

§ 57.5001

30 CFR Ch. I (7-1-11 Edition)

MSHA stand-ard	National consensus standard
§ 57.4560	ASTM E-162—Surface Flammability of Materials Using a Radiant Heat Energy Source.

Subpart D—Air Quality, Radiation, Physical Agents, and Diesel Particulate Matter

AIR QUALITY—SURFACE AND UNDERGROUND

§ 57.5001 Exposure limits for airborne contaminants.

Except as permitted by § 57.5005—

(a) Except as provided in paragraph (b), the exposure to airborne contaminants shall not exceed, on the basis of a time weighted average, the threshold limit values adopted by the American Conference of Governmental Industrial Hygienists, as set forth and explained in the 1973 edition of the Conference's publication, entitled "TLV's Threshold Limit Values for Chemical Substances in Workroom Air Adopted by ACGIH for 1973," pages 1 through 54, which are hereby incorporated by reference and made a part hereof. This publication may be obtained from the American Conference of Governmental Industrial Hygienists by writing to 1330 Kemper Meadow Drive, Attn: Customer Service, Cincinnati, OH 45240, <http://www.acgih.org>, or may be examined in any Metal and Nonmetal Mine Safety and Health District Office of the Mine Safety and Health Administration. Excursions above the listed thresholds shall not be of a greater magnitude than is characterized as permissible by the Conference.

(b) *Asbestos standard*—(1) *Definitions*. Asbestos is a generic term for a number of asbestiform hydrated silicates that, when crushed or processed, separate into flexible fibers made up of fibrils.

Asbestos means chrysotile, cummingtonite-grunerite asbestos (amosite), crocidolite, anthophyllite asbestos, tremolite asbestos, and actinolite asbestos.

Asbestos fiber means a fiber of asbestos that meets the criteria of a fiber.

Fiber means a particle longer than 5 micrometers (µm) with a length-to-diameter ratio of at least 3-to-1.

(2) *Permissible Exposure Limits (PELs)*—(i) *Full-shift limit*. A miner's personal exposure to asbestos shall not exceed an 8-hour time-weighted average full-shift airborne concentration of 0.1 fiber per cubic centimeter of air (f/cc).

(ii) *Excursion limit*. No miner shall be exposed at any time to airborne concentrations of asbestos in excess of 1 fiber per cubic centimeter of air (f/cc) as averaged over a sampling period of 30 minutes.

(3) *Measurement of airborne asbestos fiber concentration*. Potential asbestos fiber concentration shall be determined by phase contrast microscopy (PCM) using the OSHA Reference Method in OSHA's asbestos standard found in 29 CFR 1910.1001, Appendix A, or a method at least equivalent to that method in identifying a potential asbestos exposure exceeding the 0.1 f/cc full-shift limit or the 1 f/cc excursion limit. When PCM results indicate a potential exposure exceeding the 0.1 f/cc full-shift limit or the 1 f/cc excursion limit, samples shall be further analyzed using transmission electron microscopy according to NIOSH Method 7402 or a method at least equivalent to that method.

(c) Employees shall be withdrawn from areas where there is present an airborne contaminant given a "C" designation by the Conference and the concentration exceeds the threshold limit value listed for that contaminant.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 35695, July 11, 1995; 71 FR 16667, Apr. 3, 2006; 73 FR 11303, Feb. 29, 2008; 73 FR 66172, Nov. 7, 2008]

§ 57.5002 Exposure monitoring.

Dust, gas, mist, and fume surveys shall be conducted as frequently as necessary to determine the adequacy of control measures.

§ 57.5005 Control of exposure to airborne contaminants.

Control of employee exposure to harmful airborne contaminants shall be, insofar as feasible, by prevention of contamination, removal by exhaust ventilation, or by dilution with uncontaminated air. However, where accepted engineering control measures

have not been developed or when necessary by the nature of work involved (for example, while establishing controls or occasional entry into hazardous atmospheres to perform maintenance or investigation), employees may work for reasonable periods of time in concentrations of airborne contaminants exceeding permissible levels if they are protected by appropriate respiratory protective equipment. Whenever respiratory protective equipment is used a program for selection, maintenance, training, fitting, supervision, cleaning, and use shall meet the following minimum requirements:

(a) Respirators approved by NIOSH under 42 CFR part 84 which are applicable and suitable for the purpose intended shall be furnished and miners shall use the protective equipment in accordance with training and instruction.

