

Toolbox Talk # 3.08 – Your Respirator Protects You

Working around dusts, mists, fumes, aerosols, gases, and vapors can be hazardous to your health. Depending on the contaminant, overexposure can cause lung diseases; problems with the liver, kidneys, heart, or nervous system; or cancer. To control contaminants, operations can be enclosed or confined, general and local ventilation can be installed, or less toxic materials can be substituted. If these controls do not eliminate the risk, wearing an appropriate respirator can protect you. Your company is responsible for determining when respirators are needed in the workplace.

How can I protect myself?

Selecting the right respirator is essential. In making the selection, several factors must be considered:

*Chemical identity and physical nature of the contaminants.

*Toxicity of the contaminants.

*Your exposure level (the concentration of the contaminants in the air, and the amount of time you will be exposed).

*Amount of oxygen present.

Using a respirator puts additional stress on your body. A physician or health care professional must evaluate your health before you can wear a respirator. Follow any recommendations from the evaluation.

Report any signs or symptoms that may influence your ability to use a respirator, including: shortness of breath, dizziness, coughing, wheezing, chest pain, chest injuries, lung diseases, cardiovascular conditions, or heart conditions.

All respirators must be approved for the contaminants and conditions. There are two basic types of respirators: atmosphere-supplying or air-purifying.

Atmosphere-supplying Respirators

Atmosphere-supplying respirators provide clean breathing air from a source that is separate from the contaminated area.

Atmosphere-supplying respirators are to be used when:

- There is not enough oxygen in the area,
- Contaminant concentrations are unknown,
- Contaminant concentrations are Immediately Dangerous to Life or Health (IDLH), or
- Cartridges or canisters would not be effective.

Atmosphere-supplying respirators can be used for any type of contaminant or any exposure level, but they do have some limitations. Some models rely on an airline that limits the wearer's mobility. Self-contained units have a limited operation time, and the air cylinders are heavy to wear.

Air-purifying Respirators

Air-purifying respirators pass contaminated air through filters, cartridges, or canisters to clean the air as it is breathed. The most common models depend on a tight-fitting facepiece to keep contaminated air from leaking in past the cleaning elements as the wearer inhales (a "negative-pressure" air-purifying respirator). These air-purifying elements only protect against certain contaminants, and must be selected carefully. Air-purifying respirators are lightweight and portable, but they have many more limitations than atmosphere-supplying respirators. These respirators must not be used in any oxygen deficient or IDLH situation. When the purifying agents become saturated with the contaminant, the respirator no longer offers protection. The filter or cartridge changing schedule must be followed. People using negative-pressure respirators must be careful to check the seal each time that they put on the facepiece.

Fit Tests

Fit testing is required for any respirator with a tight-fitting facepiece (even those used in a positive-pressure mode). The test must be conducted before initial use, and at least annually. The type of fit test depends on the type of respirator and the types of contaminants that you are exposed to.

A seal check must be done each time that a tight-fitting facepiece is put on. It is a quick way to test that the facepiece is adjusted properly.

Using Your Respirator

Use the respirator as it was designed to be used. Follow the operating instructions from the manufacturer or your employer.

Leave the area if you can smell or taste the contaminant; if you need to change cartridges, filters, canisters, or cylinders; if you need to wash your face or the facepiece; or if you have any problems with the respirator.

When someone is wearing a respirator in an IDLH atmosphere, at least one person who is ready to provide rescue must remain outside and monitor the person in the IDLH area. (For firefighting, at least two employees must go into the IDLH area, and at least two people must remain outside.)

Some people may be trained to respond to emergencies such as confined space rescue, hazardous spill response, or interior structural firefighting. If you are not trained and authorized to perform these duties, follow your company's evacuation procedures in case of an emergency.

Maintaining Respirators

- If you are issued your own respirator, clean and disinfect it as often as necessary to keep it in a sanitary condition.
- If a respirator is shared, it must be cleaned before being worn by different people.
- Respirators used for emergencies must be cleaned after each use.
- Respirators used for fit testing and training must be cleaned after each use.
- Inspect your respirator each time that you wear it, and when you clean it. If it is damaged, have it repaired before it is used again.
- Store the respirator where it will stay clean and will not be damaged.

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Project: _____

Date: _____

Supervisor: _____

Company: _____

Other safety issues covered or comments from crew members:

Attendees:

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