



Breathe Easy!

What You Need to Know About Respiratory Protection

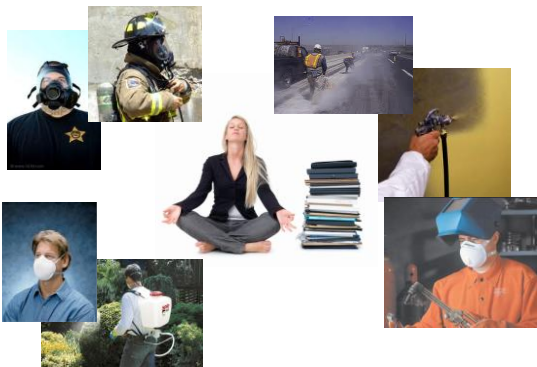
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Do we need a respirator program?

- Yes, when....
- Respirator use is mandatory
- Respirator use is voluntary
- Exception for filtering facepiece /dust masks





What are the types of respiratory hazards?

- Particulates
 - Gas/Vapors
 - Biological Organisms
 - Oxygen Deficient
- And why do we care?



How do we start evaluating respiratory hazards?

- Review process or task
- Review MSDS for products
- Talk to employees
- Research industry/process



When do we need to conduct exposure monitoring?



Airborne contaminants regulation (78 CCR, Section 5155[e][1]) requires:

Employee exposure monitoring when it is reasonable to suspect that employees may be exposed to concentrations of airborne contaminants in excess of established exposure limits.

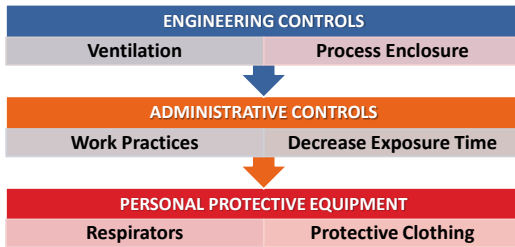


Personal Exposure Monitoring

- Worker wears sampling train during shift
- Sample collected in worker breathing zone
- Worker time-weighted average compared to the Cal/OSHA PEL



Can we control the hazard? HIERARCHY OF CONTROL



Why can't we just use a respirator?



Feasible Control Measures

The use of feasible control measures is required according to *T8 CCR, Section 5141, Control of Harmful Exposure to Employees.*



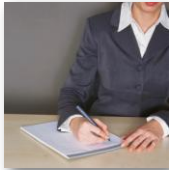
Respirators are the last line of defense when....

- Airborne contaminants exceed PEL
- Unknown concentrations of contaminants
- Oxygen deficiency
- Engineering controls not feasible



What is required when respirators are used?

- Respiratory Protective Equipment
- Title 8 CCR 5144 (Cal/OSHA)
- Written program required
- Specific written operating procedures for process or dept.





HOW DO WE SELECT THE APPROPRIATE RESPIRATOR?

TYPES OF RESPIRATORS



TYPES OF FILTERING FACEPIECE RESPIRATORS



Types of Respirators

Atmosphere-Supplying



- Breathable air from another source besides ambient environment
- Supplied-air respirator (SAR)
- Self-contained breathing apparatus (SCBA)



Are You Protected?

- How to figure it out...
- Assigned protection factors (APF)
 - Full face = 50
 - Half face = 10
- Maximum Allowable Concentration (MAC)
 - $MAC = PEL \times APF$



Checklist for APR Use

- Adequate oxygen?
- Do you know what contaminants and how much?
- Are the concentrations below IDLH?
- Does your cartridge have an ESLI or change-out schedule?
- Is there a NIOSH approved respirator available for the contaminant?



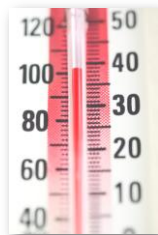
When should you change your filter or cartridge?

- End-of-Service Life Indicators (ESLI)
- Cartridge Change Schedule



Service Life Factors

- Worker exertion level
- Cartridge variability
- Temperature
- Humidity
- Multiple contaminants

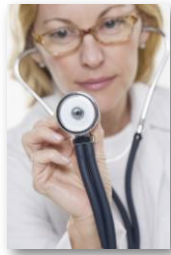


When should you change particulate filters?

- All particulate filters are replaced when:
 - Damaged or soiled (inspect before use)
 - Increased breathing resistance
- Same criteria for disposable filtering facepieces or respirators



Medical Evaluations



Questionnaires & Exams



What is required for a medical evaluation prior to use?

- Physician or PLHCP (professional licensed healthcare provider)
- Administer questionnaire in Part I, App. C
- Evaluate written questionnaire
- Examine employee if appropriate
- Results are confidential



PLHCP Medical Determination

- Must be received prior to use
- Employee medically able to use respirator
- Restrictions on employee use
- Need for follow-up evaluations
- Verification employee has received written determination



Follow-Up Medical Evaluation

- Not required unless....
- Employee reports signs and symptoms related to respirator use
- PLHCP, supervisor or program administrator recommendation
- Fit-test indicates re-evaluation
- Changes in workplace



Fit Testing



Recommended Approaches



What is Fit Testing?

- Each person is different; we need to make sure the respirator fits your face
- Fit testing is done ...
 - qualitatively (can you smell it?)
 - quantitatively (can we measure it in your mask?)



QUALITATIVE FIT TEST- QLFT



A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

- ✓ Isoamyl acetate
- ✓ Saccharin
- ✓ Bitrex
- ✓ Irritant smoke



QUANTITATIVE FIT TEST- QNFT



User Seal Checks

Every time a user dons a tight-fitting facepiece:

- negative check
- positive check

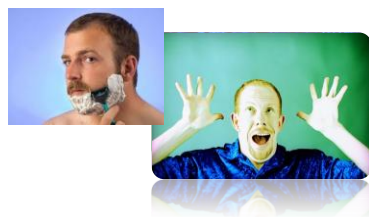


RESPIRATOR USE- EFFECTIVE FACE SEAL



Facial Hair

Cannot interfere with the face-to-facepiece seal



Respiratory Protection



Cleaning and Maintaining Respirators



Respirator Maintenance



- Inspect before and after use
- Clean and disinfect properly
- Store respirators to prevent damage
- Replace parts or respirator as necessary



Air Quality & Use: SCBA, Airline

- Breathing air compressors
- Grade D breathing air required
- Cylinder inspection requirements
- Hydrostatic testing



Training and Information

- “Hands-on” demonstration
- Donning and doffing
- Cleaning and inspection
- Maintenance and replacement parts
- Limitations of use for each type of respirator
- Tasks where respirators are required
- Annual training





What is required for the **voluntary** use of respirators?

Voluntary Use Program Elements	Filtering Facepieces (dust masks)	Air-Purifying and Air-Supplying Respirators
Written Respiratory Protection Program		X
Medical Evaluation		X
Fit Testing		Best Practice
Annual Training		Best Practice
8 CCR 5144 Appendix D	X	X
Inspection, Cleaning, Maintenance	X	X



Questions?





Thank You



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