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Inter Office Communication

General Parts Division

May 4, 1972

PLAINTIFF'S EXHIBIT

FD-2070

Plant Industrial Relations Managers

Subject: OSHA Target Health Hazards

The Department of Labor has identified five target health hazards that will receive priority in the inspection of industrial workplaces. These are:

Asbestos
Carbon Monoxide
Cotton Dust
Lead
Silica

Asbestos - A new standard is under consideration by OSHA that will be considerably more restrictive than the one adopted in February 1972. A copy of the current standard is attached. The provisions of 1910.93a (d)(3), (e), (f) and (g) have application within each of our plants where maintenance employees perform work on pipe insulation containing asbestos. The proposed standard will incorporate periodic physical examinations to any employees exposed to asbestos hazard regardless of how limited that exposure might be. It is recommended that each plant implement the requirements of the current standard immediately and compile a list of employees exposed to asbestos for use by the Medical unit when the proposed standard is adopted.

Carbon Monoxide - OSHA is concerned with long term exposures to low levels of carbon monoxide. At the present time, the threshold limit value is 50 parts per million for eight hours of exposure. Compliance officers consider an exposure to 500 ppm to be an imminent danger. A citation for a serious violation would be issued if a level of 150 ppm were exceeded for one hour. Industrial Hygiene advises the minimum sampling procedure of an operation should be one sample per hour over the period of an eight hour day. Each plant should have direct reading instrumentation for sampling carbon monoxide.

Cotton Dust - The Industrial Hygiene Unit has given a preliminary interpretation that the area of concern is confined to the processing of raw cotton. Dust from operations using processed cotton fabrics or threads would be considered exempt. Industrial Hygiene is seeking an official interpretation from the Detroit OSHA Office.

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Lead - Lead-in-air hazards whether in the form of a dust or fumes from solder operations or other processes using lead alloys have a threshold limit value of 0.2 mg/M³. This TLV is to be reduced to 0.15 mg/M³ later this year with the adoption of the new limits established by the American Conference of Governmental Industrial Hygienists. While blood lead levels may be required on certain operations, low blood levels cannot be used as justification for lead-in-air results above the established TLV. An Occupational Safety and Health Review Commission judge has ruled that an employee cannot be used as a monitoring device.

Silica - The threshold limit values for silica are listed on Table G-3 of the attachment. Again, these limits are based on eight hours of exposure.

It is recommended that you conduct a survey of your operations to determine those that may involve one of the five target hazards. Periodic surveys of the work environment should be conducted to assure that adequate control ventilation is present. Advise this office of those cases where a recent Industrial Hygiene survey report is not in file and we will coordinate the sampling of the current conditions. }

T. L. K6pke
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Attachment

cc: J. B. Williams

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TABLE O-3-MINERAL DUSTS

Substances	Mppcf	Mg/M ³
Silica:		
Crystalline:		
Quartz (respirable).....	250	10mg/M ³
	%SiO ₂ +8	%SiO ₂ +8
Quartz (total dust).....		50mg/M ³
	%SiO ₂ +8	%SiO ₂ +8
Cristobalite: Use 1/2 the value calculated from the count or mass formulae for quartz.		
Tridymite: Use 1/2 the value calculated from the formulae for quartz.		
Amorphous, including natural diatomaceous earth.....	30	50mg/M ³
	%SiO ₂	%SiO ₂
Silicates (less than 1% crystalline silica):		
Silica.....	30	
Soapstone.....	30	
Talc.....	30	
Portland cement.....	30	
Graphite (natural).....	15	
Coal dust (respirable fraction less than 8% SiO ₂).....		2.4mg/M ³ or 10mg/M ³
For more than 8% SiO ₂		%SiO ₂ +8
Inert or Nuisance Dust		
Respirable fraction.....	15	5mg/M ³
Total dust.....	30	15mg/M ³

Note: Conversion factors—
mppcf x 15 = million particles per cubic meter
= particles per c.c.

* Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.
† The percentage of crystalline silica in the formula is the amount determined from air-borne samples, except in those instances in which other methods have been shown to be applicable.
‡ As determined by the membrane filter method at 400× phase contrast magnification.
§ Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic diameter (unit density sphere)	Percent passing selector
1	90
2.5	75
5	50
10	25
15	0

The measurements under this note refer to the use of an AEC instrument. If the respirable fraction of coal dust is determined with a MRE the figure corresponding to that of 2.4 Mg/M³ in the table for coal dust is 4.8 Mg/M³.

[36 FR 23207 effective December 7, 1971]

§ 1910.93a Asbestos dust.

(a) The 8-hour time-weighted average airborne concentration of asbestos dust to which employees are exposed shall not exceed 5 fibers per milliliter greater than 5 microns in length, as determined by the membrane filter method at 400–450× magnification (4 millimeter objective) phase contrast illumination. Concentrations above 5 fibers per milliliter but, not to exceed 10 fibers per milliliter, may be permitted up to a total of 15 minutes in an hour for up to 8 hours in an 8-hour day.

