

FROM J. A. THOMPSON

TO C. R. SELTZER
R. J. HOSFELD
M. H. JOHNSON
B. B. WILSON
J. L. MCKINSTRY

PLAINTIFF'S EXHIBIT

AL-1918

July 12, 1972

RE: ASBESTOS DUST

In light of the attached letters, it is obvious that we must completely revise our methods of handling asbestos containing materials (shorts, brick, etc.). As a beginning, would each of you give some thought as to what materials of this type and fabricating processes are used in each of your areas? I want to be sure we are at least aware of all the potential problem areas and I will contact you next week to discuss these.

J. A. THOMPSON

JAT:pm



WEN200020

FROM THOMAS B. BONNEY
W. N. DAWSON, M. D.
R. H. WATSON

PITTSBURGH OFFICE

TO INDUSTRIAL HYGIENISTS
PLANT PHYSICIANS
SAFETY DIRECTORS

~~SECRET~~
P-13
JAT

*JAT is listing all
plant activities in and
so as to move in on
problem.*

July 1, 1972

RE: OSHA STANDARD FOR EXPOSURE TO ASBESTOS DUST

Attached is a copy of the latest amendment to Sec. 1910.93 related to asbestos dust exposures. The asbestos standard becomes effective July 7, 1972. Until then, the temporary emergency standard remains in effect. As you look over the requirements of this amendment, you will be impressed that its overall effect, regardless of intent, must be to discourage the use of asbestos and materials containing it.

We urge you to read closely the provisions of the permanent asbestos standard. To impress upon you its wide scope and the significant demands that will be made of plant personnel, highlights of the standard are given below.

Permissible Exposures. Until July 1, 1976, an employee's eight-hour, time-weighted average exposure concentration to asbestos fibers longer than five microns must not exceed five fibers per cubic centimeter of air. In addition, the employee may not be exposed to a concentration in excess of 10 such fibers per cc, regardless of the brevity of exposure. After July 1, 1976, the permissible time-weighted average concentration is reduced to two fibers per cc. The ceiling concentration will remain the same.

We point out that the equivalent concentration of two fibers per cc in terms of millions of particles per cubic foot is 0.06 mppcf. In rural areas, the normal concentration range of dust in ambient air is 0.50-0.5 mppcf. Using this comparison it is easy to see that a restriction to two fibers per cc means, for all practical purposes, no dust at all.

Engineering Controls. Engineering controls in conformance with ANSI Standards are required to keep dust exposures within permissible levels. All tools that produce dust will require local exhaust ventilation. Respirators are not a substitute and may be used only under limited circumstances.

Work Practices. Wherever possible, the asbestos-containing material shall be worked wet. Furthermore, products with asbestos cannot be removed from the containers in which they are shipped without first being wetted or enclosed or ventilated in order to prevent the generation of airborne dust. Spray application and the removal or demolition of asbestos materials will require the use of air-supplied respirators on those exposed.

Personal Protective Equipment. Respirators are permissible control devices only in emergencies or during the time it takes to institute engineering controls. In some instances, and we would anticipate them to be infrequent, OSHA may allow the use of respiratory protection if they consider that other control methods are not technically feasible. The type respirator to be used for any given application will depend upon the associated concentration of asbestos dust. Where respirators are used, a respirator program must be instituted in conformance with ANSI Z88.2-1969. The elements of this ANSI



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standard are included in the OSHA regulations, Part 1910.134, page 10590-92 of the May 29, 1971, Federal Register.

No employee will be required to wear a respirator if an examining physician determines the employee will be unable to function normally while wearing one. If necessary, such employees will be removed to another job without loss of pay.

Special clothing must be provided by the employer if the employee is exposed to asbestos concentrations in excess of 10 fibers per cc. Where the employee is exposed to time-weighted, eight-hour concentrations in excess of five fibers per cc (two fibers per cc after July, 1976) or peak concentrations in excess of 10 fibers per cc, he must be provided with a change room and two lockers. The restrictions placed on the manner in which asbestos-containing clothing must be laundered are such that it might force the employer into the laundry business.