(b) A respirator program consistent with the requirements of ANSI Z88.2-1969, published by the American National Standards Institute and entitled "American National Standards Practices for Respiratory Protection ANSI Z88.2-1969," approved August 11, 1969, which is hereby incorporated by reference and made a part hereof. This publication may be obtained from the American National Standards Institute, Inc., 25 W. 43rd Street, 4th Floor, New York, NY 10036; <http://www.ansi.org>, or may be examined in any Metal and Nonmetal Mine Safety and Health District Office of the Mine Safety and Health Administration.

(c) When respiratory protection is used in atmospheres immediately harmful to life, the presence of at least one other person with backup equipment and rescue capability shall be required in the event of failure of the respiratory equipment.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 30400, June 8, 1995; 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995; 71 FR 16667, Apr. 3, 2006]

§ 57.5006 Restricted use of chemicals.

The following chemical substances shall not be used or stored except by competent persons under laboratory conditions approved by a nationally recognized agency acceptable to the Secretary.

- (a) Carbon tetrachloride,
- (b) Phenol,
- (c) 4-Nitrobiphenyl,
- (d) Alpha-naphthylamine,
- (e) 4,4-Methylene Bis (2-chloroaniline),
- (f) Methyl-chloromethyl ether,
- (g) 3,3 Dichlorobenzidine,
- (h) Bis (chloromethyl) ether,
- (i) Beta-naphthylamine,
- (j) Benzidine,
- (k) 4-Aminodiphenyl,
- (l) Ethyleneimine,
- (m) Beta-propiolactone,
- (n) 2-Acetylaminofluorene,
- (o) 4-Dimethylaminobenzene, and
- (p) N-Nitrosodimethylamine.

AIR QUALITY—SURFACE ONLY
[RESERVED]

AIR QUALITY—UNDERGROUND ONLY

§ 57.5015 Oxygen deficiency.

Air in all active workings shall contain at least 19.5 volume percent oxygen.

RADIATION—UNDERGROUND ONLY

§ 57.5037 Radon daughter exposure monitoring.

(a) In all mines at least one sample shall be taken in exhaust mine air by a competent person to determine if concentrations of radon daughters are present. Sampling shall be done using suggested equipment and procedures described in section 14.3 of ANSI N13.8-1973, entitled "American National Standard Radiation Protection in Uranium Mines," approved July 18, 1973, pages 13-15, by the American National Standards Institute, Inc., which is incorporated by reference and made a part of the standard or equivalent procedures and equipment acceptable to the Administrator, MSHA Metal and Nonmetal Mine Safety and Health district office. This publication may be examined at any Metal and Nonmetal Mine Safety and Health Subdistrict Office of the Mine Safety and Health Administration, or may be obtained from the American National Standards Institute, Inc., 25 W. 43rd Street, 4th Floor, New York, NY 10036; <http://www.ansi.org>. The mine operator may request that the required exhaust mine

§ 57.5038

air sampling be done by the Mine Safety and Health Administration. If concentrations of radon daughters in excess of 0.1 WL are found in an exhaust air sample, thereafter—

(1) Where uranium is mined—radon daughter concentrations representative of worker's breathing zone shall be determined at least every two weeks at random times in all active working areas such as stopes, drift headings, travelways, haulageways, shops, stations, lunch rooms, magazines, and any other place or location where persons work, travel, or congregate. However, if concentrations of radon daughters are found in excess of 0.3 WL in an active working area, radon daughter concentrations thereafter shall be determined weekly in that working area until such time as the weekly determinations in that area have been 0.3 WL or less for 5 consecutive weeks.

(2) Where uranium is not mined—when radon daughter concentrations between 0.1 and 0.3 WL are found in an active working area, radon daughter concentration measurements representative of worker's breathing zone shall be determined at least every 3 months at random times until such time as the radon daughter concentrations in that area are below 0.1 WL, and annually thereafter. If concentrations of radon daughters are found in excess of 0.3 WL in an active working area radon daughter concentrations thereafter shall be determined at least weekly in that working area until such time as the weekly determinations in that area have been 0.3 WL or less for 5 consecutive weeks.

