AIRBORNE FIBER COUNTS

for

Georgia Pacific Corporation
Akron, New York

February 26, 1973

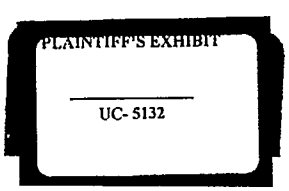
Personnel Present: R. Schifferle
Georgia Pacific Corporation

D. E. Furlani
Union Carbide Corporation

B. L. Ingalls
Union Carbide Corporation

Samples Collected & Analyzed By: E. J. Kleber
Union Carbide Corporation

UNION CARBIDE CORPORATION
Mining and Metals Division
Niagara Falls, New York



OBJECTIVES

Monitor airborne asbestos dust in Georgia Pacific's joint plant and during the unloading of a car of asbestos.

SAMPLE LOCATIONS

Tests were conducted January 18, 1973 at Georgia Pacific Corporation, Akron, New York.

The unloading of a car of SG-210 was monitored in the following way: 3 separate samples were taken at the storage bay area, 1 before, 1 during and 1 after placement of pallets. Two samples were taken in the car, 1 prior to and 1 during the actual unloading. The forklift operator was also monitored throughout the entire unloading process.

Samples taken in the joint plant concentrated on two areas, the packer, bagging topping compound and the man actually dumping asbestos into the mix tank.

APPARATUS & PROCEDURE

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.93a, using the Bayer, Zummalde and Brown method for counting asbestos fibers by phase contrast microscopy (Bureau of Occupational Safety and Health, February 1969).

Battery powered air pumps (M.S.A. type) calibrated to 2 liters per minute were used to collect personal breathing zone and environmental samples on Millipore membrane filters of 0.8 micron porosity.

Fiber counting was performed on a Vickers Phase Contrast Microscope at 400X utilizing a Porton Reticle for sizing and field definition.

TEST RESULTS

The figures reported are expressed in fibers, greater than 5 microns in length, per cubic centimeter of air sampled.

INTERPRETATION

The OSHA Regulations have been established with a limit of 5 fibers, greater than 5 microns in length, per cubic centimeter on a time weighted average (TWA). The formula $\frac{C\,T + C\,T + C\,T}{\Sigma\,T}$ describes TWA where C=fiber count in fibers/cc and T=time. For example if the operator in sample 1929-86-8 dumped asbestos 10 times per day at two minutes per dump and the rest of the day he was exposed as in sample 1929-86-9 his TWA would be $\frac{(10)(2)(5.6)+(460)(1.3)}{480} = \frac{112+598}{480} = 1.5$ fibers/cc, 8-hour TWA.

SUMMARY OF FIBER COUNTS

N.B. No.	Field No.	Description	Fibers/
		I) CAR UNLOADING	
1929-86-1	116	Environmental (27 min.) - Stocking bay storage area for SG-210. 5-1/2 feet above floor - before car unloading	0.
1929-86-2	56	Environmental (13 min.) - In car monitoring air immediately after door is opened and prior to unloading. 2 feet above floor just inside door	0.
1929-86-3	103	Personal (62 min.) - Fork lift operator unloading car. Takes pallets from car and places in storage area, about 50 feet from car	6.
1929-86-4	31	Environmental (47 min.) - Same as 1929-86-1 during placement of pallets	5.
1929-86-5	138	Environmental (45 min.) - In center of car 8 feet above floor during unloading	10.
1929-86-6	90	Environmental (56 min.) - Same as 1929-86-4 after completion of pallet placement	0.
1929-86-7	52	Personal (85 min.) - Packer on bagging machine, bagging topping compound	4.
1929-86-8	145	Personal (2 min.) - Operator dumping 2 bags Canadian 7RF9 into raw materials mixer for topping compound	5.
1929-86-9	95	Personal (63 min.) - Operator after dump cleaning, preparing other mixes, etc.	1.

THRESHOLD LIMIT VALUE FOR ASBESTOS FIBERS[1]

AIRBORNE ASBESTOS

1910.93a Asbestos.

(a) Definitions. For the purpose of this section, (1) "Asbestos" includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(b) Permissible exposure to airborne concentrations of asbestos fibers - (1) Standard effective July 7, 1972. The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) Ceiling concentration. 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 centrimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(e) Method of measurement. All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450 x (Magnification) (4 millimeter objective) with phase contrast illumination.

