

B U L L E T I N

N O . 6 0 9

September 13, 1977

SUBJECT: An Exxon Company presentation concerning the handling of asbestos.

Mr. Ike Weaver of Raybestos-Manhattan recently sent me a copy of a paper by Dr. Harvey B. Snyder of the Exxon Company which appeared in the Medical Bulletin. Dr. Snyder discussed some background on asbestos along with a description of some of the physical characteristics of asbestos fibers. He also wrote further on clinical asbestosis with some theories on the pathogenesis of asbestos. Following Dr. Snyder's presentation, the Exxon Company presented recommendations for the handling of asbestos. I have copied a few pages from this article as it appeared in the Medical Bulletin and am enclosing it for your information.

There are recommendations concerning the use of protective dust respirators when working with asbestos products. While most handling of asbestos has been covered in the OSHA standards there appears to be a logical classification of asbestos-containing materials in which friction materials are placed in Group Number V. After classification of friction materials in this group the Exxon presentation shows Table II with guides for the use of respiratory protection equipment. In particular this involves grinding, sanding, cutting, drilling, banding, riveting, and application of friction materials. It indicates type of respirator to be used depending on the operation. Following this is a list of the names and addresses of manufacturers and/or distributors of certain types of respiratory protection equipment. In addition, this paper included a listing of British sources of dust respirators.

This enclosed information may be of help to you and your customers as regards recommended respirator usage in working with friction materials.

E. W. Drislane
Executive Director

CC: Active Members - List C
Regional Members

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(9)

BRITISH SOURCES--DUST RESPIRATORS

Angus Fire Armour
George Angus & Co. Ltd.
Bentham
Lancaster, LA2 7NA

Chapman and Smith Ltd.
Safir Works
East Hoathley, Nr. Lewes
Sussex, BN8 6EW

Draeger Normalair Ltd.
Kitty Brewster, Blyth
Northumberland, NE24 4RH

James North & Sons Ltd.
P.O. Box 3, Hyde
Cheshire, SK14 1RL

The Leyland & Birmingham Rubber Co. Ltd.
Leyland, Nr. Preston
Lancashire, PR5 1UB

Martindale Protection Ltd.
Neasden Lane
London NW10 1RN

Mine Safety Appliances Co. Ltd.
Queenslie Industrial Estate
Glasgow, G33 4BT
Scotland

Phoenix Accessories (Milnsbridge) Ltd.
77 Waterloo Road, Pudsey,
Yorkshire, LS28 8DQ

Safety International
British American Optical Co. Ltd.
Radlett Road
Watford, Herts, WD2 4LJ

Protector Safety Products (UK) Ltd.
Protector House
719 Banbury Avenue
Slough
Berkshire, SL1 4LL

Siebe Gorman & Co. Ltd.
Davis Road, Chessington
Surrey, KT9 1TW

Staysafe & Co., Ltd.
909 Wolverhampton Road
Warley
Worcestershire, B69 9RR

ASBESTOS HANDLING PROCEDURE*

Asbestos fibers have been deemed a serious respiratory hazard and control of worker exposure is considered necessary to prevent asbestosis and asbestos-induced neoplasms. Various Exxon affiliates have taken positive action limiting the use of and requiring substitutes for asbestos-containing materials including talc, asbestos insulation materials (all high temperature insulation can be assumed to be asbestos or contain 5% or more asbestos as a binder), asbestos fire blankets, etc. However, asbestos has been used for many years and its presence will be noticed each time insulation must be removed, during turnaround work and sometimes in new construction when asbestos insulation is the only suitable material. At scheduled turnaround, the breaking of insulation and reinsulating same after piping completions, etc. will entail some exposure to asbestos fibers.

Despite the existence of widespread knowledge concerning the potential health hazards of this material, there is significant variation in control measures in effect at the operating affiliates. As a result, Exxon Corporation Medical Department has issued a Policy on the control of asbestos as a guide to the elimination or reduction to minimal levels in the use of asbestos in new construction where possible and to establish procedures for the handling of asbestos-containing material already in use. The following work practices are recommended:

(1) Asbestos-containing cements, mortars, coatings, grout and plaster should be mixed in closed bags or other containers. Manufacturers have high temperature mortars packed in plastic bags so that water can be added directly to the bags through a spout and moistened before opening. Moistened mortar is removed as required and mixing is completed in the shipping container. All waste is replaced in this container and sent to disposal at the end of the shift.