(b) If concentrations of radon daughters less than 0.1 WL are found in an exhaust mine air sample, thereafter:

(1) Where uranium is mined—at least one sample shall be taken in the exhaust mine air monthly.

(2) Where uranium is not mined—no further exhaust mine air sampling is required.

(c) The sample date, locations, and results obtained under (a) and (b) above shall be recorded and retained at the mine site or nearest mine office for at least two years and shall be made

30 CFR Ch. I (7–1–11 Edition)

available for inspection by the Secretary or his authorized representative.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 33723, June 29, 1995; 71 FR 16667, Apr. 3, 2006]

§ 57.5038 Annual exposure limits.

No person shall be permitted to receive an exposure in excess of 4 WLM in any calendar year.

§ 57.5039 Maximum permissible concentration.

Except as provided by standard § 57.5005, persons shall not be exposed to air containing concentrations of radon daughters exceeding 1.0 WL in active workings.

§ 57.5040 Exposure records.

(a) The operator shall calculate and record complete individual exposures to concentrations of radon daughters as follows:

(1) Where uranium is mined—the complete individual exposures of all mine personnel working underground shall be calculated and recorded. These records shall include the individual's time in each active working area such as stopes, drift headings, travelways, haulageways, shops, stations, lunch rooms, magazines and any other place or location where persons work, travel or congregate, and the concentration of airborne radon daughters for each active working area.

(2) Where uranium is not mined—the complete individual exposure of all mine personnel working in active working areas with radon daughter concentrations in excess of 0.3 WL shall be calculated and recorded. These records shall include the individual's time in each active working area and the concentrations of airborne radon daughters for each active working area. The operator may discontinue calculating and recording the individual exposures of any personnel assigned to work in active working areas where radon daughter concentrations have been reduced to 0.3 WL or less for 5 consecutive weeks provided that such exposure calculation and recordation shall not be discontinued with respect to any person who has accumulated more exposure than $\frac{1}{12}$ (one-twelfth) of a WLM times the number of months for

which exposures have been calculated and recorded in the calendar year in which the exposure calculation and recordation is proposed to be discontinued.

(b) The operator shall maintain the form entitled "Record of Individual Exposure to Radon Daughters" (Form 4000-9), or equivalent forms that are acceptable to the Administrator, Metal and Nonmetal Mine Safety and Health, Mine Safety and Health Administration, on which there shall be recorded the specific information required by the form with respect to each person's time-weighted current and cumulative exposure to concentrations of radon daughters.

(1) The form entitled "Record of Individual Exposure to Radon Daughters" (Form 4000-9), shall consist of an original of each form for the operator's records which shall be available for examination by the Secretary or his authorized representative.

(2) On or before February 15 of each calendar year, or within 45 days after the shutdown of mining operations for the calendar year, each mine operator shall submit to the Mine Safety and Health Administration a copy of the "Record of Individual Exposure to Radon Daughters" (Form 4000-9), or acceptable equivalent form, showing the data required by the form for all personnel for whom calculation and recording of exposure was required during the previous calendar year.

(3) Errors detected by the operator shall be corrected on any forms kept by the operator and a corrected copy of any forms submitted to the Mine Safety and Health Administration shall be submitted to the Mine Safety and Health Administration within 60 days of detection and shall identify the errors and indicate the date the corrections are made.

(4) The operator's records of individual exposure to concentrations of radon daughters and copies of "Record of Individual Exposure to Radon Daughters" (Form 4000-9) or acceptable equivalent form or true legible facsimiles thereof (microfilm or other), shall be retained at the mine or nearest mine office for a period as specified in paragraph 9.8, ANSI N13.8-1973, or shall be submitted to the Mine Safety and

Health Administration. These records, if retained by the operator, shall be open for inspection by the Secretary of Labor, his authorized representative, and authorized representatives of the official mine inspection agency of the State in which the mine is located. Paragraph 9.8, ANSI N13.8-1973, is incorporated by reference and made a part of this standard. ANSI N13.8-1973 may be examined at any Metal and Nonmetal Mine Safety and Health District Office of the Mine Safety and Health Administration, and may be obtained from the American National Standards Institute, Inc., at 25 W. 43rd Street, 4th Floor, New York, NY 10036; <http://www.ansi.org>.

