

Post Office Box 1937, Cincinnati, OH 45202.

(b) All persons, including employees, shall be withdrawn from any area in which there is a concentration of an airborne contaminant given a "C" designation by the Conference which exceeds the threshold limit value (ceiling "C" limit) listed for that contaminant.

[37 FR 6368, Mar. 28, 1972, as amended at 39 FR 17101, May 13, 1974; 43 FR 12319, Mar. 24, 1978. Redesignated at 45 FR 80756, Dec. 5, 1980, as amended at 67 FR 38385, June 4, 2002]

**§ 71.701 Sampling; general requirements.**

(a) Air samples will be taken by the Secretary and will be analyzed to determine the concentrations of noxious or poisonous gases, dusts, fumes, mists, and vapors in surface installations and at surface worksites.

(b) Upon written notification by the Secretary to the operator of an underground coal mine or of a surface coal mine, the operator shall conduct any additional air sampling tests and analyses as the Secretary may from time to time require in order to ensure compliance with the standards set forth in § 71.700 in each surface installation and at each surface worksite.

(c) Where concentrations of airborne contaminants in excess of the applicable threshold limit values and permissible excursions are known by the operator to exist in a surface installation or at a surface worksite, he shall immediately provide necessary control measures to assure compliance with § 71.700.

(d) Where the operator has reasonable grounds to believe that concentrations of airborne contaminants in excess of the applicable threshold limit values and permissible excursions exist, or are likely to exist, he shall promptly conduct appropriate air sampling tests to determine the concentration of any airborne contaminant which may be present and immediately provide the necessary control measures to assure compliance with § 71.700.

[37 FR 6368, Mar. 28, 1972. Redesignated at 45 FR 80756, Dec. 5, 1980]

**§ 71.702 Asbestos dust standard; measurement.**

(a) The 8-hour average airborne concentration of asbestos dust to which miners are exposed shall not exceed two fibers per cubic centimeter of air. Exposure to a concentration greater than two fibers per cubic centimeter of air, but not to exceed 10 fibers per cubic centimeter of air, may be permitted for a total of 1 hour each 8-hour day. As used in this subpart, the term asbestos means chrysotile, amosite, crocidolite, anthophyllite asbestos, tremolite asbestos, and actinolite asbestos but does not include nonfibrous or nonasbestiform minerals.

(b) The determination of fiber concentration shall be made by counting all fibers longer than 5 micrometers in length and with a length-to-width ratio of at least 3 to 1 in at least 20 randomly selected fields using phase contrast microscopy at 400–450 magnification.

[41 FR 10223, Mar. 10, 1976. Redesignated at 45 FR 80756, Dec. 5, 1980]

**PART 72—HEALTH STANDARDS FOR COAL MINES**

**Subpart A—General**

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72.710 Selection, fit, use, and maintenance of approved respirators.

AUTHORITY: 30 U.S.C. 811, 813(h), 957, 961.

SOURCE: 59 FR 8327, Feb. 18, 1994, unless otherwise noted.

**Subpart A—General**

**§ 72.1 Scope.**

The health standards in this part apply to all coal mines.

**Subparts B–C [Reserved]**

**Subpart D—Diesel Particulate Matter—Underground Areas of Underground Coal Mines**

SOURCE: 66 FR 5704, Jan. 19, 2001, unless otherwise noted.

**§ 72.500 Emission limits for permissible diesel-powered equipment.**

(a) Each piece of permissible diesel-powered equipment introduced into an underground area of an underground coal mine after May 21, 2001 must emit no more than 2.5 grams per hour of diesel particulate matter.

(b) As of July 19, 2002, each piece of permissible diesel-powered equipment operated in an underground area of an underground coal mine must emit no more than 2.5 grams per hour of diesel particulate matter.

[66 FR 5704, Jan. 19, 2001, as amended at 66 FR 15033, Mar. 15, 2001; 66 FR 27866, May 21, 2001]

**§ 72.501 Emission limits for nonpermissible heavy-duty diesel-powered equipment, generators and compressors.**

(a) Each piece of nonpermissible heavy-duty diesel-powered equipment (as defined by § 75.1908(a) of this part), generator or compressor introduced into an underground area of an underground coal mine after May 21, 2001 must emit no more than 5.0 grams per hour of diesel particulate matter.