(b) Engineering methods, such as but not limited to, enclosure, vacuum sweeping, and local exhaust ventilation, shall

be used to meet the exposure limits prescribed in paragraph (a) of this section. Where such engineering methods are not feasible, or do not otherwise reduce the concentrations below those prescribed in paragraph (a) of this section, respiratory protective devices shall be provided and used in accordance with paragraph (c) of this section.

(c) (1) (i) When the limits of exposure to asbestos dust prescribed in paragraph (a) of this section are exceeded and when engineering controls required by paragraph (b) of this section are not feasible or do not otherwise reduce the concentration of asbestos dust below those prescribed in paragraph (a) of this section, the employer shall require the use of respiratory protective devices. The selection of respiratory protective devices shall be limited to those specified in the remaining subparagraphs of this paragraph (c).

(ii) The employer shall require that each employee test his respiratory protective device before each use in order to insure a proper fit according to the manufacturer's instructions. The employer shall further provide for effective training or supervision of employees in the testing of respiratory protective devices for fit before their use.

(2) For an atmosphere containing not more than 25 fibers per milliliter greater than 5 microns in length over an 8-hour average, or more than 50 fibers per milliliter over any period of 15 minutes, a reusable or single-use filter type respirator, operating with negative pressure during the inhalation phase of breathing, approved by the U.S. Bureau of Mines under the provisions of 30 CFR Part 14 (Bureau of Mines Schedule 21B), or a valveless respirator providing equivalent protection, shall be used.

(3) For an atmosphere containing not more than 250 fibers per milliliter greater than 5 microns in length over an 8-hour average, or more than 500 fibers per milliliter over any period of 15 minutes, a powered filter positive pressure respirator approved by the U.S. Bureau of Mines under the provisions of 30 CFR Part 14 (Bureau of Mines Schedule 21B) shall be used.

(4) For an atmosphere containing more than 250 fibers per milliliter greater than 5 microns in length over an 8-hour average a type C positive pressure supplied-air respirator approved by the U.S. Bureau of Mines under the provisions of 30 CFR Part 12 (Bureau of Mines Schedule 19B) shall be used.

(5) The employer shall establish a respirator program in accordance with the requirements of American National Standard Practice for Respiratory Protection Z88.2—1969.

(6) The respirators provided each employee shall be properly inspected, cleaned, repaired and stored.

(d) (1) When an employer has employees who are exposed to asbestos dust exceeding the limits prescribed in paragraph (a) of this section and the exposure results from the operations described in the remaining subparagraphs of this paragraph (d), the employer shall

comply with the requirements of these subparagraphs relating to the operations involved. The requirements of this paragraph are in addition to those prescribed in paragraph (b) of this section.

(2) All hand- or power-operated tools which produce asbestos dust such as, but not limited to, saws, scorers, abrasive wheels, and drills shall be provided with local exhaust ventilation and dust collectors in accordance with the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems; ANSI Z9.2—1971.

(3) Employees exposed to the spraying of asbestos or the demolition of pipes, structures, or equipment covered or insulated with asbestos shall be provided with respiratory protective devices in accordance with paragraph (c) (4) of this section.

(e) Asbestos cement, mortar, coatings, grout, and plaster shall be mixed in closed bags or other containers.

(f) Asbestos waste and scrap shall be collected and disposed of in sealed bags or other containers.

(g) All cleanup of asbestos dust shall be performed by vacuum cleaners. No dry sweeping or blowing of dust shall be performed.

§ 1910.94 Ventilation.

(a) Abrasive blasting—(1) Definitions applicable to this paragraph—(i) Abrasive. A solid substance used in an abrasive blasting operation.

(ii) Abrasive-blasting respirator. A continuous flow air-line respirator constructed so that it will cover the wearer's head, neck, and shoulders to protect him from rebounding abrasive.

(iii) Blast cleaning barrel. A complete enclosure which rotates on an axis, or which has an internal moving tread to tumble the parts, in order to expose various surfaces of the parts of the action of an automatic blast spray.

(iv) Blast cleaning room. A complete enclosure in which blasting operations are performed and where the operator works inside of the room to operate the blasting nozzle and direct the flow of the abrasive material.

(v) Blasting cabinet. An enclosure where the operator stands outside and operates the blasting nozzle through an opening or openings in the enclosure.

(vi) Clean air. Air of such purity that it will not cause harm or discomfort to an individual if it is inhaled for extended periods of time.

(vii) Dust collector. A device or combination of devices for separating dust from the air handled by an exhaust ventilation system.

(viii) Exhaust ventilation system. A system for removing contaminated air from a space, comprising two or more of the following elements (a) enclosure or hood, (b) duct work, (c) dust collecting equipment, (d) exhaust, and (e) discharge stack.