Personal Protective Equipment
Respiratory Protection

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What is on the Agenda?

- OSHA Requirements
- How respirators work
- Using them correctly
- Safety Rules
- Two ways to interact
  - Polling Questions
  - PowerPoint question slides

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What does OSHA say about wearing a respirator in 29 CFR 1910.134?

- Assign to individuals
- Clean between uses
- Store properly
- Inspect
- Monitor the wearer
- Physical fitness
- Fit test

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What are Respiratory Hazards?

Toxic Atmospheres

- Gases
- Vapors
- Mists
- Smoke
- Fumes
- Dusts

Oxygen Deficiency

- <19.5% oxygen

What choices do I have for protecting my lungs from hazards in the air?

How do Dust Masks work?

- Filter the Air
- “filtering facepiece”
- Discard when dirty or hard to breathe through

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What does an Air Purifying Respirator do?

- Air is sucked through the cartridge.
- The cartridge traps the contaminants.
- This keeps dust and chemicals out of your lungs.
- It purifies the air.

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How does supplied air (like an SCBA) protect my lungs?

- Supplies Grade D breathing air
- But it requires
  - Extensive training
  - Physical fitness
- And is generally used for high or unknown concentrations of chemicals

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Assigned Protection Factor

APF	Respirator
5	Filtering facepiece (single use dust)
10	Half-facepiece respirator with vapor cartridge or filter
50	Full-facepiece respirator with vapor cartridge or filter
1000	Full-facepiece supplied air respirator operated in pressure-demand mode.
1000 to 10,000	Full-facepiece self-contained breathing apparatus operated in pressure-demand mode

Are there some general guidelines we can follow for using respirators?

Yes, OSHA has some rules for Voluntary Respirator Use that are good for all respirators.

29 CFR 1910.134 Appendix D

Fact 1

- Respirators are an effective method of protection against designated hazards when properly selected and worn.

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For starters, cartridges are color-coded.

Contaminant	Color Coding on Cartridge
Acid gases	White
Organic vapors	Black
Ammonia gas	Green
Acid gases and organic vapors	Yellow
Acid gases, organic vapors, and ammonia gases	Brown
Any particulates (P100)	Purple (magenta)

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Fact 2

- Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers.

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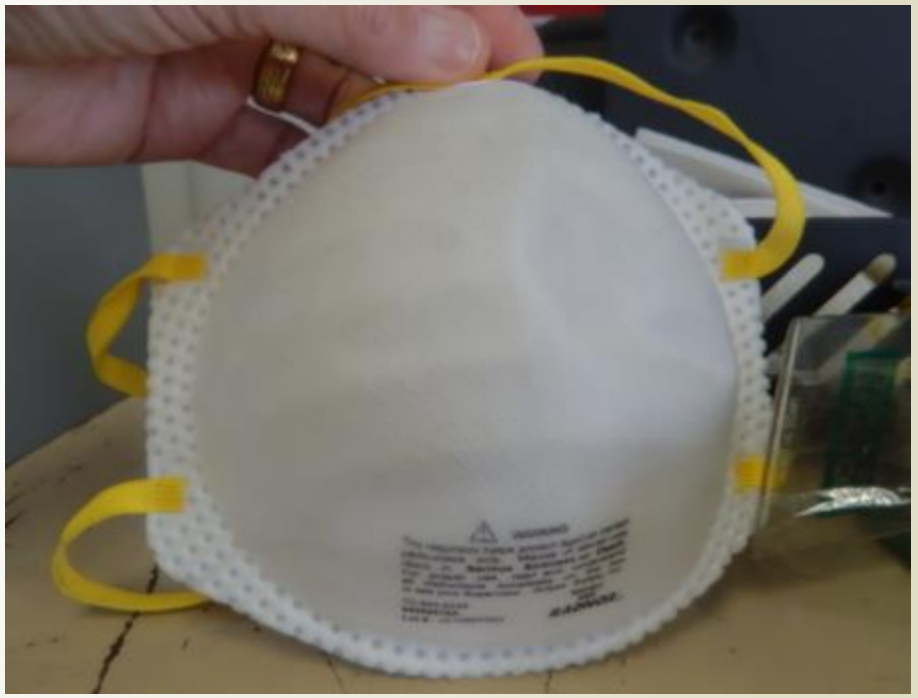
Fact 3

- However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker.

Fact 4

- Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards.



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Fact 5

- If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

You should do the following:

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

Make sure you understand the information on the label.

You should do the following:

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

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You should do the following:

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

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What are some basic safety rules to follow when I wear a respirator?

Make sure it fits and you are fit

- Get checked to make sure you are physically fit.
  - Note: A doctor can disqualify anyone from wearing a respirator.
- Do a fit test to make sure the respirator fits.

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Do seal check each time you wear one.

Pick the right kind of respirator.

Match the hazard and the cartridge

- Read SDS. Know your chemical.
- Read the cartridge label.

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Have NO hair across seal surface

- No beards
- No bangs
- Keep clean-shaven
- Facial hair - OK for positive pressure loose fitting hoods

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Keep it clean.

- Each time you wear it: Inspect
- After you wear it:
  - Wash with warm, soapy water
  - Dry thoroughly
  - (Disinfect with non-alcohol wipes if you share masks)

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Store it properly

- Dry
- Sealed in plastic bag
- Store contaminated filters SEPARATELY
- Away from
  - Dust
  - Contamination
  - Sunlight
  - Temperature extremes
  - Excessive moisture
  - Chemicals

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Know the limitations

- Don’t use cartridge respirators
  - In heavy contamination
  - When chemical has no warning properties
  - Oxygen deficiency
  - In unknown atmospheres

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Recognize when a respirator may be failing.

- If you smell or taste a contaminant, GET OUT of area.
- Reevaluate.
- Replace the respirator.
- Replace the filters.

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Remember

- Know the hazard and concentration
- Make sure it fits
- Make sure you are fit
- Keep them clean
- Store them right

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