Air Sampling and Analysis. All determinations of airborne asbestos will be made by the membrane filter method at 400-450X magnification with phase contrast illumination.

Within six months of the effective date, the employer must undertake both personal and general area sampling in those areas where asbestos fibers are released to the air. The pattern and frequency of sampling must be such that it is representative of exposures. However, the interval between samplings must be no longer than six months.

The employees or their representative shall be given the opportunity to observe the air sampling and have access to the records generated from it. Any employee receiving an excessive exposure must be so notified and told of the corrective action to be taken.

Caution Signs and Labels. Signs of specified dimensions, type size and message must be posted in specified locations where asbestos fibers may be in excess of exposure limits. Specified caution labels must be placed on all raw materials, mixtures, scrap waste and debris and other products containing asbestos.

Waste Disposal. Asbestos waste products which may produce airborne fibers under any foreseeable handling must be collected and disposed of in impermeable containers.

Medical Examination. Preplacement, annual and termination medical examinations must be given to all employees exposed to airborne concentrations of asbestos fibers. The examinations must be comprehensive and include chest x-ray and pulmonary function tests.

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As you can see from the above, the asbestos standard is comprehensive. It will require a considerable amount of coordination between all management personnel and education of all employees. If any of us can be of help to you as you implement this standard, please let us know.

T. B. Bonney
W. N. Dawson
R. H. Watson

TBB:WND:RHW:mh

Attachment

cc: F. E. Mueller, Pgh. - 23
C. L. Pittman, Pgh. - 27 O P
G.H. Farrah/J.M. Plunkett, ATC

Information copies to:

F. C. Irving, Jr., Pgh. - 29
R.S. Adams/R. Kohler, Alcas Cutlery Corp.
F.D. Koran/E.A. Moats, Tifton Aluminum Co., Inc.
A.P. LeClair, Jr./J.A. Elliott, H C Products Co.
J.L. McKinley/R.B. Kempton/ M.L. Bookout, Rea Magnet Wire Co., Inc.
R.F. Butler/D. Trudel, Permanent Mold Div., Cleveland Works
J.W. Anderson, ABP, Inc.
A.C. Sheldon/W.J. Koopman, ACPC, Allegheny Center
J.W. Warnock, ACPC, Marshall Works
J.S. Hamilton/J.J. Thimons, Wear-Ever Aluminum, Inc.
R.C. Wilson, LeFiell Sport Products, Inc.
D.D. Rhoads/W.A. Coward, Lincoln Manufacturing Co., Inc.
J.C. Bates, Pittsburgh - 22
R.C. Dean, Frigidome Division

WEN200023

FROM GEORGE H. FARRAH
ENVIRONMENTAL HEALTH LABORATORY
ALCOA TECHNICAL CENTER

TO INDUSTRIAL HYGIENISTS

April 17, 1972

RE: INDUSTRIAL HYGIENE NEWSLETTER - ASBESTOS DUST EXPOSURES

Mr. R. P. Carter's Newsletter dated December 23, 1971, concerning the OSHA emergency standard for asbestos has led to many requests for advice in determining compliance with the new Federal standards. This letter attempts to point out the more likely areas of exposure to asbestos dust, general reduction of worker exposures and includes sampling and analytical methods to determine if you are in compliance with any promulgated OSHA standard referring to asbestos.

