Union Carbide Corporation
Linde Division

Old Ridgebury Road
Danbury, CT 06817

To: Linde Health Coordinators
Cryogenic Equipment & Coatings
Service Health Coordinators

December 19, 1983

Re: Asbestos
OSHA - Emergency Temporary Standard

On Friday, November 4th, OSHA issued an Emergency Temporary Standard reducing the permissible exposure limit for asbestos from 2 fibers per cubic centimeter to 0.5 fibers per cubic centimeter for an 8 hour time-weighted-average (TWA_8). This new lower exposure standard requires a training program for all employees exposed to airborne concentrations of asbestos in excess of 0.5 fiber/cc (TWA_8) without regard to the use of respirators to include:

1. The health effects associated with asbestos exposure.

2. The relationship between asbestos and smoking in producing lung cancer.

3. The nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure.

4. The proper use, fitting and limitations of respirators.

Posting of warning signs is required if airborne concentrations of asbestos fibers may exceed 0.5 fibers/cc.

If you have questions, please give me a call.

Eleanor K. Jensen

Eleanor K. Jensen

EKJ/mbb

File Copy Only: N. A. DiFranco and T. V. Kelly received instructions on this regulation under separate cover.

A10525

RECEIVED
DEC 5 1983
E. K. JENSEN

To: Mr. G. J. Hoeing
UCC - Linde Division
Danbury, CT R3692

Date: December 1, 1983

Copy to: Mr. R. H. Argo
Mr. T. E. DeBriae
Mr. R. P. Guess
Mr. F. J. Gould
Ms. E. K. Jensen
Mr. G. J. Keehn
Mr. T. E. Kehler
Mr. J. S. Pirretti
Mr. V. A. Smith

Subject: Asbestos Exposure

F-

Dear Mr. Hoeing:

On Friday, November 4th, OSHA issued an Emergency Temporary Standard reducing the permissable exposure limit asbestos from 2 fibers per cubic centimeter to 0.5 fibers per cubic centimeter for an 8 hour time weighted average.

The major source of asbestos exposure in Package Gas Plants is in the maintenance of acetylene cylinders when valves are removed to check the well depth. The asbestos is present in the filler at a concentration of 1% by volume. It is not expected that maintenance of acetylene cylinders in this manner will result in adverse employee exposure to asbestos. However, there is no employee exposure data on file to support this assumption.

I have received some questions from the field in this regard and in order to properly respond, it will be necessary to conduct employee monitoring at selected locations. Alan Duva suggested that the Whiting plant be monitored due to the large volume of acetylene cylinders being repaired. I will arrange for this sometime in December or early January.

There may be other instances of asbestos exposure not related to acetylene cylinder maintenance. Many older Package Gas Plants may have asbestos insulation around steam pipes, in boiler rooms or other areas of the plant. I have copied the Region Package Operation Managers to make them aware of OSHA's new Emergency Temporary Standard and to ask them to poll their plants to determine if there are any potential areas of asbestos exposure, in addition to the acetylene cylinder maintenance area described above.

A10526

In addition to the new lower exposure standard, the Emergency Temporary Standard requires a training program for all employees exposed to airborne concentrations of asbestos in excess of 0.5 f/cc without regard to the use of respirators to include:

1. The health affects associated with asbestos exposure.

2. The relationship between asbestos and smoking in producing lung cancer.

3. The nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure.

4. The purpose proper use fitting instructions and limitations of respirators.

The ETS also requires the posting of legible warning signs at each location where airborne concentrations of asbestos fibers may exceed 0.5 f/cc.

The Region Package Operations Managers should let me know as soon as possible the results of their poll.

Very truly yours,

N. A. DiFranco

NAD:ld

A10527

UNION CARBIDE REPLY REQUESTED

Marjean Business Systems, Inc. • (212) 679-6150

INTER-COMPANY REPLY MEMO / UC-149-8

7 - Asbestos

TO (NAME) E.K. JENSEN DATE 11/10/83

LOCATION SHEA FROM T.V. KELLY

SUBJECT Asbestos LOCATION SPEEDWAY CHYO 19-817

As we discussed on the phone today, here is my letter of Nov 8, "ASBESTOS EXPOSURE" on the NEW STANDARD (0.5 fiber/cc). IT INCLUDES AN Attachment of all samples since late '76

ALSO is copy of the SAFETY MTG WRITE-UP by the two Supervisors in the ACETYLENE Department with the brochure they used for their mtg. I'll ask both to inform their people of the new PEL change.

