

Respiratory Protection & Gas Monitoring

Respiratory Protection:

- I. Introduction: What is respiratory protection? Any PPE for respiratory system
 - a. Dust masks
 - b. Pesticide filters
 - c. Fumigants filters
 - d. SCBA's
- II. Overall Importance of RP. Final barrier between health/poison, between life/death
 - a. Rule of Thumb: If there is any question to the level or type of a gas or pesticide in an area that you are going to physically enter: USE MAXIMUM PROTECTION
 - b. If using a canister filter or other filter style mask make sure that the oxygen content is greater than 19.5%. Other atmospheres are considered IDLH
 - c. Make sure that you know how long a particular canister will last under the toxicant levels you will be in.
- III. Respiratory Program Within Your Company
 - a. One person should oversee entire program
 - b. Care and Maintenance of Equipment
 - i. Inspect any equipment being used prior to each use
 1. Hoses
 2. Gaskets
 3. Mask
 4. Glass
 5. Gauges
 6. Cracks in cylinders
 7. Date of Inspection/Expiration
 - a. Steel air cylinders every 5 years
 - b. Composite air cylinders and aluminum cylinders every 3 years
 8. Verify type of canister vs. chemical toxicant
 - ii. Keep records of maintenance and cleaning
 - iii. Wash in warm (Not Hot) water. Use sanitizing agent
- IV. Training
 - a. Once a year for anyone participating
 - b. Annual Fit Testing
 - i. According to OSHA Standards
 - ii. Consider
 1. Facial hair
 2. Facial Deformities
 3. Mask Size and Material
- V. Threshold Limit Values TLV's for Gasses
 - a. Phosphine: 0.3 ppm
 - b. Sulfuryl Fluoride: 1.0 ppm
 - c. Methyl Bromide: 5.0 ppm

Gas Monitoring

- I. Manual Pump/Tubes System
 - a. Draeger Accuro Pump
 - b. Kitigawa
- II. Electronic Monitors for Phosphine
 - a. Pac III
 - b. Silo Check
 - c. Porta Sens
 - d. Multi Gas Monitors
- III. Electronic Monitors for Sulfuryl Fluoride
 - a. Interscan
 - b. Fumiscopes
 - c. Spectros
- IV. Instrument Calibration
 - a. Zero for every use
 - b. Gas calibration every 9 months
 - c. Interscan: Less than 1 month prior to being used as a clearance device
- V. Remote Monitoring
 - a. Monitoring lines
 - b. Air Pumps
 - c. Smart Systems