(b) As of July 21, 2003, each piece of nonpermissible heavy-duty diesel-powered equipment (as defined by § 75.1908(a) of this part), generator or compressor operated in an underground area of an underground coal mine must emit no more than 5.0 grams per hour of diesel particulate matter.

(c) As of January 19, 2005, each piece of nonpermissible heavy-duty diesel-powered equipment (as defined by § 75.1908(a) of this part), generator or compressor operated in an underground area of an underground coal mine must emit no more than 2.5 grams per hour of diesel particulate matter.

(d) Notwithstanding the other provisions of this section, a generator or compressor that discharges its exhaust directly into intake air that is coursed directly to a return air course, or discharges its exhaust directly into a return air course, is not subject to the applicable requirements of this section.

[66 FR 5704, Jan. 19, 2001, as amended at 66 FR 15033, Mar. 15, 2001; 66 FR 27866, May 21, 2001]

**§ 72.502 Requirements for nonpermissible light-duty diesel-powered equipment other than generators and compressors.**

(a) Each piece of nonpermissible light-duty diesel-powered equipment (as defined by § 75.1908(b) of this part), other than generators and compressors, introduced into an underground area of an underground coal mine after May 21, 2001 must emit no more than 5.0 grams per hour of diesel particulate matter.

(b) A piece of nonpermissible light-duty diesel-powered equipment must be deemed to be in compliance with the requirements of paragraph (a) of this section if it utilizes an engine which meets or exceeds the applicable particulate matter emission requirements of the Environmental Protection Administration listed in Table 72.502–1, as follows:

TABLE 72.502–1

EPA requirement	EPA category	PM limit
40 CFR 86.094–8(a)(1)(I)(A)(2) .....	light duty vehicle .....	0.1 g/mile.
40 CFR 86.094–9(a)(1)(I)(A)(2) .....	light duty truck .....	0.1 g/mile.
40 CFR 86.094–11(a)(1)(iv)(B) .....	heavy duty highway engine .....	0.1 g/bhp-hr.
40 CFR 89.112(a) .....	Tier 2 nonroad .....	Varies by power:

TABLE 72.502-1—Continued

EPA requirement	EPA category	PM limit
	kW< (hp<11) .....	0.80 g/kW-hr (0.60 g/bhp-hr).
	8≤kW<19 (11≤hp<25) .....	0.80 g/kW-hr (0.60 g/bhp-hr).
	19≤kW<37 (25≤hp<50) .....	0.60 g/kW-hr (0.45 g/bhp-hr).
	37≤kW<75 (50≤hp<100) .....	0.40 g/kW-hr (0.30 g/bhp-hr).
	75≤kW<130 (100≤hp<175) .....	0.30 g/kW-hr (0.22 g/bhp-hr).
	130≤kW<225 (175≤hp<300) .....	0.20 g/kW-hr (0.15 g/bhp-hr).
	225≤kW<450 (300≤hp<600) .....	0.20 g/kW-hr (0.15 g/bhp-hr).
	450≤kW<560 (600≤hp<750)" .....	0.20 g/kW-hr (0.15 g/bhp-hr).
	kW≥560 (hp≥750) .....	0.20 g/kW-hr (0.15 g/bhp-hr).

Notes: "g" means grams; "kW" means kilowatt; "hp" means horsepower; "g/kW-hr" means grams/kilowatt-hour; "g/bhp-hr" means grams/brake horsepower-hour.

(c) The requirements of this section do not apply to any diesel-powered ambulance or fire fighting equipment that is being used in accordance with the mine fire fighting and evacuation plan under § 75.1101-23.

[66 FR 5704, Jan. 19, 2001, as amended at 66 FR 15033, Mar. 15, 2001; 66 FR 27866, May 21, 2001]

**§ 72.503 Determination of emissions; filter maintenance; definition of "introduced".**

(a) MSHA will determine compliance with the emission requirements established by this part by using the amount of diesel particulate matter emitted by a particular engine determined from the engine approval pursuant to § 7.89(a)(9)(iii)(B) or § 7.89(a)(9)(iv)(A) of this title, with the exception of engines deemed to be in compliance by meeting the EPA requirements specified in Table 72.502-1 (§ 72.502(b)).

