15/77	Area Sample	0.08 f/cc	--	Pouring Vermiculite
9/16/77	Richard Black	0.28 f/cc	0.007 f/cc	Preparing soil
9/16/77	Area Sample	1.19 f/cc	--	Preparing soil

UCC 024412

Nuisance Dust

Date	Employee	Average Air Conc.	TWA	Operation
10/25/77	Area Sample	0.8 mg/m^3	--	Adding components
10/25/77	Area Sample	0.1 mg/m^3	--	Mixing
10/25/77	Area Sample	0.5 mg/m^3	--	Dumping

DATA BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group

DISCUSSION

It was requested by Dr. J. A. Durden of Ag Chemicals that we evaluate employee exposure to asbestos through the handling of Terra-Lite Vermiculite Soil Conditioner in Building 741. The supplier, W. R. Grace and Company of Cambridge, Massachusettes, has indicated to us that this grade-two vermiculite contains small amounts of tremolite, which is included in the definition of asbestos in the Occupational Safety and Health Standards, Subpart Z - Toxic and Hazardous Substances, Sec. 1910.1001(d)(1)(ii). In tests conducted by the W. R. Grace and Company, no asbestos was detected after they prepared soil using vermiculite. To determine our employee exposure, personal and area samples were taken in the Greenhouse during soil mixing operations. On September 15, 1977, Mr. O. N. Payne was sampled while filling small boxes with vermiculite. On September 16, 1977, Mr. Richard Black was sampled for asbestos exposure while preparing soil in Building 741, Room 125. On the days noted above, the eight-hour time-weighted averages were 0.004 f/cc and 0.007 f/cc. On October 25, 1977, air samples were taken to determine employee exposure to the other components of the synthetic soil. Most of these components, tankage, super phosphate, calcium carbonate, gypsum, potassium nitrate, potassium sulfate, are considered nuisance dusts which have an OSHA Threshold Limit Value (TLV) of 15 mg/m3. The others, Tresan 75 and the 5-10-5 fertilizer contain materials which have lower TLV's. However, the concentration of these materials in the overall mixture is very small and the exposure time is less than 30 minutes while the standards are set for an eight-hour TWA. During the handling of these materials, the highest concentration in the air was 2.4 mg/m^3, while the average concentration was 0.65 mg/m^3.

REFERENCES

Union Carbide Corporation Asbestos Analytical Method 38C-29X4-R2B

Union Carbide trial exhibit UC-2539: W. F. Blythe Jr. to A. A. Sousa on Asbestos and Dust Levels During Synthetic... Published by AsbestosClaims.Law
ACL Doc 17507 · Page 2 of 3 asbestosclaims.law/library/17507/2

INSTRUMENTS USED

MSA Model G Portable Pump
Millipore Filter Cassettes MAWP 037AO
GCA Respirable Dust Monitor Model RDM-101

REPORT PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group

W. F. Blythe, Jr.

WFBJr/sc

Union Carbide trial exhibit UC-2539: W. F. Blythe Jr. to A. A. Sousa on Asbestos and Dust Levels During Synthetic... Published by AsbestosClaims.Law
ACL Doc 17507 · Page 3 of 3 **asbestosclaims.law/library/17507/3**