(2) Removal of asbestos insulation or ripping-off procedures must be done in a manner which will minimize scatter, dusting or dispersion of asbestos. After removing the wire clips and bands holding the jacket, and the jacket from the insulation, the surface insulation should be wetted. A plastic sheet placed below the piping or structure will serve subsequent clean-up. As many large pieces should be removed as feasible to minimize the number of cuts required.

(3) All waste insulation should be placed in dust-proof bags and all clean-up of asbestos dust shall be performed by vacuum cleaners or by wet cleaning methods. No dry sweeping should be allowed.

(4) There should be no spraying of asbestos material without precautions to limit the spread of overspray.

(5) Where possible, restrict movement into areas where asbestos dust is being generated by roping and signs which read "Keep Out—Authorized Entry Only."

(6) Special protective clothing should be provided to employees working in areas where asbestos dust is being generated. Care should be exercised in laundering and other handling of contaminated clothing.

Effective July 1, 1976 the OSHA time weighted average (8-hour) standard for asbestos is 2 fibers ($> 5\mu\text{m}$ in length) per ml of air. A 15-minute ceiling limit of 10 fibers ($> 5\mu\text{m}/\text{ml}$) also applies. Since air monitoring may not always be possible the approximate guide in Table II has been prepared as an aid to respirator selection. However, whenever there is any doubt whether these recommendations are adequate or where air monitoring data is available, respirators should be selected to insure that exposure does not exceed recommended standards.

Air monitoring techniques to determine concentrations recommended in the standard require some sophisticated equipment and skill. Accordingly to minimize exposures, a series of procedures are recommended in lieu of air monitoring. These are as follows:

All persons within the work area shall wear personal respiratory protective equipment selected on the basis of potential airborne concentrations of asbestos dust exceeding a TWA limit of 2 fibers/ml as time weighted average with a ceiling limit of 10 fibers/ml.

Respirators supplied for the specific application should be cleaned or disposed, maintained and serviced regularly. When not in use they should be stored in dust proof containers, e.g., a sealed plastic bag.

The following classification has been adopted for the purpose of recommending appropriate respirators for the type of asbestos material involved in each operation (See Table I).

Table 1. Classification of Asbestos Containing Materials

Group I	(Applied dry) Molded asbestos Molded calcium silicate/asbestos Molded magnesite (85%) Molded high temperature insulating block
Group II	(Applied wet) Calcium silicate (plastic) 85% magnesite (plastic) Hard-setting asbestos cement Sprayed asbestos
Group III	Cement asbestos (hard) Roofing sheets Drain pipes Building boards
Group IV	Asbestos rope, yarn tape and sealing materials (not impregnated) Asbestos blankets and clothing Asbestos millboard and paper Filter mats and gauzes
Group V	Resin-bonded and asbestos reinforced material (e.g., friction linings and electrical insulating materials) Asbestos gland packing (impregnated) Compressed fiber jointing Gaskets and preformed packings

Table 2. Respiratory Protection Equipment Selection Guide

Operation	Type of Asbestos Material Used	Respiratory Protection Required			
		Dry Operation		Wet Operation	
Spraying/Demolition (Confined space)	LII	With Vent.		With Vent.	
		No. Vent.	No. Vent.	No. Vent.	No. Vent.
Tearing Out Insulation (Confined space) (Outdoor)	LII	D	D	C	D
		C	C	C	C
				C	Fullface B
				C	C

Respiratory Protection Required

[illegible]

- Single use 1/4 face respirator with or without exhalation valve
- Air purifying 1/4 face respirator with replaceable particulate filter
- Powered air purifying respirator, with high efficiency filter
- Supplied air respirator with full facepiece, continuous flow

