

INTERNAL CORRESPONDENCE

July 2, 1948

FROM

G. D. DICKSON

TO DR. LESTER V. CRALLEY

PITTSBURGH OFFICE

NEW KENSINGTON RESEARCH LABORATORIES

RE: SAFETY CLOTHING AND EQUIPMENT

PLAINTIFF'S EXHIBIT AL-1298

You have previously been advised of the Company's Standardization of Stores Material program and in particular that section dealing with safety clothing and equipment known as Employee Sales Classification #22. The final list of approved items carried under classification #22 was released April 9, 1948 to all storekeepers who were asked to review their stocks and report any deviation from the approval list to Mr. Bradshaw. This procedure has been followed and to date we have experience relatively few deviations. One in particular which we wish to call your attention to is respiratory protective equipment.

The final approved list of respirators included the following types:

<u>Hazard</u>	<u>Make of Respirator</u>	<u>Mfr. Catalog No.</u>
Metal Fume Respirator	M.S.A. Comfo.	CR-44752 *
Pneumoconiosis Producing and Nuisance Dusts	American Optical	AO-R-9100
Toxic Dusts	American Optical	AO-R-9100T
All Dusts	M.S.A. Dustfoe	CM-46162 *
(Pneumoconiosis-Producing & Nuisance Dusts plus Toxic Dusts)		
Mist	M.S.A. Comfo	CR-44752
Organic Vapors (Paint Spraying)	M.S.A. Chemical Cartridge	CR-44158

(*Indicates revision in catalog number)

All of the above respirators are approved by the Bureau of Mines for the specific hazards listed. For example,

Fume Type Respirators are approved for protection against the inhalation of solid dispersoids or particulate matter formed by the condensation of vapors such as those from heated metals and other substances.

Pneumoconiosis-Producing and Nuisance Dust Type Respirators are approved for protection against inhalation of pneumoconiosis (silicosis and asbestosis) producing dusts, such as free silica and asbestos; and nuisance dusts

July 2, 1948

-2-

such as free silica and asbestos; and nuisance dusts such as aluminum, cellulose, cement, coal, coke, gypsum, limestone, and wood.

Toxic Dust Type Respirators are approved for protection against inhalation of toxic or poisonous dusts, such as lead, cadmium, arsenic, chromium, manganese, selenium, vanadium and their compounds.

All Dust Type Respirators are approved for protection against inhalation of all dusts - pneumoconiosis producing and nuisance dusts plus toxic dusts.

Mist Type Respirators are approved for protection against inhalation of pneumoconiosis-producing, chromic acid and nuisance mists.

Organic Vapor Type Respirators are approved for protection against inhalation of organic vapors of concentrations not exceeding 0.1 percent by volume, such as acetone, alcohol, benzene, carbon tetrachloride, ether, formaldehyde, gasoline, petroleum distillates and toluene. For paint spraying operations this type respirator will afford protection against inhalation of the paint vehicle. An auxiliary paper screen is recommended to filter out the pigment.

The list of respirators selected and approved for the standardization program was determined (1) on the basis of Bureau of Mines approval and (2) on the popular choice of such approved equipment in use at our plants. We have learned from the letters received from storekeepers listing deviations from the standard approved list of respirators, that some locations have experienced difficulty in conforming to the approved list. They report that employees have refused to use the approved equipment, claiming it to be uncomfortable, heavy and annoying. They prefer instead to wear the old style gauze masks or other unapproved (i.e. not approved by the Bureau of Mines) respirators which they have been accustomed to using in the past. In some cases the preference is for other makes of respirators which have the Bureau of Mines approval. Where the preference is for other Bureau of Mines' approved respirators, we have and will promptly

916286 0621

July 2, 1948

okay it as an equivalent item. However, we are opposed to the use of the old style gauze mask or respirator not approved by the Bureau of Mines. We urge you to exert your influence to persuade the employees to adopt the use of Bureau of Mines approved respirators. We recognize the difficulty of converting people to the use of a new type respirator, particularly when it is not as comfortable as the type they have been wearing. It is more difficult when any mandatory stand by the Company precipitates a controversy. It is a problem that we believe can be solved by patience and persuasion. It is a problem which rests directly with Management and one which will require tactful handling. We have a twofold objective, (1) to provide adequate protection against health hazards and (2) to afford the Company maximum defense against fraudulent disability compensation claims.

