F.R. 12-7-71

DEPT OF LABOR
ASBESTOS- CONSTRUCTION

Title 29—LABOR

Chapter XIII—Bureau of Labor Standards, Department of Labor

PART 1518—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Standard for Exposure to Asbestos Dust

Pursuant to section 4(b)(2) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1592, 29 U.S.C. 653), § 1518.55 of Title 29, Code of Federal Regulations, is hereby amended in the manner indicated below in order to prescribe a new standard limiting the exposure of workers to asbestos dust. The new standard limiting the exposure of employees to asbestos dust is that adopted under section 6(c) of the Williams-Steiger Occupational Safety and Health Act of 1970 and published in the FEDERAL REGISTER on this date. The standard is hereby determined to be more effective than that presently provided under § 1518.55 to the extent that it prescribes minimum levels of exposure to asbestos dust. Therefore, by operation of section 4(b)(2) of the Act the new standard issued under section 6(c) supersedes the construction safety standard relating to exposure to asbestos dust.

Section 1518.55 is hereby amended by adding a new paragraph (c) thereto. As amended § 1518.55 reads as follows:

§ 1518.55 Gases, vapors, fumes, dusts, and mists.

• • • • •

(c) Paragraphs (a) and (b) of this section do not apply to the exposure of employees to airborne asbestos dust. Whenever any employee is exposed to airborne asbestos dust, the requirements of § 1910.93a of this title shall apply.

Effective date. This amendment shall become effective upon publication in the FEDERAL REGISTER (12-7-71).

(Sec. 4(b)(2), 84 Stat. 1592, 29 U.S.C. 653; Secretary's Order No. 12-71, 36 F.R. 8754)

Signed at Washington, D.C., this 2d day of December 1971.

G. C. GUENTHER,
Assistant Secretary of Labor.

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Chapter XVII—Occupational Safety and Health Administration, Department of Labor

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Emergency Standard for Exposure to Asbestos Dust

Pursuant to section 6(c) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1596, 29 U.S.C. 655), Part 1910 of Title 29, Code of Federal Regulations (36 F.R. 10466, May 29, 1971) is hereby amended in the manner indicated below in order to provide an emergency standard dealing with the exposure of employees to asbestos dust.

In light of increasing information on the results of exposure of employees to airborne asbestos dust, including recent studies by the National Institute for Occupational Safety and Health and others, and recommendations by the American Conference of Governmental Industrial Hygienists (ACGIH), it is hereby determined that (1) exposure under the present standard for asbestos dust in Table G-3, § 1910.93, of 12 fibers per milliliter greater than 5 microns in length or 2 million particles per cubic foot of air, which is derived from an established Federal standard promulgated under the Walsh-Healey Public Contracts Act on May 20, 1969, constitutes a grave danger to employees exposed to this 8-hour time-weighted average concentration; and that (2) an emergency standard is necessary to protect employees from this excessive exposure. The National Institute for Occupational Safety and Health concurs that the proposed change in the asbestos dust standard recommended by the American Conference of Governmental Industrial Hygienists should be the substantial base for the emergency standard.

Action concerning the standard will be commenced under section 6(b) in the immediate future. Any notice of proposed rulemaking under section 6(b) will give notice of the emergency standard as a proposed rule and also of any appropriate subsidiary proposals which may be required under subparagraphs (5) and (7) of section 6(b) relating to the exposure of employees to toxic substances.

Part 1910 is amended as follows:

1. Table G-3 following § 1910.93 (36 F.R. 15104, Aug. 13, 1971) is hereby amended by deleting the following:

Asbestos—12 fibers per milliliter greater than 5 microns in length or A		2 Mppcf.
Tremolite	5 Mppcf.	20mg./M³ / % SiO_2

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As amended, Table G-3 reads as follows:

TABLE G-3—MINERAL DUSTS

Substance	Mppcf [1]	Mg/M³
Silica:		
Crystalline:		
Quartz (respirable)	250 [2]	$\frac{10mg/M^3}{\%SiO_2+2}$ =
Quartz (total dust)		$\frac{\%S_2O_2+2}{30mg/M^3}$
Cristobalite: Use ½ the value calculated from the count or mass formulas for quartz.		$\%S_2O_2+2$
Tridymite: Use ½ the value calculated from the formulae for quartz.		
Amorphous, including natural diatomaceous earth	20	$\frac{80mg/M^3}{\%SiO_2}$
Silicates (less than 1% crystalline silica):		
Mica	20	
Soapstone	20	
Talc	20	
Portland cement	50	
Graphite (natural)	15	
Coal dust (respirable fraction less than 5% SiO_2)		2.4mg/M³ or
For more than 5% SiO_2		$\frac{10mg/M^3}{\%SiO_2+2}$
Inert or Nuisance Dust:		
Respirable fraction	15	5mg/M³
Total dust	50	15mg/M³

NOTE: Conversion factors—
mppcf×35.3=million particles per cubic meter
=particles per c.c.

[1] Millions of particles per cubic foot of air, based on impinger samples counted by light-field technics.

[2] 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.

[3] As determined by the membrane filter method at 430× phase contrast magnification.

[4] 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
2	90
2.5	75
3.5	50
5.0	25
10	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/M^3 in the table for coal dust is 4.5 Mg/M³.

2. A new § 1910.93a is added to Part 1910. The new § 1910.93a reads as follows:

§ 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 membrance 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 5 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 and blowing shall be performed by vacuum cleaners. No dry sweeping shall be performed.

3. Section 1910.12 is amended by changing paragraph (a) in order to apply the emergency standard prescribed in the new § 1910.93a, which is published in this document, to construction work which is subject to the Act. The amendment is necessary in light of the rule of regulatory construction set forth in § 1910.5(c). As amended, § 1910.12 reads as follows:

§ 1910.12 Construction work.

(a)(1) *Adoption and extension of established safety and health standards for construction.* The standards prescribed by Part 1518 of this title and in effect on April 28, 1971, are adopted as occupational safety or health standards under section 6(a) of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in construction work. Each employer shall protect the employment and places of employment of each of his employees engaged in construction work by complying with the appropriate standards prescribed by this paragraph.

(2) The standards prescribed in § 1518.55(c) of this title shall apply in the case of the exposure of any employee in construction work to airborne asbestos dust.

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Effective date. These amendments shall become effective immediately upon publication in the FEDERAL REGISTER (12–7–71).

(Sec. 6(c), 84 Stat. 1596, 29 U.S.C. 655; Secretary's Order No. 12–71, 36 F.R. 8754)

Signed at Washington, D.C., this 2d day of December 1971.

G. C. GUENTHER,
Assistant Secretary of Labor.

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