(5) Upon written request from a person who is a subject of these records, a statement of the year-to-date and cumulative exposure applicable to that person shall be provided to the person or to whomever such person designates.

(6) The blank form entitled "Record of Individual Exposure to Radon Daughters" (Form 4000-9) may be obtained on request from any MSHA Metal and Nonmetal Mine Safety and Health district office.

NOTE: To calculate an individual's exposure to WLM for a given period of time, multiply the total exposure time (hours to the nearest half-hour) in an active working area by the average concentration of airborne radon daughters for the applicable active working area (average working level calculated to the nearest hundredth working level) and divide the product by the constant 173 hours per month.

An average airborne radon daughter concentration for a designated active working area shall be determined by averaging all sampling results for that working area during the time that persons are present. Any sample taken by Federal or State mine inspectors, which represents exposure to miners and reported to the operator within three days of being taken, shall be included in the average concentration; except that if the mine operator samples simultaneously with the inspector, he may use his own sample results.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995; 71 FR 16667, Apr. 3, 2006]

§ 57.5041 Smoking prohibition.

Smoking shall be prohibited in all areas of a mine where exposure records

§ 57.5042

are required to be kept in compliance with standard 57.5040.

§ 57.5042 Revised exposure levels.

If levels of permissible exposures to concentrations of radon daughters different from those prescribed in 57.5038 are recommended by the Environmental Protection Agency and approved by the President, no employee shall be permitted to receive exposures in excess of those levels after the effective dates established by the Agency.

§ 57.5044 Respirators.

In environments exceeding 1.0 WL, miners shall wear respirators approved by NIOSH for radon daughters prior to July 10, 1995 or under the equivalent section of 42 CFR part 84 and such respirator use shall be in compliance with § 57.5005.

[60 FR 30400, June 8, 1995]

§ 57.5045 Posting of inactive workings.

Inactive workings in which radon daughter concentrations are above 1.0 WL, shall be posted against unauthorized entry and designated by signs indicating them as areas in which approved respirators shall be worn.

§ 57.5046 Protection against radon gas.

Where radon daughter concentrations exceed 10 WL, respirator protection against radon gas shall be provided in addition to protection against radon daughters. Protection against radon gas shall be provided by supplied air devices or by face masks containing absorbent material capable of removing both the radon and its daughters.

§ 57.5047 Gamma radiation surveys.

(a) Gamma radiation surveys shall be conducted annually in all underground mines where radioactive ores are mined.

(b) Surveys shall be in accordance with American National Standards (ANSI) Standard N13.8-1973, entitled "Radiation Protection in Uranium Mines", section 14.1 page 12, which is hereby incorporated by reference and made a part hereof. This publication may be examined in any Metal and Nonmetal Mine Safety and Health District Office, Mine Safety and Health

30 CFR Ch. I (7-1-11 Edition)

Administration, or may be obtained from the American National Standards Institute, Inc., 25 W. 43rd Street, 4th Floor, New York, NY 10036; <http://www.ansi.org>.

(c) Where average gamma radiation measurements are in excess of 2.0 milliroentgens per hour in the working place, gamma radiation dosimeters shall be provided for all persons affected, and records of cumulative individual gamma radiation exposure shall be kept.

(d) Annual individual gamma radiation exposure shall not exceed 5 rems.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995; 71 FR 16667, Apr. 3, 2006]

**DIESEL PARTICULATE MATTER—
UNDERGROUND ONLY**

SOURCE: 66 FR 5907, Jan. 19, 2001, unless otherwise noted.

§ 57.5060 Limit on exposure to diesel particulate matter.

(a) A miner's personal exposure to diesel particulate matter (DPM) in an underground mine must not exceed an average eight-hour equivalent full shift airborne concentration of 308 micrograms of elemental carbon per cubic meter of air (308_{EC} µg/m³). [This interim permissible exposure limit (PEL) remains in effect until the final DPM exposure limit becomes effective. When the final DPM exposure limit becomes effective, MSHA will publish a document in the FEDERAL REGISTER.]