As an illustration of how this problem might be approached we cite the case at one of our locations where exposure to a chemical product necessitated a complete change of clothing and a shower following the day's work. Employees objected to this requirement and refused to cooperate with Management. Their union committee was asked to attend a meeting for a discussion of the subject and were tactfully told that a health hazard existed if employees wore their clothes home from work and if they failed to bathe following this exposure. When the seriousness of the situation was presented in a business like manner and was fully understood and appreciated by the union committee and employees, their attitude changed and the problem was solved. The significant point was, that when the employees were informed and recognized the merits of the program they cooperated. We believe in the case of approved respiratory equipment they will also cooperate if we use the correct approach

916286 0622

July 2, 1948

-4-

As a possible aid in selling the Bureau of Mines approved respirators to employees at your location, we recommend the Mine Safety Appliances' 16 mm. sound motion picture, "The Air We Breathe." This film produced by the Wilding Pictures, Inc. is dramatically staged with professional talent and should be an excellent medium of selling our people on the use of approved respirators. Should you wish to borrow this film, contact your nearest M.S.A. representative or write this office and we shall arrange to borrow it for you.

G. D. DICKSON

GDD:mp

Same letter to all Works Managers
Safety Supervisors
District Purchasing Agents
Storekeepers

Copies to Dr. D. A. Irwin
Dr. L. V. Cralley
Mr. A. R. Hamilton

916286 0623

INTERNAL CORRESPONDENCE

February 9, 1948
Pg 1

FROM

C. L. BRADSHAW

TO

PITTSBURGH OFFICE

RE: DISPOSAL OF FLUORESCENT LAMPS

The attached article which recently came to my attention suggests a potential hazard that had not occurred to me. In view of the large amount of fluorescent lighting in use in our plants today, the disposal of old lamps might constitute a serious health hazard unless proper precautions were taken in the disposal of such lamps.

CLB:mp

C. L. BRADSHAW

Same letter to all Safety Directors

Attach.

DISPOSAL OF FLUORESCENT LAMPS

Fluorescent lamps are coated on the inside with a powder called a phosphor or fluorescent powder. The formulas used for phosphors vary considerably, but all contain beryllium in amounts ranging from a few tenths of a percent to approximately four percent. Some phosphors have been known to contain as much as 12 percent beryllium, but this is the exception rather than the rule.

As was reported in consultation sheet IH-198, a large number of deaths and cases of illness have occurred among workers in certain beryllium using industries. As far as is known, there have been no ill effects among workers exposed to phosphors when breaking burned-out fluorescent lamps. However, in view of the nature of the beryllium problem and the possibility that some industrial plants may accumulate large numbers of burned-out lamps, it is deemed important to dispose of the lamps in a manner which will result in a minimum of exposure to the fluorescent powder dusts.

At the present time we have no quantitative data to serve as a yardstick to measure the hazard from breathing dusts from fluorescent coatings. In other words, we do not know how effective ventilation or other controls need to be to prevent illness due to exposure to phosphor dusts. While certain fluorescent lamp manufacturers suggest that general precautions be taken when disposing of fluorescent lamps, standard methods have not been developed for this operation. For these reasons, the following procedures for the disposal of burned out fluorescent lamps are suggested as tentative methods of minimizing exposures to phosphor dusts:

A. Breaking of small numbers of fluorescent lamps intermittently.

1. Break out of doors in waste disposal area or in waste container.
2. Avoid breathing dusts of the fluorescent powders.
3. Full protection goggles should be worn during the breaking process.

B. Breaking of large numbers of fluorescent lamps either intermittently or regularly.

1. Break lamps out of doors in waste disposal area or in waste container.
 - a. Operator should be supplied with, and required to wear, a respirator approved by the United States Bureau of Mines for toxic dusts (See Consultation Sheet IH-122)
 - b. Ultimate disposal of the broken lamps should be such that the public and others will not be unduly exposed to the powders.
 - c. Full-protection goggles should be worn during the breaking process.

