Respiratory Protection

1.0 REFERENCE


2.0 POLICY

It is the policy of Cal Poly, to maintain, insofar as can reasonably be expected, an environment that will not adversely affect the health, safety and well-being of students, employees, visitors, and surrounding community. Because not all working environments can be made completely safe from potentially hazardous substances and atmospheres, the University has established a respiratory protection program for the safety and well-being of its employees.

It is also the policy of the University that mandatory compliance with this program is required where the word "shall" is used and is advisory in nature when the word "should" be used.

3.0 PURPOSE

These guidelines set forth accepted practices for respiratory equipment users. It provides information and guidance of the proper selection, the use and care of the equipment and sets forth recommended requirements suitable for adoption into regulations governing their use.

This manual includes safe practices and requirements for using the equipment to protect the respiratory system from inhalation of particulate matter, toxic gases and vapors encountered on the job.

The purpose of this manual is intended to provide guidance that will assist in safeguarding health and life through proper selection and use of required equipment. Use of respiratory protective equipment implies that the wearer needs protection from an atmosphere that might threaten life or health. Therefore, it is imperative that the level of protection be determined prior to exposure and provided for the employee’s health.

4.0 SCOPE AND APPLICATION

The respiratory protection program applies to all University Departments and employees who may, in the course of their employment, work in atmospheres potentially hazardous to their health.

5.0 DEFINITIONS

Approved - Tested and listed as satisfactory by the National Institute for Occupational Safety and Health (NIOSH).

Cartridge - A small container filled with air-purifying media.

Contaminant - A harmful, irritating, or nuisance agent that is foreign to the normal atmosphere.

Exhalation Valve - A device that allows exhaled air to leave a respiratory device and prevents outside air from entering through the valve.

Face piece - The portion of a respiratory that covers the wearer’s nose, mouth, and eyes in a full face piece. It is designed to make a gas-tight or dust-tight fit with the face and includes the headbands, exhalation valve(s), and connections for an air-purifying device.

Filter - A fibrous medium used in respirators to remove solid or liquid particles from the air stream entering the respiratory enclosure.

High-Efficiency Particulate Air (HEPA) Filter - A filter designed to remove 99.97% of a specified type of particulate material from the air.

Inhalation Valve - A device that allows air to enter the face piece and prevents exhaled air from leaving the
Inhalation Valve - A device that allows air to enter the face piece and prevents exhaled air from leaving the face piece through the intake opening.

**National Institute for Occupational Safety and Health (NIOSH)** - A Federal agency that tests, approves, and certifies respiratory protection equipment.

**Oxygen Deficient Atmospheres** - Air oxygen content is less than 19.5 percent by volume (dry basis)

**Particulate Matter** - A suspension of fine solid or liquid particles in air, such as dust, fog, fume, mist, smoke, or sprays.

**Permissible Exposure Limit (PEL)** - A list published by California Occupational Health and Safety Administration for exposure concentrations that a healthy individual normally can tolerate for 8 hours a day, five days a week, without harmful effects. Airborne particulate concentrations are listed as milligrams per cubic meter of air (mg/m³), and gaseous concentrations are listed as parts per million (ppm) by volume.

**Pneumoconiosis** - Producing Dust - Dust that when inhaled, deposited, and retained in the lungs, may produce signs, symptoms, and findings of pulmonary disease.

**Qualitative Fit Test** - A test procedure to determine the effectiveness of the seal between the face and the wearer’s face, usually performed during the fitting process.

**Respirator** - A device designed to protect the wearer from inhalation of harmful atmospheres.

**Self-Contained Breathing Apparatus (SCBA)** - For the purpose of this manual, a unit designed to allow entrance into oxygen deficient or highly contaminated atmospheres.

**Threshold Limit Value (TLV)** - A list published yearly by the American Conference of Governmental Hygienists as a guide for exposure concentrations that a healthy individual normally can tolerate for 8 hours a day, five days a week, without harmful effects. Airborne particulate concentrations are listed as milligrams per cubic meter of air (mg/m³), and gaseous concentrations are listed as parts per million (ppm) by volume.

**Vapor** - The gaseous state of a substance that is solid or liquid at ordinary temperature and pressure.

### 6.0 RESPONSIBILITIES

**6.1 Department**

The department chair or director is responsible for the overall health and safety of employees, visitors, and students at Cal Poly facilities under their control. They are responsible for assuring the adherence of the mandatory requirements of this program.

