

WAC 296-842-13005 Select and provide appropriate respirators.

Exemption: This section does **NOT** apply to respirator use that is voluntary. See WAC 296-842-11005 for voluntary use program requirements.

IMPORTANT :

See chapter 296-841 WAC, Airborne contaminants, for:

1. Hazard evaluation requirements. Evaluation results are necessary for respirator selection.

2. References to substance-specific rules that may also apply to you and have additional respirator selection requirements. These references are found in the permissible exposure limit (PEL) table.

A respirator must be provided to each employee when such equipment is necessary to protect the health of the employee. Select and provide, at no cost to employees, appropriate respirators for routine use, infrequent use, and reasonably foreseeable emergencies (such as escape, emergency, and spill response situations) by completing the following process:

Respirator Selection Process

Step 1: If your only respirator use is for escape, skip to **Step 8** to select appropriate respirators.

Step 2: If the respiratory hazard is a biological aerosol, such as TB (tuberculosis), anthrax, psittacosis (parrot fever), or hanta virus, select a respirator appropriate for **nonemergency** activities recognized to present a health risk to workers **AND** skip to **Step 8**.

(a) If respirator use will occur during **emergencies**, skip to **Step 8** and document the analysis used to select the appropriate respirator.

(b) Use Centers for Disease Control (CDC) selection guidance for exposures to specific biological agents when this guidance exists. Visit <http://www.cdc.gov>.

Step 3: If the respiratory hazard is a pesticide, follow the respirator specification on the pesticide label **AND** skip to **Step 9**.

Step 4: Determine the expected exposure concentration for each respiratory hazard of concern. Use the results from the evaluation required by chapter 296-841 WAC, Airborne contaminants.

Step 5: Determine if the respiratory hazard is classified as IDLH; if it is **NOT** IDLH skip to **Step 7**.

The respiratory hazard **is** classified as IDLH if:

(a) The atmosphere is oxygen deficient or oxygen enriched;

(b) You **CANNOT** measure or estimate your expected exposure concentration; or

(c) Your measured or estimated expected exposure concentration is greater or equal to the IDLH value in the NIOSH *Pocket Guide to Chemical Hazards*.

Note: DOSH uses the IDLH values in the 1990 edition of the NIOSH *Pocket Guide to Hazardous Chemicals* to determine the existence of IDLH conditions. You may use more recent editions of this guide. Visit www.cdc.gov/niosh for more information.

Step 6: Select an appropriate respirator from one of the following respirators for IDLH conditions and skip to **Step 8**:

(a) Full-facepiece, pressure demand, self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes; or

(b) Full-facepiece, pressure demand air-line respirator equipped with an auxiliary self-contained air supply.

Exception: If the respiratory hazard is oxygen deficiency **AND** you can show oxygen concentrations can be controlled within the ranges listed in Table 4 under **ALL** foreseeable conditions, you are allowed to select **ANY** type of SCBA or air-line respirator:

Table 4
Concentration Ranges for Oxygen Deficiency

Altitude (as ft. above sea level)	Oxygen Concentration Range (as percent oxygen)
Below 3,001	16.0 - 19.5
3,001 - 4,000	16.4 - 19.5
4,001 - 5,000	17.1 - 19.5
5,001 - 6,000	17.8 - 19.5
6,001 - 7,000	18.5 - 19.5
7,001 - 8,000	19.3 - 19.5
Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.	

Step 7: Select respirator types with assigned protection factors (APFs) from Table 5 that are appropriate to protect employees from the expected exposure concentration.

Note: 1. Appendix B, using assigned protection factors (APFs) for respirator selection, found in this chapter, uses the hazard-ratio approach established by ANSI Z88.2-1992 to determine which respirator types can provide a sufficient level of protection.
2. If no permissible exposure limit (PEL) is established for an airborne contaminant, use relevant available information and informed professional judgment to determine an acceptable exposure limit value to use for calculating hazard ratios. For example, you may use exposure limit values established by the American Conference of Governmental Industrial Hygienists (ACGIH).

Step 8: Consider hazards that could require selection of specific respirator types. For example, select full-facepiece respirators to prevent eye irritation or abrasive blasting helmets to provide particle rebound protection.

Note: Rules for specific substances have additional selection specifications that apply to escape and other types of respirators. Make sure you follow those additional requirements before finalizing your selection.

Step 9: Evaluate user and workplace factors that might compromise respirator performance, reliability or safety.

Examples:

- (a) High humidity or temperature extremes in the workplace.
- (b) Necessary voice communication.
- (c) High traffic areas and moving machinery.
- (d) If respirator use is for escape only, follow this step and then skip to **Step 11**.
- (e) If the respiratory hazard is a pesticide, follow the requirements on the pesticide label and skip to **Step 11**.
- (f) Time or distance for escape.

Step 10: Follow Table 6 requirements to select an air-purifying respirator.

If Table 6 requirements cannot be met, you must select an appropriate air-line respirator or an SCBA.

Step 11: Make sure respirators you select are certified by the National Institute for Occupational Safety and Health (NIOSH).

(a) Respirators provided exclusively for escape from IDLH atmospheres must be NIOSH-certified for escape from the atmosphere in which they will be used.

(b) To maintain certification, make sure the respirator is used according to cautions and limitations specified on the NIOSH approval label. This includes manufacturer restrictions on cartridges and canisters.