- d. Under no circumstances should lamps be broken inside an industrial plant without following precautions listed under 2, 3 and 4 below.
- 2. Break lamps in an isolated room used for this purpose only.
 - a. Lamp breaking should be done in a hood of such design as to minimize the escape of phosphor dusts.
 - b. Sufficient exhaust ventilation should be applied to the hood to provide air intake of at least 300 linear feet per minute at the face.
 - c. Full-protection goggles should be worn during the breaking process.
 - d. Good housekeeping should be practiced at all times.
 - 3. Break lamps in a container under water.
 - a. Disposal of sludge and broken glass should be done in the wet state.
 - b. Good housekeeping should be practiced at all times.
 - 4. Place lamps in incinerator or furnace and allow glass and powders to fuse into a clinker. Probably this can best be done by placing lamps on a fire which is allowed to burn out and cool. Disposal of the clinker should be done immediately upon removal.
 - a. Avoid allowing clinkers to accumulate.
 - b. Avoid breaking of lamps before placing on fire.
 - c. Good housekeeping should be practiced at all times.

The above suggested methods of disposing of burned-out fluorescent lamps are tentative and they may be revised as additional information on the beryllium problem becomes available. If and when new methods of fluorescent lamp disposal are developed, or standard procedures are adopted, the above will be revised accordingly.

January 29, 1947

G. D. DICKSON
PITTSBURGH OFFICE

TO: DR. L. V. CRALLEY
N. K. RESEARCH LABORATORIES

RE: RESPIRATOR - PAINT SPRAYING OPERATIONS

Those of you to whom this letter is addressed have suggested an additional respirator, adapted for paint spraying operations, to be added to the list of safety equipment as set up for the plant stores standardization program.

Your suggestions have been referred to Dr. Cralley for an opinion as to the most satisfactory respirator available for this exposure. He has recommended the M.S.A. chemical cartridge respirator CR-44158 and replaceable cartridge CR-44623 for this purpose. This is the only known respirator approved by the Bureau of Mines for organic fumes, vapors, and gases and this approval is only for concentrations which do not exceed 1000 parts per million. Since it is highly improbable that our exposure would exceed the critical limit we have included this respirator on the list which has been turned over to the Purchasing Department.

The immediate question as to what our policy should be with respect to present respirators of this type which are not approved is a matter for local decision. All future purchases of this type of respirator should be in accordance with the Purchasing Department's Standardized list.

GDD:mp
Same letter to R. H. Brown - Mobile
A. A. Morrison - Vancouver
E. J. Mulligan - E. St. Louis
Copies to: Dr. L. V. Cralley - Research
Mr. Thomas Parsons - Pgh.

G. D. DICKSON

916286 0627

2. Summary

7-9-47

Mr. Stevens (Fogari Perry) received a letter from the Dallas Sales Office in which mention was made that aluminum powder had been found to be highly effective as an insecticide - and also Fleas on dogs etc. (Suggests ~~emphasis~~ if Fogari's name be checked for absence of natural insects, etc.)

Mr. Stevens wonders if this would be worth a further check. I suggested if you call him with the idea of seeing if ~~not~~ issued a report calling out to the attention of the stage.

Thin composition

	20
Si	0.68
Al	4.41
Ca	1.4
Mg	0.67
Co	0.15
Mg	1.09
Cr	1.05
Ni	0.02
Mn	0.00
Sr	0.01
Zn	0.14
Pb	0.01
Ki	0.24
Ni	0.15

916286 0628

Chloride (or carbonate)	0.25
aluminum carbonate	2.44
" nitrate	2.05
free aluminum	47.4
aluminum oxide	34.6

SPECIFICATIONS FOR STANDARD SAFETY EQUIPMENT

<u>Foot Guards</u>	-	Aluminum Alloy 5½" width	-	Trade Name	-	Sanky #200
		" " combination)		" "		" #400
Foot and Shin Guard	)					

Sweat Bands Trade Name - Dry Brow

Hand Cream Trade Name - Pro-Tek (Dupont Product) #1 and #2

Ear (Defender) Protectors - Trade Name - Ear Defender - Mine Safety Appliance

Respirators

Nuisance dusts - American Optical - Cat. No. AO-R-9100.

Toxic dusts - American Optical - " " AO-R-9100T

Fumes - M.S.A. - Confo. " " CR-17060

<u>Gas Mask</u>	M.S.A.	All	Service	Gas Mask	- Burrell Type
	"	"	"	Canister	- EA-3107

Sleeves

18" length - chrome leather sleeve
19" " - Acid proof rubber sleeve

Hand Pads Size 6" x 6" - Open back style with or without wrist tie
made of asbestos.