REPLY IN SPACE BELOW. DETACH AND RETURN TRIPLICATE. RETAIN THIS COPY.

Thanks

Tom

RECEIVED
NOV 14 1983
E. K. JENSEN

ORIGINAL

UCC 009968

A 10528

UNION CARBIDE

INTERNAL
CORRESPONDENCE

UNION CARBIDE BUSINESS CONFIDENTIAL

UNION CARBIDE CORPORATION SPEEDWAY FACTORY
ENGINEERING PRODUCTS DIVISION
4801 WEST 16TH STREET, P.O. BOX 24501, SPEEDWAY,
INDIANAPOLIS, IN 46224

To (Name) Mr. F. E. Camic
Mr. R. W. Cromer
Division Mr. W. G. Curtis
Location Mr. C. H. Mason
Area Mr. D. P. Maurer
Ms. D. J. Praed
Dr. L. W. Winter
Copy to Mr. R. P. Wooldridge

Date November 8, 1983

Originating Dept. Employee Relations

Area

Subject Asbestos Exposure

The article here appeared in the Wall Street Journal on November 3, 1983. I verified it with Bob Ondoscin of Industrial Hygiene, Union Carbide Corporation, Danbury. It means that effective November 4, 1983, the limit for asbestos exposure is changed from 2 fibers per cc air to 0.5 fibers per cc air averaged over an 8 hour period. Only fibers exceeding 5 micrometers in length are considered.

I've attached a summary of our readings since late 1976. The limit was reduced from 5 fibers to 2 fibers in July, 1976 and has remained at that limit until this time.

As the samples indicate, we can meet the new standard as long as housekeeping and equipment are maintained. These areas are critical for continued compliance.

Our requirements of respirator use continues to exceed the requirement of OSHA. We must continue to enforce this policy as extra insurance in reducing exposure to the employee.

* The only area I see requiring a change is that of maintenance work inside the shredder mechanism. After discussion with Bo Bunting, I believe the use of the paper coverall and hat should be required anytime the inner enclosure is opened for internal maintenance work where there is the potential to stir up asbestos dust. The choice to wear this clothing has been somewhat optional in the past. Bo will also check on paper foot coverings that are available.

Corporate Industrial Hygiene will send me additional information when it is available. Contact me if you have any questions.

T. V. Kelly
Safety Director

pk

attachments

* WGC: The use of coveralls, head & foot coverings should be covered on any JSA on shredder operations. Could I have copies, too? —thanks
Tom

A10529

New Rule Limiting Asbestos Exposure Is Issued by OSHA

WSJ 11/3/82

By JOANN S. LUBLIN
Staff Reporter of THE WALL STREET JOURNAL

WASHINGTON—In a step rarely taken, the Labor Department placed immediate tougher limits on occupational exposure to asbestos, which has been linked to fatal diseases.

The department's Occupational Safety and Health Administration issued an emergency temporary standard that sets maximum workplace exposure for asbestos at 500,000 fibers per cubic meter of air. The current level, set in 1972, is two million fibers per cubic meter. The temporary rule, sought by 14 unions, takes effect Friday and remains in effect for six months while the job-safety agency decides whether to make the tougher standard permanent.

This marks the first time OSHA has issued an emergency temporary standard since 1978. The asbestos industry is expected to challenge the ruling in federal court. Although unions won the desired emergency ruling, they remain unhappy with OSHA because they wanted even more stringent new limits and fear the agency won't step up its enforcement efforts.

The emergency rule reflects new scientific evidence linking low-level exposure of asbestos to asbestosis, a lung disease, and mesothelioma, a cancer of the lining of the lungs. An OSHA analysis found 50,000 workers in the U.S. are exposed to between 500,000 and two million fibers per cubic meter of air, averaged over an eight-hour day.

