

§ 56.4601

the gases produced by thermal decomposition of the agents are not inhaled.

§ 56.4601 Oxygen cylinder storage.

Oxygen cylinders shall not be stored in rooms or areas used or designated for storage of flammable or combustible liquids, including grease.

§ 56.4602 Gauges and regulators.

Gauges and regulators used with oxygen or acetylene cylinders shall be kept clean and free of oil and grease.

§ 56.4603 Closure of valves.

To prevent accidental release of gases from hoses and torches attached to oxygen and acetylene cylinders or to manifold systems, cylinder or manifold system valves shall be closed when—

- (a) The cylinders are moved;
- (b) The torch and hoses are left unattended; or
- (c) The task or series of tasks is completed.

§ 56.4604 Preparation of pipelines or containers.

Before welding, cutting, or applying heat with an open flame to pipelines or containers that have contained flammable or combustible liquids, flammable gases, or explosive solids, the pipelines or containers shall be—

- (a) Drained, ventilated, and thoroughly cleaned of any residue;
- (b) Vented to prevent pressure build-up during the application of heat; and
- (c)(1) Filled with an inert gas or water, where compatible; or
- (2) Determined to be free of flammable gases by a flammable gas detection device prior to and at frequent intervals during the application of heat.

APPENDIX I TO SUBPART C OF PART 56—
NATIONAL CONSENSUS STANDARDS

Mine operators seeking further information in the area of fire prevention and control may consult the following national consensus standards.

MSHA standard	National consensus standard
§§ 56.4200, 56.4201.	NFPA No. 10—Portable Fire Extinguisher. NFPA No. 11—Low Expansion Foam and Combined Agent Systems. NFPA No. 11A—High Expansion Foam Systems.

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MSHA standard	National consensus standard
	NFPA No. 12—Carbon Dioxide Extinguishing Systems. NFPA No. 12A—Halon 1301 Extinguishing Systems. NFPA No. 13—Water Sprinkler Systems. NFPA No. 14—Standpipe and Hose Systems. NFPA No. 15—Water Spray Fixed Systems. NFPA No. 16—Foam Water Spray Systems. NFPA No. 17—Dry-Chemical Extinguishing Systems. NFPA No. 121—Mobile Surface Mining Equipment. NFPA No. 291—Testing and Marketing Hydrants. NFPA No. 1962—Care, Use, and Maintenance of Fire Hose, Connections, and Nozzles.
§ 56.4202	NFPA No. 14—Standpipe and Hose Systems. NFPA No. 291—Testing and Marketing Hydrants.
§ 56.4203	NFPA No. 10—Portable Fire Extinguishers.
§ 56.4230	NFPA No. 10—Portable Fire Extinguishers. NFPA No. 121—Mobile Surface Mining Equipment.

Subpart D—Air Quality and Physical Agents

AIR QUALITY

§ 56.5001 Exposure limits for airborne contaminants.

Except as permitted by § 56.5005—

- (a) Except as provided in paragraph (b) of this section, 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 the Secretary-Treasurer, P.O. Box 1937, Cincinnati, Ohio 45201, 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) The 8-hour time weighted average airborne concentration of asbestos dust to which employees are exposed shall not exceed 2 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. No employees shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers longer than 5 micrometers, per milliliter of air, as determined by the membrane filter method over a minimum sampling time of 15 minutes. “Asbestos” is a generic term for a number of hydrated silicates that, when crushed or processed, separate into flexible fibers made up of fibrils. Although there are many asbestos minerals, the term “asbestos” as used herein is limited to the following minerals: chrysotile, amosite, crocidolite, anthophyllite asbestos, tremolite asbestos, and actinolite asbestos.

(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 4054, Jan. 29, 1985, as amended at 60 FR 35695, July 11, 1995]

§ 56.5002 Exposure monitoring.

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

§ 56.5005 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., 1430 Broadway, New York, New York 10018, 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 4054, Jan. 29, 1985, as amended at 60 FR 30400, June 8, 1995; 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995]

§ 56.5006 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,