(b) Except as provided in paragraph (c) of this section, the amount by which an aftertreatment device can reduce engine emissions of diesel particulate matter as determined pursuant to paragraph (a) must be established by a laboratory test:

(1) on an approved engine which MSHA has determined, pursuant to paragraph (a) of this section, to emit no more diesel particulate matter than the engine being used in the piece of diesel-powered equipment in question;

(2) using the test cycle specified in Table E-3 of § 7.89 of this title, and following a test procedure appropriate for the filtration system, by a laboratory capable of testing engines in accordance with the requirements of Subpart E of part 7 of this title; and

(3) with an aftertreatment device representative of that being used on the piece of diesel-powered equipment in question.

(c) In lieu of the laboratory tests required by paragraph (b), the Secretary may accept the results of tests conducted or certified by an organization whose testing standards are deemed by the Secretary to be as rigorous as those set forth by paragraph (b) of this section; and further, the Secretary may accept the results of tests for one aftertreatment device as evidencing the efficiency of another aftertreatment device which the Secretary determines to be essentially identical to the one tested.

(d) Operators must maintain in accordance with manufacturer specifications and free of observable defects, any aftertreatment device installed on a piece of diesel equipment upon which the operator relies to remove diesel particulate matter from diesel emissions.

(e) For purposes of §§ 72.500(a), 72.501(a) and 72.502(a), the term "introduced" means any piece of equipment whose engine is a new addition to the underground inventory of engines of the mine in question, including newly purchased equipment, used equipment, and equipment receiving a replacement engine that has a different serial number than the engine it is replacing. "Introduced" does not include a piece of equipment whose engine was previously part of the mine inventory and rebuilt.

**§ 72.510 Miner health training.**

(a) Operators must provide annual training to all miners at a mine who

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can reasonably be expected to be exposed to diesel emissions on that property. The training must include—

(1) The health risks associated with exposure to diesel particulate matter;

(2) The methods used in the mine to control diesel particulate matter concentrations;

(3) Identification of the personnel responsible for maintaining those controls; and

(4) Actions miners must take to ensure the controls operate as intended.

(b)(1) An operator must keep a record of the training at the mine site for one year after completion of the training. An operator may keep the record elsewhere if the record is immediately accessible from the mine site by electronic transmission.

(2) Upon request from an authorized representative of the Secretary of Labor, the Secretary of Health and Human Services, or from the authorized representative of miners, mine operators must promptly provide access to any such training record. Whenever an operator ceases to do business, that operator must transfer the training records, or a copy, to any successor operator who must maintain them for the required period.

## § 72.520 Diesel equipment inventory.

(a) The operator of each mine that utilizes diesel equipment underground, shall prepare and submit in writing to the District Manager, an inventory of diesel equipment used in the mine. The inventory shall include the number and type of diesel-powered units used underground, including make and model of unit, type of equipment, make and model of engine, serial number of engine, brake horsepower rating of engine, emissions of engine in grams per hour or grams per brake horsepower-hour, approval number of engine, make and model of aftertreatment device, serial number of aftertreatment device if available, and efficiency of aftertreatment device.

(b) The mine operator shall make changes to the diesel equipment inventory as equipment or emission control systems are added, deleted or modified and submit revisions, to the District Manager, within 7 calendar days.

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(c) If requested, the mine operator shall provide a copy of the diesel equipment inventory to the representative of the miners within 3 days of the request.

## Subpart E—Miscellaneous

### § 72.610 Abrasive blasting.

(a) *Surface and underground mines.* When an abrasive blasting operation is performed, all exposed miners shall properly use respirators approved for abrasive blasting by NIOSH under 42 CFR part 84, or the operation shall be performed in a totally enclosed device with the miner outside the device.

(b) *Underground areas of underground mines.* Silica sand or other materials containing more than 1 percent free silica shall not be used as an abrasive substance in abrasive blasting.

