

(2) In enforcing this section, the Director of the Bureau of Labor Standards may at any stage approve variations in individual cases from the limitation set forth in paragraph (b)(1) of this section to comply with the requirements of the Act upon a showing to the satisfaction of the Director by an employer having a mine with conditions resulting in an exposure of more than 4 working level months but not more than 12 working level months in any 12 consecutive months that (i) under the particular facts and circumstances involved the working conditions of the employees so exposed are such that their health and safety are protected, and (ii) the employer has a bona fide plan to reduce the levels of exposure to those specified in paragraph (b)(1) of this section as soon as practicable, but in no event later than January 1, 1971.

(3) Whenever a variation under paragraph (b)(2) of this section is sought, a request therefor should be submitted in writing to the Director of the Bureau of Labor Standards, U.S. Department of Labor, Washington, DC 20210, within 90 days following the end of the calendar quarter or year, as the case may be.

(c)(1) For uranium mines, records of environmental concentrations in the occupied parts of the mine, and of the time spent in each area by each person involved in underground work shall be established and maintained. These records shall be in sufficient detail to permit calculations of the exposures, in units of working level months, of the individuals and shall be available for inspection by the Secretary of Labor or his authorized agents.

(2) For other than uranium mines and for surface workers in all mines, paragraph (c)(1) of this section will be applicable: *Provided, however,* That if no environmental sample shows a concentration greater than 0.33 working level in any occupied part of the mine, the maintenance of individual occupancy records and the calculation of individual exposures will not be required.

(d)(1) At the request of an employee (or former employee) a report of the employee's exposure to radiation as shown in records maintained by the

employer pursuant to paragraph (c) of this section, shall be furnished to him. The report shall be in writing and contain the following statement:

This report is furnished to you under the provisions of the U.S. Department of Labor, Radiation Safety and Health Standards (41 CFR 50-204.36). You should preserve this report for future reference.

(2) The former employee's request should include appropriate identifying data, such as social security number and dates and locations of employment.

#### **Subpart D—Gases, Vapors, Fumes, Dusts, and Mists**

##### **§ 50-204.50 Gases, vapors, fumes, dusts, and mists.**

(a) (1) Exposures by inhalation, ingestion, skin absorption, or contact to any material or substance (i) at a concentration above those specified in the "Threshold Limit Values of Airborne Contaminants for 1968" of the American Conference of Governmental Industrial Hygienists, except for the ANSI Standards listed in Table I of this section and except for the values of mineral dusts listed in Table II of this section, and (ii) concentrations above those specified in Tables I and II of this section, shall be avoided, or protective equipment shall be provided and used.

(2) The requirements of this section do not apply to exposures to airborne asbestos dust. Exposures of employees to airborne asbestos dust shall be subject to the requirements of 29 CFR 1910.93a.

(b) To achieve compliance with paragraph (a) of this section, feasible administrative or engineering controls must first be determined and implemented in all cases. In cases where protective equipment in addition to other measures is used as the method of protecting the employee, such protection must be approved for each specific application by a competent industrial hygienist or other technically qualified source.

TABLE II—MINERAL DUSTS

Substance	Mppcf <sup>a</sup>	Mg/M <sup>3</sup>
Silica:		
Crystalline:		
Quartz (respirable) .....	250 <sup>f</sup>	10mg/M <sup>3m</sup>
Quartz (total dust) .....	%SiO <sub>2</sub> =5	%SiO <sub>2</sub> =2 30mg/M <sup>3</sup>
Cristobalite: Use ½ the value calculated from the count or mass formulae for quartz.		%SiO <sub>2</sub> =2
Tridymite: Use ½ the value calculated from the formulae for quartz.		
Amorphous, including natural diatomaceous earth	20	80mg/M <sup>3</sup>
		%SiO <sub>2</sub>
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 <sub>2</sub> ) ..		2.4mg/M <sup>3</sup> or 10mg/M <sup>3</sup>
For more than 5% SiO <sub>2</sub> .....		%SiO <sub>2</sub> =2
Inert or Nuisance Dust:		
Respirable fraction .....	1	5mg/M <sup>3</sup>
Total dust .....	505	15mg/M <sup>3</sup>

NOTE: Conversion factors—  
 mppcf:35.3=million particles per cubic meter  
 =particles per c.c.  
<sup>a</sup>Millions of particles per cubic foot of air, based on impinger samples counted by light-field technics.  
<sup>f</sup>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.  
<sup>l</sup>As determined by the membrane filter method at 430 × phase contrast magnification.  
<sup>m</sup>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<sup>3</sup> in the table for coal dust is 4.5 Mg/M<sup>3</sup>

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**§ 50-204.65 Inspection of compressed gas cylinders.**

Each contractor shall determine that compressed gas cylinders under his extent that this can be determined by visual inspection. Visual and other in-

spection shall be conducted as prescribed in the Hazardous Materials Regulations of the Department of Transportation (49 CFR Parts 171-179 and 14 CFR Part 103). Where those regulations are not applicable, visual and other inspections shall be conducted in accordance with Compressed Gas Association Pamphlets C-6-198 and C-8-1962.

**§ 50-204.66 Acetylene.**

(a) The in-plant transfer, handling, storage, and utilization of acetylene in cylinders shall be in accordance with Compressed Gas Association Pamphlet G-1-1966.

(b) The piped systems for the in-plant transfer and distribution of acetylene shall be designed, installed, maintained, and operated in accordance with Compressed Gas Association Pamphlet G-1.3-1959.

(c) Plants for the generation of acetylene and the charging (filling) of acetylene cylinders shall be designed, constructed, and tested in accordance with the standards prescribed in Compressed Gas Association Pamphlet G-1.4-1966.

**§ 50-204.67 Oxygen.**

The in-plant transfer, handling, storage, and utilization of oxygen as a liquid or a compressed gas shall be in accordance with Compressed Gas Association Pamphlet G-4-1962.

**§ 50-204.68 Hydrogen.**

The in-plant transfer, handling, storage, and utilization of hydrogen shall be in accordance with Compressed Gas Association Pamphlets G-5.1-1961 and G-5.2-1966.

**§ 50-204.69 Nitrous oxide.**

The piped systems for the in-plant transfer and distribution of nitrous oxide shall be designed, installed, maintained, and operated in accordance with Compressed Gas Association Pamphlet G-8.1-1964.

**§ 50-204.70 Compressed gases.**

The in-plant handling, storage, and utilization of all compressed gases in cylinders, portable tanks, rail tankcars, or motor vehicle cargo tanks