(b)(1) Effective May 20, 2006, a miner's personal exposure to diesel particulate matter (DPM) in an underground mine must not exceed an average eight-hour equivalent full shift airborne concentration of 308 micrograms of elemental carbon per cubic meter of air (308_{EC} µg/m³).

(2) Effective January 20, 2007, a miner's personal exposure to diesel particulate matter (DPM) in an underground mine must not exceed an average eight-hour equivalent full shift airborne concentration of 350 micrograms of total carbon per cubic meter of air (350_{TC} µg/m³).

(3) Effective May 20, 2008, a miner's personal exposure to diesel particulate matter (DPM) in an underground mine

must not exceed an average eight-hour equivalent full shift airborne concentration of 160 micrograms of total carbon per cubic meter of air (160_{TC} µg/m³).

(c)(1) If a mine requires additional time to come into compliance with the final DPM limit established in § 57.5060 (b) due to technological or economic constraints, the operator of the mine may file an application with the District Manager for a special extension.

(2) The mine operator must certify on the application that the operator has posted one copy of the application at the mine site for at least 30 days prior to the date of application, and has provided another copy to the authorized representative of miners.

(3) No approval of a special extension shall exceed a period of one year from the date of approval. Mine operators may file for additional special extensions provided each extension does not exceed a period of one year. An application must include the following information:

(i) Documentation supporting that controls are technologically or economically infeasible at this time to reduce the miner's exposure to the final DPM limit.

(ii) The most recent DPM monitoring results.

(iii) The actions the operator will take during the extension to minimize exposure of miners to DPM.

(4) A mine operator must comply with the terms of any approved application for a special extension, post a copy of the approved application for a special extension at the mine site for the duration of the special extension period, and provide a copy of the approved application to the authorized representative of miners.

(d) The mine operator must install, use, and maintain feasible engineering and administrative controls to reduce a miner's exposure to or below the applicable DPM PEL established in this section. When controls do not reduce a miner's DPM exposure to the PEL, controls are infeasible, or controls do not produce significant reductions in DPM exposures, controls must be used to reduce the miner's exposure to as low a level as feasible and must be supplemented with respiratory protection in

accordance with § 57.5005(a), (b), and paragraphs (d)(1) through (d)(8) of this section.

(1) Air purifying respirators must be equipped with the following:

(i) Filters certified by NIOSH under 30 CFR part 11 (appearing in the July 1, 1994 edition of 30 CFR, parts 1 to 199) as a high efficiency particulate air (HEPA) filter;

(ii) Filters certified by NIOSH under 42 CFR part 84 as 99.97% efficient; or

(iii) Filters certified by NIOSH for DPM.

(2) Non-powered, negative-pressure, air purifying, particulate-filter respirators shall use an R- or P-series filter or any filter certified by NIOSH for DPM. An R-series filter shall not be used for longer than one work shift.

(3) The mine operator must provide a confidential medical evaluation by a physician or other licensed health care professional (PLHCP), at no cost to the miner, to determine the miner's ability to use a respirator before the miner is required to be fit tested or to use a respirator at the mine. If the PLHCP determines that the miner cannot wear a negative pressure respirator, the mine operator must make certain that the PLHCP evaluates the miner's ability to wear a powered air purifying respirator (PAPR).

(4) The mine operator must provide the miner with an opportunity to discuss their evaluation results with the PLHCP before the PLHCP submits the written determination to the mine operator regarding the miner's ability to wear a respirator. If the miner disagrees with the evaluation results of the PLHCP, the miner may submit within 30 days additional evidence of his or her medical condition to the PLHCP.

(5) The mine operator must obtain a written determination from the PLHCP regarding the miner's ability to wear a respirator, and the mine operator must assure that the PLHCP provides a copy of the determination to the miner.

(6) The miner must be reevaluated when the mine operator has reason to believe that conditions have changed which could adversely affect the miner's ability to wear the respirator.