A. Single Use Respirators (Disposable)

Manufacturer*	Model Number
3M	8710
Willson	1400
A.O.	R1050
Safeline	5350
3M	8800

Replacement Filter

Manufacturer*	Model Number	Replacement Filter
NSA	459440	459595(10)
NSA	459438	459321
Willson	560	R60
Willson	1210	R10
Willson	1211	R11
A.O.	R5030	R30
P.O.	R6030	R30
Safeline	5265	5905
Walsh	7506	7500-6
Walsh	7406L	7400-6
Cover	1482-F100	F100
CESCO	94R20	R20
Glendale	GR2000	F10

Operating Modes

Manufacturer*	Model Number	Operating Mode
SurvivAir	9011-13	Pressure demand
	9811-13	Pressure demand
3M	W340	Continuous flow
Scott	4616-11	Continuous flow
	801548	Pressure demand
MSA	460B62	Continuous flow
Pulmosan	A480/10168	Continuous flow
Willton	1810	Continuous flow
Bullard	46	Continuous flow
A.O.	R6099	Continuous flow
Lear Siegler	0501-A	Pressure demand

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THE MEDICAL BULLETIN

**NAMES AND ADDRESSES
OF MANUFACTURERS AND DISTRIBUTORS**

American Optical Corp., Safety Products Div., 100 Canal St., Putnam, Connecticut 06260.

Bullard, E.D., Co., 2680 Bridgeway, Sausalito, California 94965.

Cesco Safety Products, Parmalee Industries, Inc., P.O. Box 1237, Kansas City, Missouri 64141.

Cover, H.S. Co., 107 East Alexander St., Buchanan, Mississippi 49107.

Glendale Optical Co., 130 Crossways Park Drive, Woodbury, N.Y. 11797.

Lear Siegler, Inc., 714 North Brookhurst St., Anaheim, California 92803.

Mine Safety Appliances Co., 400 Penn Center Blvd., Pittsburgh, Penna. 15535.

Pulmosan Safety Equipment Corp., 30-48 Linden Place, Flushing, N.Y. 11354.

Safeline Products, P.O. Box 550, Putnam, Connecticut 06260.

Scott Aviation Division of ATO, Inc., Lancaster, N.Y. 14086.

SurvivAir, Division of U.S. Divers Co., 3323 W. Warner Ave., Santa Ana, California 92702.

3M Company, 3M Center, St. Paul, Minnesota 55101.

Welsh Manufacturing Co., 9 Magnolia Street, Providence, Rhode Island 02909.

Willson Products Div., ESB Inc., P.O. Box 622, Reading, Pennsylvania 19603.

ASBESTOS STUDY COMMITTEE REPORT 1979

There has been no change in the asbestos standard to date, therefore we have had but one full committee meeting, and several task force meetings during the past year.

We are pleased to report that the work practices booklet recently published has sold 40,000 copies and is receiving widespread dissemination.

Recently we have been advised that the E.P.A. has had a study made by I.I.T. Research regarding asbestos. This report avers that there is a particularly high exposure risk in brake repair shops; we believe that if such risk does indeed exist, it is due principally to faulty work practices.

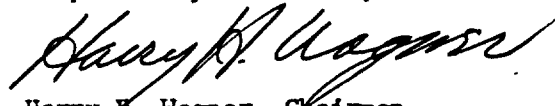
The F.M.S.I. work practices booklet addresses exactly to this segment of our industry, and we believe that the cautions and suggestions it contains are most timely. It is hoped that all members use this booklet and thus present a unified approach and good faith in facing up to our problems.

Mt. Sinai Hospital is under contract with N.I.O.S.H. to conduct a study of brake shops and we have cooperated with their Dr. William Nicholson in supplying information requested by him.

An item of deep concern is the asbestos industry sponsored legislation proposing a federal compensation fund financed by a ton usage assessment imposed upon each of us (first processor or sellers of an asbestos containing product). The ramifications of such legislation are many and while we as a committee cannot take a position without direction from you the board, we are solicitous of your views and assure you that we will vigorously pursue the avenues to which you direct us.

We suggest that since workmen's compensation has traditionally been within the province of the individual states, that it remain so. Efforts toward equalization of benefits among them are more meritorious than creation of still another federal regulation.

Respectfully submitted,



Harry H. Wagner, Chairman
F.M.S.I. Asbestos Study Committee

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