

methane-air mixture at least once every 31 days.

(b) Tests for oxygen deficiency shall be made by a qualified person with MSHA approved oxygen detectors that are maintained in permissible and proper operating condition and that can detect 19.5 percent oxygen with an accuracy of ±0.5 percent. The oxygen detectors shall be calibrated at the start of each shift that the detectors will be used.

(c) Handheld devices that contain electrical components and that are used for measuring air velocity, carbon monoxide, oxides of nitrogen, and other gases shall be approved and maintained in permissible and proper operating condition.

(d) An oxygen detector approved by MSHA shall be used to make tests for oxygen deficiency required by the regulations in this part. Permissible flame safety lamps may only be used as a supplementary testing device.

(e) Maintenance of instruments required by paragraphs (a) through (d) of this section shall be done by persons trained in such maintenance.

§ 75.321 Air quality.

(a)(1) The air in areas where persons work or travel, except as specified in paragraph (a)(2) of this section, shall contain at least 19.5 percent oxygen and not more than 0.5 percent carbon dioxide, and the volume and velocity of the air current in these areas shall be sufficient to dilute, render harmless, and carry away flammable, explosive, noxious, and harmful gases, dusts, smoke, and fumes.

(2) The air in areas of bleeder entries and worked-out areas where persons work or travel shall contain at least 19.5 percent oxygen, and carbon dioxide levels shall not exceed 0.5 percent time weighted average and 3.0 percent short term exposure limit.

(b) Notwithstanding the provisions of § 75.322, for the purpose of preventing explosions from gases other than methane, the following gases shall not be permitted to accumulate in excess of the concentrations listed below:

- (1) Carbon monoxide (CO)—2.5 percent
- (2) Hydrogen (H₂)— .80 percent

(3) Hydrogen sulfide (H₂ S)—.80 percent

(4) Acetylene (C₂ H₂)— .40 percent

(5) Propane (C₃ H₈)— .40 percent

(6) MAPP (methyl-acetylene-propylene-propodiene)—.30 percent

§ 75.322 Harmful quantities of noxious gases.

Concentrations of noxious or poisonous gases, other than carbon dioxide, shall not exceed the threshold limit values (TLV) as specified and applied by the American Conference of Governmental Industrial Hygienists in "Threshold Limit Values for Substance in Workroom Air" (1972). Detectors or laboratory analysis of mine air samples shall be used to determine the concentrations of harmful, noxious, or poisonous gases. This incorporation by reference has been approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the Mine Safety and Health Administration, Department of Labor, 4015 Wilson Boulevard, Arlington, VA 22203 and at every Coal Mine Health and Safety District and Subdistrict Office. The material is available for examination at the Office of the Federal Register, 800 N. Capitol Street, NW., 7th Floor, suite 700, Washington, DC.

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§ 75.323 Actions for excessive methane.

(a) *Location of tests.* Tests for methane concentrations under this section shall be made at least 12 inches from the roof, face, ribs, and floor.

(b) *Working places and intake air courses.* (1) When 1.0 percent or more methane is present in a working place or an intake air course, including an air course in which a belt conveyor is located, or in an area where mechanized mining equipment is being installed or removed—

(i) Except intrinsically safe atmospheric monitoring systems (AMS), electrically powered equipment in the affected area shall be deenergized, and other mechanized equipment shall be shut off;

(ii) Changes or adjustments shall be made at once to the ventilation system to reduce the concentration of methane to less than 1.0 percent; and