

OSHA Respiratory Protective Standard

Control of airborne contaminants is vital in order to reduce the likelihood of occupational disease and illness. If engineering control measures are not feasible, or until necessary engineering controls can be implemented, respiratory protection should be provided to all exposed workers.

The Occupational Safety and Health Administration's Respiratory Protection Standard (29 CFR 1910.134) mandates requirements for a minimum acceptable respiratory protection program.

Highlights of the Standard include:

General: Requires that program be established by employer, and that respirators be provided and effective, when such equipment is necessary to protect employee health. However, OSHA standards place primary emphasis on engineering, administrative, and work practice controls, in light of inherent deficiencies of respirators and respirator programs.

Written Operating Selection: Requires that employer has written standard operating procedures governing selection and use of respirators.

Respirator Selection: Requires that the following factors be considered:

- Nature of hazard - oxygen deficiency; physical, chemical and warning properties; effects on body; concentration in air; applicable PELs.
- Nature of hazardous operation. Location of hazardous area.
- Time respiratory protection is required.
- Employee's health.
- Work activities while using respirator.
- Respirator characteristics, capabilities, limitations. Respirator protection factors.

Training: Requires that user be instructed and trained in proper use of respirators and their limitations.

Fit Testing: Requires that both quantitative (proper fit and degree of integrity of face fit under actual wearing conditions) and qualitative (wearer's voluntary or involuntary response to a chemical outside the respirator facepiece) fit testing of the respirator facepiece-to-face seal be conducted.

Cleaning: Requires that respirators be cleaned and disinfected regularly.

Storage: Requires that respirators be stored in a convenient, clean, and sanitary location.

Inspection and Maintenance: Requires that respirators be inspected and repaired (if necessary) on a regular basis.

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Work Surveillance: Requires “appropriate” surveillance of air contaminants in work area. Surveillance activities should include: identification of contaminant(s); determination of nature of hazard; determination of concentration of contaminant(s) at the breathing zone; biological monitoring (if appropriate). All surveillance activities must be documented.

Employee Acceptance: Requires that the following factors be considered, with regard to respirator selection and use:

- Comfort.
- Ability to breath without objectionable effort.
- Adequate visibility under all conditions.
- Provisions for wearing prescription glasses.
- Ability to communicate.
- Ability to perform all tasks without undue interference.
- Confidence in facepiece fit.

Medical Examination: Requires that a physician determine the health and physical condition pertinent for an employee’s ability to work while using a respirator.

Approved Respirators: Requires that only Mine Safety and Health Administration/National Institute for Occupational Safety and Health (MSHA/NIOSH) approved respirators be used.

Special Procedures for Supplied-Air Respirators: Requires that compressed breathing air meet quality specifications for grade D breathing air:

- Oxygen Content – 19 - 23% of total air.
- Hydrocarbons – 5 mg/m³ or less.
- Carbon Monoxide – 20 ppm or less.
- Carbon Dioxide – 1000 ppm or less.
- Dew Point – maintained at least 10oF. below the lowest recorded temperature, to ensure that supplied-air system components will not freeze. All air quality evaluations should be documented.

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