[1] Source: Federal Register, Vol. 37, No. 110 - Wednesday, June 7, 1972.

~~D.E. Furlani~~

D J KLEBER
RFD
BLDG #94

Niagara Falls, New York, January 26, 1973

REPORT NO. 73-T-7

935-1093

UNION CARBIDE CORPORATION
MINING AND METALS DIVISION
ENGINEERING DEPARTMENT

TRIP TO:	Georgia-Pacific Company Akron, New York
DATE:	January 18, 1973
PURPOSE:	Inspect Rail Shipment of Shrink-Wrapped Asbestos Pallets
BY:	D.E. Furlani
WITNESSED BY:	D.E. Furlani B.L. Ingalls D.J. Kleber

A shipment of palletized asbestos SG-210 was shipped from King City by rail in a boxca and arrived at the Georgia-Pacific plant in Akron, New York on January 17, 1973. Two of the pallets had been shrink-wrapped to determine the feasibility of using a shrink-wrapped polyethylene film as a method of packing our asbestos. There was some concern regarding the visibility of asbestos leakage from the bags and the physical stability of the pallet. The pallets were prepared at King City using a hand-held heater to effect the shrink wrapping.

A description of the pallets, as received, follows. The pallets are arbitrarily refer to as 1 or 2 for identification purposes. Pictures were taken of the pallets and prin forwarded to John Myers and Larry Larrison.

Pallet No. 1 - All spouts taped, no glue used to hold array,

(a) - Physical stability excellent - no shifting of bags noted.

(b) - Very clean - only asbestos dust visible was from an improperly taped spout.

(c) - No rips or tears in plastic noted.

(d) - No puffing noted from taped spouts or bag airhole perforations when bag was struck.

(e) - Overall this was the cleaner pallet.

Pallet No. 2 - Spouts Untaped, Bags Unglued

(a) - Physical stability excellent.

(b) - Very clean on side where spouts were unexposed, fair amount of leakage evid on opposite side where spouts were adjacent to plastic film.

(c) - No rips or tears in plastic noted.

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(d) - Hitting spouts caused asbestos to puff from bags.

The condition of pallets Nos. 1 and 2 as listed above was as noted in the boxcar and al as noted after transfer to the warehouse. In general, both shrink-wrapped pallets were in even better shape overall than equivalently wrapped pallets which had been shipped t Niagara Falls by truck[1]. This is probably because this shipment experienced less handling. Sweepout of the empty boxcar yielded 16 pounds, or about half a bag, of asbes powder.

Dennis E. Furlani

DEFURLANI:vrs

cc: Messrs. R.E. Byrne
J.F. Emerson/A.C. Sada
*F.H. Larrison/R.O. Marsten
*J.L. Myers
W.G. Piper
H.B. Rhodes
J.A. Riddle
R.J. Klotzbach

*(Pictures attached)

[1] Memo to Mr. R.J. Klotzbach from O.J. Malacarne, January 16, 1973

Calidria ASBESTOS

cc for T. P. Norris
W. C. Thurber
J. E. Walsh
KC-File
NF-File
E. J. Kleber ✓

UNION CARBIDE CORPORATION
P.O. Box 579 Niagara Falls, N.Y. 14302

By B. L. Ingalls

Date 6/11/73

Full Name Georgia-Pacific Corp. Bestwall Gypsum Div. Address Bloomingdale Road Akron, NY Mfrs. of	Interviewed John Rauch, Plant Mgr. (Telecon)

Called subject to determine if they were aware of the April EPA regulatio regarding asbestos. Mr. Rauch said that he was not aware of these regulations and was most appreciative of my taking the opportunity of informing him of their existence. I pointed out that our legal department had not as yet clarified the fine points of the regulations; however, it would be to their (G-P) advantage to familiarize themselves with the regulations as soon as possible in order to assure they were in compliance. John said he would attend to this as soon as possible.

I asked John if he had heard anything from OSHA regarding the most recent inspection of their plant and he said he had just heard from them by letter this week. There was no specifics in the letter except to say that the Akron plant had been found to be in violation on 9 accounts regarding asbestos use; 2 serious and 7 nonserious. They are being penalized with fines totaling $3,000. John said that the letter lends no information as to the nature of the violations and they (G-P) had not decided as yet whether to "fight it" until they have some specific information.

RECOMMENDED ACTION

BLI Follow up within a couple of weeks.

Typed 6/11/73
cjb