Hand Leathers Size 7" x 9" - Oval style, hand slit with safety catch,
made of chrome leather.

Hard Hats One size only, adjustable leather cradle, aluminum alloy, full brim.

<u>Aprons</u>	Size 24" x 48"	Regular style (no split leg)	-Acid Proof Rubber
" 24" x 36"	" "	" "	" "
" 24" x 36"	" "	" "	Chrome Leather

Spats Ankle and Shin Length - Chrome leather with flares

Face Shield Jackson Face Shield - Type CH-5, including headgear, spark deflector and full binding - clear shield size 8" x 11"

Jackson - Type CH-3, including headgear and full binding
dark green shield - size 8" x 11"

INTERNAL CORRESPONDENCE

October 9, 1946

FROM

G. D. DICKSON

To

PITTSBURGH OFFICE

RE: SAFETY CLOTHING AND EQUIPMENT

You will recall our letter of June 13 to which was attached a copy of a letter addressed to Mr. Bradshaw from Mr. Parsons of the Pittsburgh Purchasing Department. In Mr. Parson's letter he explained a program undertaken by his department to prepare a companywide Standard Catalog of all Store Material and requested our assistance in standardizing safety equipment in cooperation with this program.

After considerable study of safety equipment now in use at our plants, which you reported in line with our request of June 13, we have prepared the attached list of safety equipment which is submitted for your suggestions and comments. In addition, we have prepared a separate list on safety goggles which shall be submitted at a later date. Such items as safety apparel and other miscellaneous gear have been omitted from the attached because of the varying conditions and peculiar hazards not common to all the plants throughout the Company.

Aside from three or four hazardous occupations which require special types of gloves, we have decided to ask the Purchasing Department to contact the plant storekeeper and determine glove requirements on the basis of operating practices at the various locations.

GDD:mp

G. D. DICKSON

Same letter to all Safety Directors

Pch

April 22, 1946

Mr. J. Barton, Jr., Claims Manager
Liberty Mutual Insurance Company
Vegas and Main Streets
Alhambra 2, Kansas

RE: WALTON DEE MENDRICK, JR. BOEING AIRPLANE COMPANY E79-2

Dear Mr. Barton:

Your letter regarding the subject captioned has been passed on to me for reply.

This Company over the past fifteen years has had considerable experience with magnesium and some of its alloys. This experience has concerned chiefly the melting, alloying, casting, rolling, shearing, grinding, and disintegration of that metal and its alloys. Some of these operations have produced an exposure to magnesium dust.

The alloys you mention in your letter have the composition AMS, approximately 98 per cent, other main constituents manganese, with traces of zinc, copper, nickel and silicon; AMSB, approximately 96 per cent magnesium, other main constituents aluminum and zinc, with traces of manganese and silicon. Our experience in the fabrication of magnesium and these alloys is such that we believe that magnesium or its alloys AMS and AMSB are non-toxic and incapable of producing eyeburns or local lesions.

However, the magnesium sheet supplied by us to the Wichita Plant, Boeing Airplane Company, was given a dischromatic dip prior to shipment. We know from our experience that the handling or fabrication of such material may give rise to a chromatic contact dermatitis or irritation of the eyes and nose if inhaled in the form of a dust. Such difficulties usually develop suddenly after two or three months of contact when the individual acquires sensitivity to chromatics.

If we were in the position of defending ourselves against a claim such as the captioned, we would deny that magnesium itself was toxic, but we would admit that the handling of dischromated magnesium might give rise to some local irritation due to the presence of the chromatic.

Mr. J. Brown, Jr.

April 22, 1945

2

Since your letter arrived, I took occasion to check a recent X-ray chest film of one of our employees exposed to magnesium dust for the past fifteen years. This film disclosed a normal chest.

If you believe that we can be of any further help in this matter, please communicate with me.

Very truly yours,

Dr. A. L. Irwin, M. D.
Medical Director

dal/dab

cc: Mr. W. L. Brown (N.H.O.O.)
Dr. L. V. Crailley (N.H.O.O.)
Mr. W. G. Harvey (N.H.O.O.)
Mr. R. T. Wood (N.H.O.O.)

916286 0632