"That really is the basis" for the emergency rule, said Patrick Tyson, OSHA's deputy chief. "We had to demonstrate that there are a number of workers at risk."

The agency believes the new exposure limit may prevent 200 of those employees from dying from cancer, Mr. Tyson added.

OSHA has agonized for months about whether to issue the emergency ruling, because of its poor track record with such steps in the past. Industry groups have sued the job-safety agency over five of the eight emergency standards issued since the agency's inception in 1971. Only one of those five rulings has been fully upheld by the courts, a standard limiting exposure to acrylonitrile, a chemical widely used to make synthetic rubber, plastics and other products that has been linked to cancer.

A 10530

UCC 009970

ALL VALUES IN Fibers (>5μm) per cc AIR
OSHA LIMIT @ TIME OF READINGS: 2.0

QA INSPECTOR

9/76 - 0.1
3/77 - <0.1
6/82 - 0.03
1/83 - 0.08
2/83 - 0.02
6/83 - <0.01
9/83 - 0.02

511 UTILITY

5/79 - 0.01
5/79 - 0.02
6/79 - 0.01
6/79 - 0.01

480 ENGR TECHN

11/76 <0.1

524 MACHINIST

8/76 <0.1
8/76 0.2
12/76 <0.1
3/77 <0.1
6/77 <0.1
10/83 0.26

UNION CARBIDE **BUSINESS CONFIDENTIAL**

511 ASSEMBLER

8/76 - <0.1
9/76 - 0.1
9/76 - 0.1
5/79 - 0.02
6/79 - 0.01
6/83 - <0.01

511 AUTOCLAVE FITTER

9/76 - 0.5
12/76 - <0.1
3/77 - <0.1
5/79 - 0.01
6/79 - 0.01

511 Stamper

2/79 0.01

511 FILLER - OVENTENDER

8/76 - 5.8
9/76 - 2.3
12/76 - 0.5
3/77 - 0.3
6/77 - 0.2
6/79 - 0.04
5/79 - 0.09
9/81 - 0.01
9/81 - 2.70 { employee had removed sampler and placed it on a shelf in the room.
10/81 - 0.07
11/81 - 0.10
11/81 - 0.3
12/81 - 0.71
1/82 0.34
6/82 0.19
7/82 <0.01
4/83 1.2 { LINE had plugged & room not cleaned after REPAIR. A SEAL AT disposal BAG FLANGE also leaking
7/83 0.22
8/83 0.12

A10531

Dom Kelly: 8/5/83

July's safety meeting consisted of asbestos controls. I spoke on our current systems of controlling our asbestos, the monitors they wear, the info this gives us and passed out the attachment to each employee.

Attendees -

R. Bartley
T. Courtney
B. Haverly
D. Jones
E. Peaches
McCoy Smith
J. Kale
J. Berry
R. McGuire
R. Crowder
T. E. Cannon

T. E. Cannon
DEPT 511/513

A 10532

UCC 009972

T. KELLY
R.P. WOOLDRIDGE
original R.W. CROMER

FOREMEN SAFETY MEETINGS

FOREMAN: R.W Cromer

SECTION: 212 & 215

DATE: JULY 83

TOPIC: ASBESTOS EXPOSURE

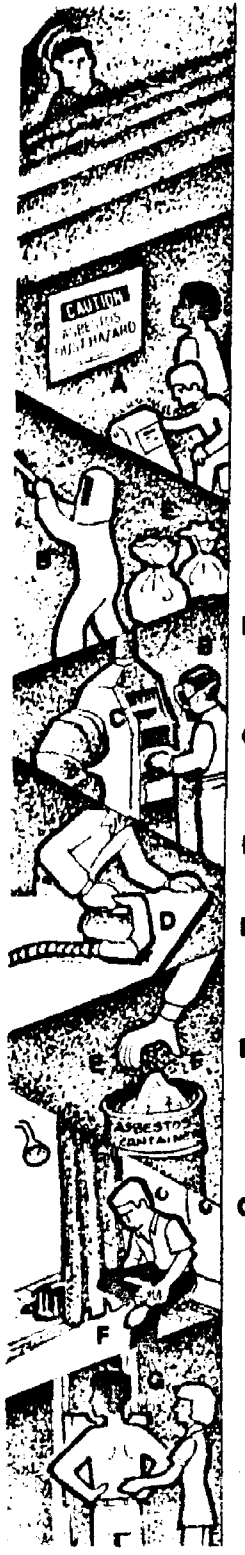
HOURLY PERSONNEL IN ATTENDANCE (NUMBER): B. BARKLEY, T. COURTNEY, L. DAVIS T. CALDWELL

