



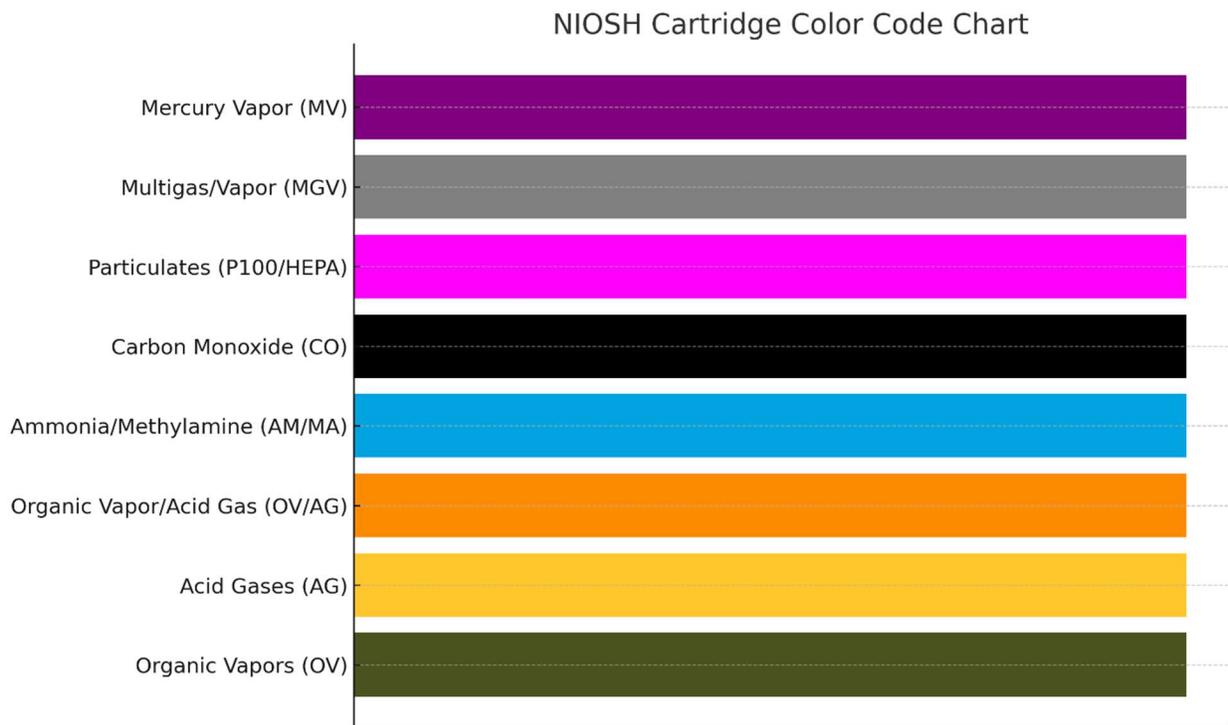
# Respirator Protection

## TOOLBOX TALK: Respiratory Protection & Airborne Hazard Safety

*RATTLIR Safety Series – “Strike Before It Bites”*

### Purpose

Respiratory hazards—including dusts, fumes, vapors, gases, and biological contaminants – can cause chronic illness, lung damage, or acute respiratory distress. This toolbox talk explains OSHA respiratory protection requirements, respirator types, fit testing, and safe usage practices to ensure effective protection.



*Figure 1 – NIOSH Cartridge Color Code Chart.*

### OSHA Requirements (29 CFR 1910.134)

- Employers must evaluate airborne hazards and determine when respirators are required.
- Employees must be medically cleared before using tight-fitting respirators.
- Fit testing (qualitative or quantitative) is required annually.



# Respirator Protection

- Facial hair cannot interfere with the respirator seal.
- Workers must be trained on respirator limitations, proper use, and maintenance.
- Respirators must be NIOSH-approved.

## Common Types of Respirators

- Filtering Facepiece Respirators (N95/N99/N100): Protect against airborne particles; no protection from gases/vapors.
- Half-Face Air-Purifying Respirators (APR): Use cartridges/filters for dust, fumes, or chemicals; APF = 10.
- Full-Face APR: Includes face shield protection; better seal and chemical protection; APF = 50.
- Powered Air-Purifying Respirators (PAPR): Battery-powered airflow; high APF; ideal when high protection or comfort is needed.
- Supplied-Air Respirators (SAR/SCBA): Required for IDLH (Immediately Dangerous to Life or Health) atmospheres.

## Filter & Cartridge Selection

- P100 / HEPA: Best for particulates and toxic dusts.
- OV Cartridges: Organic vapors (solvents, fuels, coatings).
- AG Cartridges: Acid gases.
- Multi-Gas/Combo: Broad protection when hazards vary.
- End-of-service-life indicators (ESLI) should be used when available.
- Replace cartridges based on exposure time, odor breakthrough, or manufacturer schedule.

## Proper Fit, Use, and Maintenance

- Perform a positive and negative pressure seal check every time the respirator is worn.
- Ensure respirator straps are snug and evenly tightened.
- Store respirators away from sunlight, heat, oils, and chemicals.
- Clean reusable respirators after each use with approved wipes or solutions.
- Replace filters or cartridges immediately if breathing resistance increases.
- Never modify or tamper with respirator components.

## Symptoms of Respiratory Exposure

- Shortness of breath, wheezing, or coughing.



# Respirator Protection

- Burning eyes, nose, or throat.
- Dizziness or headaches.
- Chemical odors inside respirator.
- Chest tightness or difficulty breathing.

## Emergency Response

- Move to fresh air immediately.
- Notify supervision and stop work.
- Seek medical evaluation if symptoms persist.
- For chemical exposures, rinse eyes/face and follow SDS first-aid recommendations.
- Report all respiratory incidents for investigation.

## Discussion Questions

- What airborne hazards are present today?
- Do we need N95, APR, PAPR, or supplied-air protection?
- Are cartridges or filters appropriate for the job?

## RATTLIR Takeaway

Respiratory hazards can cause permanent damage or immediate danger. Selecting the right respirator, ensuring a proper fit, and inspecting equipment before each use ensures you strike before it bites.