



Respiratory Protection

Toolbox Talks are intended to facilitate health and safety discussions. Find more Toolbox Talks on the [Occupational Safety web page](#).

General Information

A respirator is a device worn over the mouth, nose or the entire face to prevent inhalation of dusts, smoke, hazardous or noxious substances. OSHA General Industry regulations for respiratory protection can be found in 29 CFR 1910.134.

Before wearing a respirator many things must be considered.

- 1. Respiratory Hazard Assessment** – An assessment of the processes, equipment, materials, end-products and by-products, must be performed to identify potential exposure hazards. Once exposure hazards are identified, personal exposure monitoring is recommended to determine the exposure levels and appropriate hazard controls.
- 2. Hazard Controls** – Once a respiratory hazard assessment has been completed, the next step is to determine how to control the hazards.
 - **Engineering Controls** – Controls that elimination the exposure all-together, like a fume hood or ventilation.
 - **Work Practice Controls** – Controls that can be put into place for work processes, for instance, following standard operating procedures (SOPs).
 - **Administrative Controls** – Controls that are administered by management. An example would be minimizing worker exposure times by scheduling or work rotations.
 - **Personal Protective Equipment (PPE)** – PPE is the last line of defense against hazards. In this case respirators would be worn to prevent inhalation of harmful substances.
- 3. Respiratory Protection Program** – If an employer determines that any type of respirator is required to perform a work function, the employer must develop, implement and maintain a respiratory protection program.
- 4. Medical Evaluation** – Before the use of a respirator, employees shall visit a physician or a licensed health care professional capable of performing a medical evaluation using a medical questionnaire, to determine whether or not it is safe for them to wear a respirator.

Discussion Date:

Supervisor:

Participants:

Respirator Selection

- **Air-Purifying Respirators (APR)** – APRs are respirators that use filtering face pieces, cartridges, or canisters to remove contaminants from the ambient air you breath. Examples include:
 - **N95**
 - **Half-face**
 - **Full-face**
 - **Powered Air-Purifying Respirator (PAPR)**
- **Supplied Air Respirators (SAR)** – SARs are comprised of air-line respirators, self-contained breathing apparatuses (SCBAs) and combination supplied air respirators. These are used for high-risk activities including immediately dangerous to life and health (IDLH) situations.

5. Training – Once it is determined that respirators will be utilized and the appropriate respirator is selected, employees must be properly trained on respiratory protection. This training should contain more in-depth information on all of the elements contained in this toolbox talk.

6. Fit Testing – The last process to be completed before being able to wear a respirator is the fit test. A “fit test” tests the seal between the respirator facepiece and your face. In order to be properly fit tested, participants must be clean shaven so facial hair does not disrupt the respirator facepiece seal to the face. An employee can only use the exact make, model and size of respirator(s) for which he or she has passed the fit test. Fit testing must be completed on an annual basis.

7. Respirator User Requirements

- Use the proper respirator, cartridges or canisters for the intended contaminates
- Do not wear a respirator with any facial hair that could disrupt the respirator seal with the face
- Follow the proper schedule for cartridge/canister replacement
- Inspect your respirator before each use
- Clean your respirator after each use
- Store your respirator in a sealed container
- Use only NIOSH approved respirators
- Read all manufacture instructions before use
- Perform a user seal check after donning
- Follow proper sanitation procedures if respirators are shared

Resource

<https://www.ehs.iastate.edu/services/occupational/respirators>

N95



Half-face



Full-face



Powered Air-Purifying Respirator (PAPR)



Self-Contained Breathing Apparatus (SCBA)