For SCBAs, use only the respirator manufacturer's NIOSH-approved breathing gas containers, marked and maintained in accordance with the Quality Assurance 68 provisions of the NIOSH approval for the SCBA as issued in accordance with the NIOSH respirator certification standard at 42 C.F.R. Part 84.

Note: While selecting respirators, you will need to select a sufficient number of types, models or sizes to provide for fit testing. You can also consider other respirator use issues, such as accommodating facial hair with a loose fitting respirator.

Use Table 5 to identify the assigned protection factor for different types of respirators.

(c) These assigned protection factors are only effective when the employer implements a continuing, effective respirator program as required by this chapter, including training, fit testing, maintenance, and use requirements.

(d) You may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required use is independent of concentration.

**Table 5
Assigned Protection Factors (APF) for Respirator Types**

If the respirator is a(n) ...	Then the APF is ...
Air-purifying respirator with a:	
• Quarter-mask	5
• Half-facepiece. This category includes filtering facepiece and elastomeric facepiece models	10
• Full-facepiece	50
Powered air-purifying respirator (PAPR) with a:	
• Loose-fitting facepiece	25
• Half-facepiece	50
• Full-facepiece	1000
• Hood or helmet	25/1000 (see note)
Note: PAPRs with helmets/hoods may receive an APF of 1000 only when you have evidence that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater. Such evidence must be provided by the respirator manufacturer. This level of performance can best be demonstrated by performing a workplace protection factor (WPF) or simulated workplace protection factor (SWPF) study or equivalent testing.	
Air-line respirator with a:	
• Half-facepiece and designed to operate in demand mode	10
• Loose-fitting facepiece and designed to operate in continuous flow mode	25
• Half-facepiece and designed to operate in continuous-flow mode	50
• Half-facepiece and designed to operate in pressure-demand or other positive-pressure mode.	50
• Full-facepiece and designed to operate in demand mode	50

If the respirator is a(n) ...	Then the APF is ...
<ul style="list-style-type: none"> • Full-facepiece and designed to operate in continuous-flow mode • Full-facepiece and designed to operate in pressure-demand or other positive-pressure mode. • Helmet or hood and designed to operate in continuous-flow mode 	<p style="text-align: center;">1000</p> <p style="text-align: center;">1000</p> <p style="text-align: center;">25/1000 (see note)</p>
<p>Note: Air-line respirators with helmets/hoods designed to operate in continuous-flow mode may receive an APF of 1000 when you have evidence that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater. Such evidence must be provided by the respirator manufacturer. This level of performance can best be demonstrated by performing a workplace protection factor (WPF) or simulated workplace protection factor (SWPF) study or equivalent testing.</p>	
<p>Self-contained breathing apparatus (SCBA) with a tight fitting:</p> <ul style="list-style-type: none"> • Half-facepiece and designed to operate in demand mode • Full-facepiece and designed to operate in demand mode • Full-facepiece and designed to operate in pressure-demand or other positive pressure mode (e.g., open/closed circuit) • Helmet or hood and designed to operate in demand mode. • Helmet or hood and designed to operate in pressure-demand or other positive-pressure mode (e.g., open/closed circuit). 	<p style="text-align: center;">10</p> <p style="text-align: center;">50</p> <p style="text-align: center;">10,000</p> <p style="text-align: center;">50</p> <p style="text-align: center;">10,000</p>
<p>Combination respirators:</p> <ul style="list-style-type: none"> • When using a combination respirator, such as an air-line respirator with an air-purifying filter, you must make sure the APF is appropriate to the mode of operation in which the respirator is used 	
<p>Escape respirators:</p> <ul style="list-style-type: none"> • APFs in this table do not apply to respirators used solely for escape. To select escape respirators, go to Step 8 of this section 	

Use Table 6 to select air-purifying respirators for particle, vapor, or gas contaminants.

Table 6

Requirements for Selecting Any Air-purifying Respirator

If the contaminant is a ...	Then ...
<ul style="list-style-type: none"> • Gas OR vapor 	<ul style="list-style-type: none"> • Provide a respirator with canisters or cartridges equipped with a NIOSH-certified, end-of-service-life indicator (ESLI) <p align="center">OR</p> <ul style="list-style-type: none"> • If a canister or cartridge with an ESLI is NOT available, develop a cartridge change schedule to make sure the canisters or cartridges are replaced before they are no longer effective <p align="center">OR</p> <ul style="list-style-type: none"> • Select an atmosphere-supplying respirator
<ul style="list-style-type: none"> • Particle, such as a dust, spray, mist, fog, fume, or aerosol 	<ul style="list-style-type: none"> • Select respirators with filters certified to be at least 95% efficient by NIOSH <p align="center">– For example, N95s, R99s, P100s, or High Efficiency Particulate Air (HEPA) filters</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-18-075, § 296-842-13005, filed 9/5/17, effective 10/6/17. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and chapter 49.17 RCW. WSR 12-24-071, § 296-842-13005, filed 12/4/12, effective 1/4/13. Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. WSR 09-19-119, § 296-842-13005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 07-05-072, § 296-842-13005, filed 2/20/07, effective 4/1/07; WSR 03-20-114, § 296-842-13005, filed 10/1/03, effective 1/1/04.]