[59 FR 8327, Feb. 18, 1994, as amended at 60 FR 30401, June 8, 1995]

### § 72.620 Drill dust control at surface mines and surface areas of underground mines.

Holes shall be collared and drilled wet, or other effective dust control measures shall be used, when drilling non-water-soluble material. Effective dust control measures shall be used when drilling water-soluble material.

### § 72.630 Drill dust control at underground areas of underground mines.

(a) Dust resulting from drilling in rock shall be controlled by use of permissible dust collectors, or by water, or water with a wetting agent, or by ventilation, or by any other method or device approved by the Secretary that is as effective in controlling the dust.

(b) *Dust collectors.* Dust collectors shall be maintained in permissible and operating condition. Dust collectors approved under Part 33—Dust Collectors for Use in Connection with Rock Drilling in Coal Mines of this title or under Bureau of Mines Schedule 25B are permissible dust collectors for the purpose of this section.

(c) *Water control.* Water used to control dust from drilling rock shall be applied through a hollow drill steel or stem or by the flooding of vertical drill holes in the floor.

(d) *Ventilation control.* To adequately control dust from drilling rock, the air current shall be so directed that the dust is readily dispersed and carried away from the drill operator or any other miners in the area.

**§ 72.710 Selection, fit, use, and maintenance of approved respirators.**

In order to ensure the maximum amount of respiratory protection, approved respirators shall be selected, fitted, used, and maintained in accordance with the provisions of the American National Standards Institute's "Practices for Respiratory Protection ANSI Z88.2-1969," which is hereby incorporated by reference. This publication may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018, and may be inspected at any Coal Mine Health and Safety district and subdistrict office, or at MSHA's Office of Standards, 1100 Wilson Blvd., Room 2352, Arlington, Virginia 22209-3939, and at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

[60 FR 30401, June 8, 1995, as amended at 67 FR 38386, June 4, 2002]

**PART 74—COAL MINE DUST PERSONAL SAMPLER UNITS**

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- 74.2 Sampler unit.
- 74.3 Specifications of sampler unit.
- 74.4 Tests of coal mine dust personal sampler units.
- 74.5 Conduct of tests; demonstrations.
- 74.6 Applications.
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- 74.10 Changes after certification.
- 74.11 Withdrawal of certification.

AUTHORITY: 30 U.S.C. 957, 961.

SOURCE: 35 FR 4326, Mar. 11, 1970, unless otherwise noted.

**§ 74.1 Purpose.**

The regulations in this part set forth the requirements for approval of coal

mine dust personal sampler units designed to determine the concentrations of respirable dust in coal mine atmospheres; procedures for applying for such approval; test procedures; and labeling.

**§ 74.2 Sampler unit.**

A coal mine dust personal sampler unit shall consist of (a) a pump unit, (b) a sampling head assembly, and (c) if rechargeable batteries are used in the pump unit, a battery charger.

**§ 74.3 Specifications of sampler unit.**

(a) *Pump unit*—(1) *Dimensions.* The overall dimensions of the pump unit, hose connections and valve or switch covers shall not exceed 8 inches in height, 6 inches in width and 4 inches in thickness.

(2) *Weight.* The pump unit shall not weigh more than 4 pounds.

(3) *Construction.* The case and all components of the pump unit shall be of sufficiently durable construction to endure the wear of use in a coal mine and shall be tight fitting, so as to minimize the amount of dust entering the pump case.

(4) *Exhaust.* The pump shall exhaust into the pump case, maintaining a slight positive pressure which will reduce the entry of dust into the pump case.

(5) *Switch.* The pump unit shall be equipped with an on-off switch or equivalent device on the outside of the pump case. This switch shall be protected against accidental operation during use and protected to keep dust from entering the mechanisms.

(6) *Flow rate adjustment.* Except as provided in the last sentence of this paragraph (a) (6), the pump unit shall be equipped with a suitable means of flow rate adjustment accessible from outside the case. To prevent accidental adjustment, the flow rate adjuster shall be recessed in the pump case and shall require the use of an adjusting tool. If the pump is capable of maintaining the flow rate consistency required in this part without adjustment, an external flow rate adjuster is not required.

(7) *Battery.* The power supply for the pump shall be a suitable battery located in the pump case or in a separate