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[GO](#) Advanced Search | A-Z

Search Index



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Site Map

Comments

Glossary of Respiratory Protection Terms

The following definitions are important terms used in the respiratory protection standard and terms that will assist in the understanding and the application of the NIOSH decision logic.

Air-Purifying Respirator: A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. *OSHA Definition*

Assigned Protection Factor (APF): See [PROTECTION FACTOR](#). *NIOSH Definition*

Assigned Protection Factor (APF): [Reserved] *OSHA Definition*

Atmosphere-Supplying Respirator: A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units. *OSHA Definition*

Breakthrough: The penetration of challenge material(s) through a gas or a vapor air-purifying element. The quantity or extent of breakthrough during service life testing is often referred to as the percentage of the input concentration. *NIOSH Definition*

Canister or Cartridge: A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container. *OSHA Definition*

Demand Respirator: An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation. *OSHA Definition*

Disposable Respirators: A respirator that is discarded after the end of its recommended period of use, after excessive resistance or physical damage, or when odor breakthrough or other warning indicators render the respirator unsuitable for further use. *NIOSH Definition*

Dust: A solid, mechanically produced particle with a size ranging from submicroscopic to macroscopic. *NIOSH Definition*

Emergency Respirator Use Situation: A situation that requires the use of respirators due to the unplanned generation of a hazardous atmosphere (often of unknown composition) caused by an accident, mechanical failure, or other means and that requires evacuation of personnel or immediate entry for rescue or corrective action. *NIOSH Definition*

Emergency Situation: Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant. *OSHA Definition*

Employee Exposure: Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection. *OSHA Definition*

End-Of-Service-Life Indicator (ESLI): A system that warns the respirator user of the approach of the end of adequate respiratory protection; for example, that the sorbent is approaching saturation or is no longer effective. *OSHA Definition*

Escape Gas Mask: A gas mask that consists of a half-mask facepiece or mouthpiece, a canister, and associated connections, and that is designed for use during escape-only from hazardous atmospheres. *NIOSH Definition*

Escape Only Respirator: Respiratory devices that are designed for use only during escape from hazardous atmospheres. *NIOSH Definition*

Escape-Only Respirator: A respirator intended to be used only for emergency exit. *OSHA Definition*

Filter or Air-Purifying Element: A component used in respirators to remove solid or liquid aerosols from the inspired air. *OSHA Definition*

Filtering Facepiece: A particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. (See SINGLE-USE DUST or DUST and MIST RESPIRATORS and DISPOSABLE RESPIRATORS.) *NIOSH Definition*

Filtering Facepiece (Dust Mask): A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. *OSHA Definition*

Fit Factor: A quantitative measure of the fit of a specific respirator facepiece to a particular individual. *NIOSH Definition*

Fit Factor: A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn. *OSHA Definition*

Fit Test: Means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.) *OSHA Definition*

Fume: A solid condensation particulate, usually of a vaporized metal. *NIOSH Definition*

Gas: An aeriform fluid that is in a gaseous state at standard temperature and pressure. *NIOSH Definition*

Helmet: A rigid respiratory inlet covering that also provides head protection against impact and penetration. *OSHA Definition*

High-Efficiency Particulate Air (HEPA) Filter: A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters. *OSHA Definition*

Hood: Means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso. *OSHA Definition*

Immediately Dangerous to Life or Health (IDLH): Acute respiratory exposure that poses an immediate threat of loss of life, immediate or delayed irreversible adverse

effects on health, or acute eye exposure that would prevent escape from a hazardous atmosphere. *NIOSH Definition*

Immediately Dangerous to Life or Health (IDLH): An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere. *OSHA Definition*

Interior Structural Firefighting: The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155) *OSHA Definition*

Loose-Fitting Facepiece: A respiratory inlet covering that is designed to form a partial seal with the face. *OSHA Definition*

Maximum Use Concentration (MUC): [Reserved] *OSHA Definition*

Mist: A liquid condensation particulate. *NIOSH Definition*

Negative Pressure Respirator (Tight Fitting): A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator. *OSHA Definition*

Orinasal Respirator: A respirator that covers the nose and mouth and that generally consists of a quarter- or half-facepiece. *NIOSH Definition*

Oxygen Deficient Atmosphere: An atmosphere with an oxygen content below 19.5% by volume. *OSHA Definition*

Physician or Other Licensed Health Care Professional (PLHCP): Means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section. *OSHA Definition*

Planned or Unplanned Entry into an IDLH Environment, an Environment of Unknown Concentration of Hazardous Contaminant, or an Environment of Unknown Composition: A situation in which respiratory devices are recommended to provide adequate protection to workers entering an area where the contaminant concentration is above the IDLH or is unknown. *NIOSH Definition*

Positive Pressure Respirator: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator. *OSHA Definition*

Potential Occupational Carcinogen: Any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans or in one or more experimental mammalian species as the result of any oral, respiratory, or dermal exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration. This definition also includes any substance that is metabolized into one or more potential occupational carcinogens by mammals (29 CFR 1990.103, OSHA Cancer Policy). *NIOSH Definition*

Powered Air-Purifying Respirator (PAPR): An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering. *OSHA Definition*

Pressure Demand Respirator: A positive pressure atmosphere- supplying respirator that

admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation. *OSHA Definition*

Protection Factors: *NIOSH Definition*

Assigned Protection Factor (APF): The minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users.

Simulated Workplace Protection Factor (SWPF): A surrogate measure of the workplace protection provided by a respirator.

Workplace Protection Factor (WPF): A measure of the protection provided in the workplace by a properly functioning respirator when correctly worn and used.

Qualitative Fit Test (QLFT): A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent. *OSHA Definition*

Quantitative Fit Test (QNFT): Means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator. *OSHA Definition*

Recommended Exposure Limit (REL): An 8- or 10-hour time-weighted average (TWA) or ceiling (C) exposure concentration recommended by NIOSH that is based on an evaluation of the health effects data. *NIOSH Definition*

Respiratory Inlet Covering: The portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, a helmet, a hood, a suit, or a mouthpiece respirator with nose clamp. *OSHA Definition*

Self-Contained Breathing Apparatus (SCBA): An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user. *OSHA Definition*

Service Life: The length of time required for an air-purifying element to reach a specific effluent concentration. Service life is determined by the type of substance being removed, the concentration of the substance, the ambient temperature, the specific element being tested (cartridge or canister), the flow rate resistance, and the selected breakthrough value. The service life for a self-contained breathing apparatus (SCBA) is the period of time, as determined by the NIOSH certification tests, in which adequate breathing gas is supplied. *NIOSH Definition*

Service Life: The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. *OSHA Definition*

Single-Use Dust or Dust and Mist Respirators: Respirators approved for use against dusts or mists that may cause pneumoconiosis and fibrosis. *NIOSH Definition*

Supplied-Air Respirator (SAR) or Airline Respirator: An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. *OSHA Definition*

This Section: This respiratory protection standard. *OSHA Definition*

Tight-Fitting Facepiece: A respiratory inlet covering that forms a complete seal with the face. *OSHA Definition*

User Seal Check: An action conducted by the respirator user to determine if the

respirator is properly seated to the face. *OSHA Definition*

Vapor: The gaseous state of a substance that is solid or liquid at temperatures and pressures normally encountered. *NIOSH Definition*

Return to Respiratory eTool Homepage

 [Back to Top](#)

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Occupational Safety & Health Administration
200 Constitution Avenue, NW
Washington, DC 20210