The principal asbestos-containing materials of concern (apart from building insulation and pipe covering) are Molten Metal Marinite (Johns-Manville), asbestos shorts and insulating block used in smelting cells and furnaces of all types. Marinite constitutes a problem from the point of delivery of sheet stock, through storage and handling, all machining operations, removal of used material, to disposal of wastes. Asbestos shorts, as currently used, may present dust problems during transfer and mixing of the dry material in preparation of mortar, and in removal of old linings. According to Mr. H.M. Short, practically all the insulating (back-up) block used in smelting cells and in all types of furnaces contains 8% asbestos. This means that the operations of removing old lining from furnaces and cells, and even the relining, can create asbestos dust exposures. Asbestos is also used in other forms, such as paper and rope, and in a variety of applications - but principally as high temperature gasket. Wherever asbestos is routinely used, and in whatever form, we must take a careful look at exposures, not only of those handling the material, but of other workers in the vicinity. As mentioned in the December 23 Newsletter, this concern applies as well to the demolition of asbestos-covered structures, pipes, etc.

In starting an asbestos dust control program, the first step should be the listing of all forms and applications of asbestos-containing materials. This information should be readily available from the Process Materials List which all plants should have prepared and which they should maintain as current information. Next, all operations involving asbestos should be critically inspected. In many cases, it will not be necessary to collect samples and count fibers to recognize that concentrations are too high. If inspection of the operation shows a visible dust cloud, or if there is a layer of asbestos dust on surrounding surfaces, control measures must be instituted at once. Many of these measures are specified in the Federal Register of Tuesday, December 7, 1971; there are also some useful suggestions in the copies of Insulation Hygiene Progress Reports which were attached to the December 23, 1971, letter.

Most shops in which Marinite is processed have exhaust ducts attached to lathes, table and bandsaws, routing machines, etc. Power hand tools are similarly equipped and connected to the exhaust system. Some of these do a fairly good job of capturing dust, others are of little value. To be effective, enclosures must be virtually complete, with



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high capacity exhaust systems. Furthermore, exhaust systems must be connected to collection systems which meet the performance standards set forth in the Federal Register, December 7, 1971, page 23208, Section 1910.93a and pages 23242-23243, Sections 61.23 and 61.24. There should be no visible emissions from discharge of the collection system. This discharge should be to the outside and directed away from any windows that may be opened, to avoid any possibility of dust being blown back into the workroom. Where the collector discharge is directed against the side of a building and has resulted in a readily visible brown deposit, collection efficiency may well be questioned. Assistance with your control problems can be obtained from the Pittsburgh Environmental Engineering Division.

The handling of dry asbestos shorts may be avoided by purchase of this material in plastic bags equipped with hose connections which permit wetting of the contents before the bag is opened. Wet-digging of old trough and furnace linings, where this is permissible, will reduce the generation of dust. If wet removal and replacement of lining is done in the open, provision should be made for adequate clean-up, including flushing away of fines, so that dust will not blow about as the work area dries. In all cases, clean-up must be done by means of vacuum cleaners and not by dry sweeping. Asbestos wastes should be collected and disposed of in sealed bags as required by the existing standard.

In removing old furnace and cell linings, wetting the exposed surfaces to minimize dust should be employed wherever practical. Again, the Pittsburgh Environmental Engineering Division should be consulted on the practicality of exhaust from the working area, especially during lining removal.

After installation of all appropriate control measures, even though there is no visible dust, an air sampling program will be necessary to determine whether respiratory protection may be discontinued. If levels of dust are above the standard permitted, the actual levels will establish the type of respiratory protection required. The emergency standard for asbestos dust published in the Federal Register of December 7, 1971, established the approved method for counting the fibers in a sample. When this level was proposed as a permanent standard in the Federal Register of January 12, 1972, (Attachment #1) some of the details of sampling were also spelled out, along with requirements for warning signs, environmental sampling, and medical examinations. Early in February, NIOSH published a criteria document on asbestos dust recommending a still lower fiber count as the standard. The detailed method for sampling, counting and calculating the fiber concentrations which was contained in this document is given in Attachment #2. Attachment #3 is a copy of OSHA Sampling Data Sheet #2 which contains additional helpful information. Regardless of the concentration which is established as the final standard, these sampling and analytical procedures will apply.