§ 57.5061

30 CFR Ch. I (7-1-11 Edition)

(7) Upon written notification that the PLHCP has determined that the miner is unable to wear a respirator, including a PAPR, the miner must be transferred to work in an existing position in an area of the same mine where respiratory protection is not required. The miner must be transferred within 30 days of the final determination by the PLHCP.

(i) The miner must continue to receive compensation at no less than the regular rate of pay in the classification held by that miner immediately prior to the transfer.

(ii) Increases in wages of the transferred miner must be based upon the new work classification.

(8) The mine operator must maintain a record of the identity of the PLHCP and the most recent written determination of each miner's ability to wear a respirator for the duration of the miner's employment plus six months.

(e) Rotation of miners shall not be considered an acceptable administrative control used for compliance with the DPM standard.

[70 FR 32966, June 6, 2005; 70 FR 37901, June 30, 2005, as amended at 70 FR 55019, Sept. 19, 2005; 71 FR 29011, 29012, May 18, 2006; 71 FR 36483, June 27, 2006]

§ 57.5061 Compliance determinations.

(a) MSHA will use a single sample collected and analyzed by the Secretary in accordance with the requirements of this section as an adequate basis for a determination of noncompliance with the DPM limit.

(b) The Secretary will collect samples of DPM by using a respirable dust sampler equipped with a submicrometer impactor and analyze the samples for the amount of elemental carbon using the method described in NIOSH Analytical Method 5040, except that the Secretary also may use any methods of collection and analysis subsequently determined by NIOSH to provide equal or improved accuracy for the measurement of DPM.

(c) The Secretary will use full-shift personal sampling for compliance determinations.

[70 FR 32966, June 6, 2005]

§ 57.5065 Fueling practices.

(a) Diesel fuel used to power equipment in underground areas must not have a sulfur content greater than 0.05 percent. The operator must retain purchase records that demonstrate compliance with this requirement for one year after the date of purchase.

(b) The operator must only use fuel additives registered by the U.S. Environmental Protection Agency in diesel powered equipment operated in underground areas.

[66 FR 5907, Jan. 19, 2001; 66 FR 35520, July 5, 2001]

§ 57.5066 Maintenance standards.

(a) Any diesel powered equipment operated at any time in underground areas must meet the following maintenance standards:

(1) The operator must maintain any approved engine in approved condition;

(2) The operator must maintain the emission related components of any non-approved engine to manufacturer specifications; and

(3) The operator must maintain any emission or particulate control device installed on the equipment in effective operating condition.

(b)(1) A mine operator must authorize each miner operating diesel-powered equipment underground to affix a visible and dated tag to the equipment when the miner notes evidence that the equipment may require maintenance in order to comply with the maintenance standards of paragraph (a) of this section. The term *evidence* means visible smoke or odor that is unusual for that piece of equipment under normal operating procedures, or obvious or visible defects in the exhaust emissions control system or in the engine affecting emissions.

(2) A mine operator must ensure that any equipment tagged pursuant to this section is promptly examined by a person authorized to maintain diesel equipment, and that the affixed tag not be removed until the examination has been completed. The term *promptly* means before the end of the next shift during which a qualified mechanic is scheduled to work.

(3) A mine operator must retain a log of any equipment tagged pursuant to

this section. The log must include the date the equipment is tagged, the date the equipment is examined, the name of the person examining the equipment, and any action taken as a result of the examination. The operator must retain the information in the log for one year after the date the tagged equipment was examined.

(c) Persons authorized by a mine operator to maintain diesel equipment covered by paragraph (a) of this section must be qualified, by virtue of training or experience, to ensure that the maintenance standards of paragraph (a) of this section are observed. An operator must retain appropriate evidence of the competence of any person to perform specific maintenance tasks in compliance with those standards for one year after the date of any maintenance, and upon request must provide the documentation to the authorized representative of the Secretary.

[66 FR 5907, Jan. 19, 2001, as amended at 67 FR 9184, Feb. 27, 2002]

EFFECTIVE DATE NOTE: At 66 FR 5907, Jan. 19, 2001, § 57.5066 was added, effective July 5, 2001, except for paragraph (b). At 66 FR 35518, July 5, 2001, the effective date of paragraph (b) was delayed pending disposition of current litigation challenging the rule. At 67 FR 9184, Feb. 27, 2002, paragraphs (b)(1) and (b)(2) were revised, effective Mar. 29, 2002.