COMMENTS:

In the july meeting we talked on the hazards of asbestos, and what is being done to control these hazards. Union Carbide has set up a plan to check for airborne fibers. Some employees are asked to help in this test by carring a devine to check for asbestos fibers. We also discussed the need to change clothes, leave asbestos dust at work not at home. Waste disposal was dicussed, the proper disposal is very important.

CORRECTIVE ACTION RECOMMENDED:

A 10533



EMPLOYEE RESPONSIBILITY

Asbestos related diseases develop through repeated exposure. Trouble occurs many years later.

This makes the problem difficult to recognize on a daily basis.

A Know the *hazards* and *controls* for your job. Comply with regulations to prevent asbestos fiber exposure to you or others. No shortcuts.

B *Wear* and *take care* of personal protection equipment.

C Follow all *procedures* (and suggest control improvements).

D Use the *required tools.*

E Proper *housekeeping* and *waste disposal* are vital.

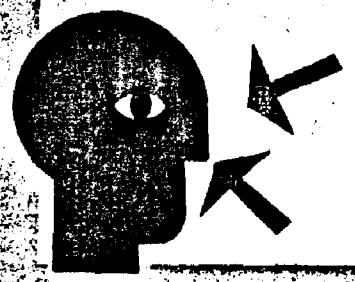
F After exposure . . . thoroughly *wash up* and *change clothing.*

G The medical tests are safeguards. Also AVOID smoking (increases your disease vulnerability).

The occupational disease hazards from asbestos are controlled by *teamwork* . . . employers and employees.

UCC 009974

ASBESTOS EXPOSURE FACTFOLDER



A summary of properties, hazards and basic measures to control exposure within required limits . . . . . .

(IMPRINT SPACE)
order from
Bray Publications Inc.
Deerfield, Mass. 01342

Each	35¢	1,000 +	20¢
50 +	30¢ ea.	5,000 +	17¢
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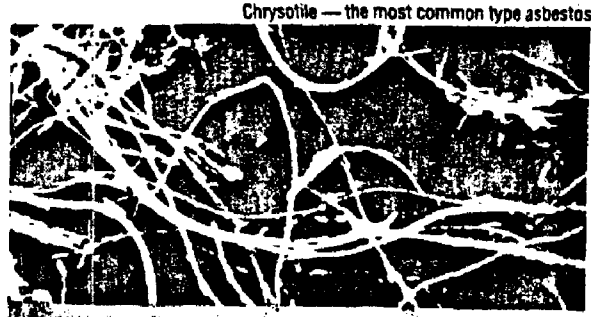
Imprint: Add 2¢ per copy
($25 min.) Over 5M flat $85

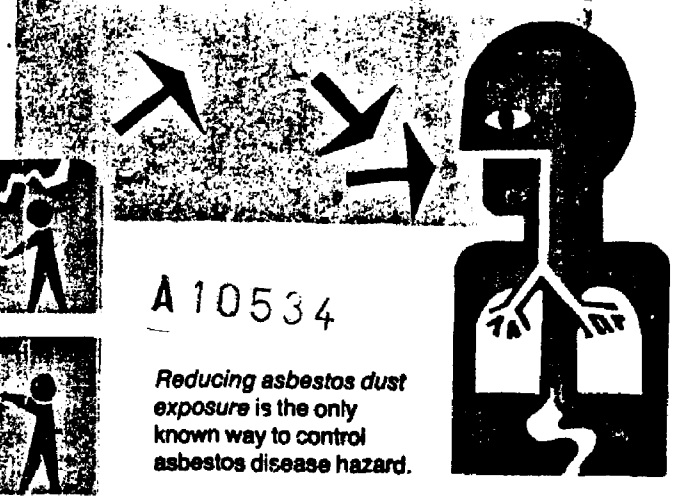
ASBESTOS is a mineral of "indestructible" fibers. Inhaling too much asbestos dust over a long period can cause lung disease (asbestosis, cancer).