§ 57.5067 Engines.

(a) Any diesel engine introduced into an underground area of a mine covered by this part after July 5, 2001, other than an engine in an ambulance or fire fighting equipment which is utilized in accordance with mine fire fighting and evacuation plans, must either:

(1) Have affixed a plate evidencing approval of the engine pursuant to subpart E of Part 7 of this title or pursuant to Part 36 of this title; or

(2) Meet or exceed the applicable particulate matter emission requirements of the Environmental Protection Administration listed in Table 57.5067-1, as follows:

TABLE 57.5067-1

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)	nonroad (tier, power range)	varies by power range:
	tier 1 kW<8 (hp<11)	1.0 g/kW-hr (0.75 g/bhp-hr).
	tier 1 8≤kW<19 (11≤hp<25)	0.80 g/kW-hr (0.60 g/bhp-hr).
	tier 1 19≤kW<37 (25≤hp<50)	0.80 g/kW-hr (0.60 g/bhp-hr).
	tier 2 37≤kW<75 (50≤hp<100)	0.40 g/kW-hr (0.30 g/bhp-hr).
	tier 2 75≤kW<130 (100≤hp<175)	0.30 g/kW-hr (0.22 g/bhp-hr).
	tier 1 130≤kW<225 (175≤hp<300)	0.54 g/kW-hr (0.40 g/bhp-hr).
	tier 1 225≤kW<450 (300≤hp<600)	0.54 g/kW-hr (0.40 g/bhp-hr).
	tier 1 450≤kW<560 (600≤hp<750)	0.54 g/kW-hr (0.40 g/bhp-hr).
	tier 1 kW≥560 (hp≥750)	0.54 g/kW-hr (0.40 g/bhp-hr).

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

(b) For purposes of paragraph (a):

(1) The term "introduced" means any engine added to the underground inventory of engines of the mine in question, including:

(i) An engine in newly purchased equipment;

(ii) An engine in used equipment brought into the mine; and

(iii) A replacement engine that has a different serial number than the engine it is replacing; but

(2) The term "introduced" does not include engines that were previously part of the mine inventory and rebuilt.

(3) The term *introduced* does not include the transfer of engines or equipment from the inventory of one underground mine to another underground mine operated by the same mine operator.

[66 FR 5907, Jan. 19, 2001, as amended at 66 FR 27864, May 21, 2001; 67 FR 9184, Feb. 27, 2002]

§ 57.5070

30 CFR Ch. I (7–1–11 Edition)

§ 57.5070 Miner training.

(a) Mine operators must provide annual training to all miners at a mine covered by this part who 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) An operator must retain a record at the mine site of the training required by this section for one year after completion of the training.

§ 57.5071 Exposure monitoring.

(a) Mine operators must monitor as often as necessary to effectively determine, under conditions that can be reasonably anticipated in the mine, whether the average personal full-shift airborne exposure to DPM exceeds the DPM limit specified in § 57.5060.

(b) The mine operator must provide affected miners and their representatives with an opportunity to observe exposure monitoring required by this section. Mine operators must give prior notice to affected miners and their representatives of the date and time of intended monitoring.

(c) If any monitoring performed under this section indicates that a miner’s exposure to diesel particulate matter exceeds the DPM limit specified in § 57.5060, the operator must promptly post notice of the corrective action being taken on the mine bulletin board, initiate corrective action by the next work shift, and promptly complete such corrective action.

(d)(1) The results of monitoring for diesel particulate matter, including any results received by a mine operator from sampling performed by the Secretary, must be posted on the mine bulletin board within 15 days of receipt and must remain posted for 30 days. The operator must provide a copy of the results to the authorized representative of miners.

(2) The mine operator must retain for five years (from the date of sampling), the results of any samples the operator collected as a result of monitoring under this section, and information about the sampling method used for obtaining the samples.

[70 FR 32966, June 6, 2005]

§ 57.5075 Diesel particulate records.