Chrysotile — the most common type asbestos



Many asbestos-containing products have fibers safely "*locked in*" by cement, plastic or other binders.

However, with certain uses, fibers can become *airborne* . . . . DUST . . . . . .



ASBESTOS IN USE:

During its mining and processing

During transport and material handling

During manufacture – grinding, sawing, sanding, drilling, etc.

During construction – mixing, spraying and demolition

A 10534

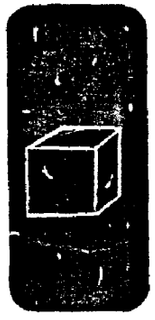
Reducing asbestos dust exposure is the only known way to control asbestos disease hazard.

The hazard is affected by:

- fiber size
- airborne concentration
- exposure time
- susceptibility and
- cigarette smoking.

Federal Standards (OSHA) were published to protect employees from exposure to potentially hazardous amounts of *airborne asbestos fibers.*

REQUIREMENT



"PERMISSIBLE EXPOSURE LIMIT" (PEL)

The amount of asbestos dust allowed in workplace air is 2 *fibers/cc* — averaged.

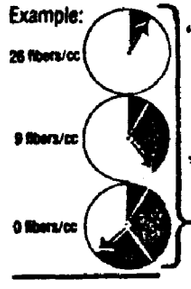
. . . . a cubic centimeter (cc)

The fibers of concern are 5 microns or longer. They can be seen only through microscope lab test.



. . . . Personal Sampling Pump

Air is drawn through a filter which continuously records the area dust levels.



"TIME AVERAGED"*

allowable dust level is based on exposure during a "time-averaged, 8-hr. day."

* This is a summation of exposures during an 8-hr. work shift.

Total "averaged" 14 fibers/cc . . . .

If level exceeds 2 fibers/cc —

PROGRAM NEEDED

- Air Monitoring
- Medical Exams
- Engineering Controls
- Personal Protection
- Training

CONTROL



AIR SAMPLING

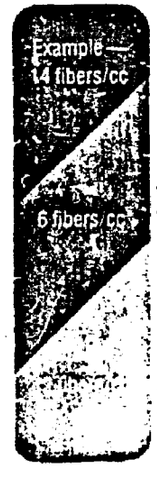
Wherever asbestos is used regularly — the workplace air is *monitored* and *recorded.*

Employee has access to his tests. If dust level exceeds limit — employee is informed with notice of corrective measures taken.



MEDICAL

Prescribed medical exams are provided (at beginning, annual, end of employment, and if air sample is 0.1 fiber/cc or more). Record is maintained and available to family physician.



METHODS TO REDUCE EXPOSURE

The only permanent methods to reduce airborne-asbestos are:

. . . . Engineering Controls
. . . . Safe-Work Procedures.

Until those controls can be installed — or if technically not possible, or emergency — employees shall use:

. . . . Personal Protection
. . . . Shift Rotation

CONTROL

BY ENGINEERING



If a *suitable substitute* for asbestos is not available — *controls are needed* to prevent airborne dust.

- ENCLOSE



- LOCAL EXHAUST



- AREA VENTILATION

BY ADMINISTRATION
(shift rotation, work schedule — requires constant supervision).

BY WORK PROCEDURE



- Housekeeping



- "Wet" Work Method



- Secure Storage



- Waste Disposal



- Step-By-Step Instruction

EMPLOYEE



SIGNS and LABELS tell the hazard location/precaution and limit personnel in area.

BY PERSONAL PROTECTION



RESPIRATORS

- Filter Type (moderate)
- Powered Air (more)
- Supplied Air (most)



PROTECTIVE CLOTHING
keeps dust from leaving work area.

- Clothes Cleaning/Disposal
- Change Room/Lockers



TRAINING

Employees are informed then periodic retraining/monitoring —

- to control dust levels
- to prevent dust exposure



- to urge stop smoking or not to start (it multiplies danger of lung disease).

A10535

UCC 009975