(a) The table entitled “Diesel Particulate Matter Recordkeeping Requirements” lists the records the operator must maintain pursuant to §§ 57.5060 through 57.5071, and the duration for which particular records need to be retained.

TABLE 57.5075(a)—DIESEL PARTICULATE RECORDKEEPING REQUIREMENTS

Record	Section reference	Retention time
1. Approved application for extension of time to comply with exposure limits.	§ 57.5060(c)	Duration of extension.
2. Identity of PLHCP and most recent written determination of miner’s ability to wear a respirator.	§ 57.5060(d)	Duration of miner’s employment plus 6 months.
3. Purchase records noting sulfur content of diesel fuel.	§ 57.5065(a)	1 year beyond date of purchase.
4. Maintenance log	§ 57.5066(b)	1 year after date any equipment is tagged.
5. Evidence of competence to perform maintenance.	§ 57.5066(c)	1 year after date maintenance performed.
6. Annual training provided to potentially exposed miners.	§ 57.5070(b)	1 year beyond date training completed.
7. Record of corrective action	§ 57.5071(c)	Until the corrective action is completed.
8. Sampling method used to effectively evaluate a miner’s personal exposure, and sample results.	§ 57.5071(d)	5 years from sample date.

(b)(1) Any record listed in this section which is required to be retained at the mine site may, notwithstanding such requirement, be retained elsewhere if the mine operator can immediately access the record 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 record listed in the table in this section.

(3) An operator must provide access to a miner, former miner, or, with the miner's or former miner's written consent, a personal representative of a miner, to any record required to be maintained pursuant to § 57.5071 or § 57.5060(d) to the extent the information pertains to the miner or former miner. The operator must provide the first copy of a requested record at no cost, and any additional copies at reasonable cost.

(4) Whenever an operator ceases to do business, that operator must transfer all records required to be maintained by this part, or a copy thereof, to any successor operator who must maintain them for the required period.

[70 FR 32966, June 6, 2005; 70 FR 37901, June 30, 2005; 71 FR 29012, May 18, 2006]

Subpart E—Explosives

SOURCE: 61 FR 36801, July 12, 1996, unless otherwise noted.

§ 57.6000 Definitions.

The following definitions apply in this subpart.

Blasting agent. Any substance classified as a blasting agent by the Department of Transportation in 49 CFR 173.114a(a). This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

Detonating cord. A flexible cord containing a center core of high explosives which may be used to initiate other explosives.

Detonator. Any device containing a detonating charge used to initiate an explosive. These devices include electric or nonelectric instantaneous or

delay blasting caps, and delay connectors. The term "detonator" does not include detonating cord. Detonators may be either "Class A" detonators or "Class C" detonators, as classified by the Department of Transportation in 49 CFR 173.53, and 173.100. This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

Explosive. Any substance classified as an explosive by the Department of Transportation in 49 CFR 173.53, 173.88, and 173.100. This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

Explosive material. Explosives, blasting agents, and detonators.

Flash point. The minimum temperature at which sufficient vapor is released by a liquid to form a flammable vapor-air mixture near the surface of the liquid.

Igniter cord. A fuse that burns progressively along its length with an external flame at the zone of burning, used for lighting a series of safety fuses in a desired sequence.

Magazine. A bullet-resistant, theft-resistant, fire-resistant, weather-resistant, ventilated facility for the storage of explosives and detonators (BATF Type 1 or Type 2 facility).

Misfire. The complete or partial failure of explosive material to detonate as planned. The term also is used to describe the explosive material itself that has failed to detonate.

Primer. A unit, package, or cartridge of explosives which contains a detonator and is used to initiate other explosives or blasting agents.

Safety switch. A switch that provides shunt protection in blasting circuits between the blast site and the switch used to connect a power source to the blasting circuit.

Slurry. An explosive material containing substantial portions of a liquid, oxidizers, and fuel, plus a thickener.

Water gel. An explosive material containing substantial portions of water, oxidizers, and fuel, plus a cross-linking agent.

[61 FR 36801, July 12, 1996, as amended at 67 FR 38385, June 4, 2002; 68 FR 32361, May 30, 2003; 69 FR 38842, June 29, 2004]