**6.2 Office of Environmental Health and Safety**

EH&S is responsible for performing the following functions:

- a. Reviewing and approving all purchases of respiratory protection equipment.
- b. Providing instruction on the need for respiratory protection; criteria for selecting and respirator fitting, use and maintenance.
- c. Conducting annual fit tests for employees who utilize respiratory equipment.
- d. Coordinating annual medical surveillance for each employee who is required to wear a respirator. Have on file the medical authorization for respirator use.
- e. Conducting annual training for respiratory equipment usage, maintenance, and storage.
- f. Conduct exposure assessment and monitoring to determine appropriate respiratory protection.

**6.3 Supervisor**

The employee’s immediate supervisor shall be responsible for the following:
The employee's immediate supervisor shall be responsible for the following:

a. Identifying, with the assistance of EH&S, those employees who may need respiratory equipment and scheduling them for medical exams.
b. Requesting assistance from EH&S personnel in evaluation new operation and/or changes in existing operation that may include health and safety hazards.
c. Enforcing the use of respiratory protection equipment and other requirements when applicable.
d. Inspect or designate an employee, to perform a monthly check of all respirators as outlined in Section 8.7(a).
e. Ensure the employee is clean shaven or meet the criteria in section 7.0 (B).

6.4 Employee

Any Cal Poly employee or person who is required under the Respiratory Protection Program to wear respiratory equipment is responsible for:

a. Utilizing the issued respiratory protection equipment in accordance with instruction and training provided by EH&S personnel.
b. Informing his/her supervisor of any personal health problems that could be aggravated by the use of respiratory equipment.
c. Guarding against damage and ensuring respirators are not disassembled, modified, or otherwise altered in any way other than by the changing or respirator cartridges/filters.
d. Reporting any observed or suspected malfunctioning respirator to EH&S personnel.
e. Using only those brands, size and types of respiratory protection equipment for which they have been trained and fitted.
f. Utilizing proper cartridges for anticipated exposure.
g. Ensure he is clean shaven or meet the criteria in section 7.0 (B).

7.0 AUTHORIZATION FOR USE OF RESPIRATORY PROTECTION EQUIPMENT

A) Only those persons who have been designated by the supervisor, project leader, or EH&S, as being required to utilize respiratory protection equipment and who have been properly fitted and trained in its use shall utilize such equipment.

B) Employees who have been designated to wear respirators with tight-fitting facepieces shall not have:
   1. Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function;
   or
   2. Any condition that interferes with the face-to-facepiece seal or valve function.

7.1 Medical Exam

Each employee whose duties require the use of a respirator will be required to receive an initial and biannual physical exam provided by the University.

7.2 Instruction, Selection, Fitting, Training and Maintenance

EH&S shall provide instruction on the need for respiratory protection, shall develop criteria for the selection and fitting of respirators, and shall provide training in the proper use and maintenance of respirators, as requested by individual campus departments.

7.3 Evaluation of Required Respiratory Equipment

EH&S shall evaluate and approve the purchase of all respiratory equipment before it is used. This selection is, of course, subject to change as new and improved equipment appears on the market. Employees may not use their own equipment without prior clearance from EH&S. Please see Appendix B for groups that are designated to wear respirators and the respirators available on campus.

8.0 RESPIRATORY PROTECTION PROGRAM
8.1 Selection of Proper Respiratory Protective Equipment

### a. Dust Masks

- Dust masks of various kinds, including disposable types, are available from EH&S and have been approved against low concentrations of certain dusts. Dust masks provide no protection against gases and vapors and, as they supply no oxygen, they cannot be used in oxygen-deficient areas. Neither can they be worn for protection against toxic contaminants when facial hair extends under the face piece sealing area.
- Discard a disposable dust mask after use. If the dust mask has a replaceable dust filter, replace the filter with a new one when normal breathing becomes difficult.

### a. Air-Purifying Half-Mask Respirators

- **Half-mask respirators are the most widely used types of respirators. Wilson, North, and 3M are the brands currently provided by EH&S to assure employees a satisfactory fit.** Each half-mask face piece may be fitted with HEPA, organic vapor, acid gas/OV, or other combination of filters. HEPA filters protect against asbestos and low concentrations of radioactive and toxic particulate. Other type cartridges are available that protect against low concentrations of organic vapors, acid gas, pesticides, and other gases. See Appendix B and C. They should be used with gases that are easily detectable by smell or taste.
- For use around asbestos, a half face mask must be used with a High Efficiency Particulate Air (HEPA) filter. **Disposable masks are not allowed while working with asbestos containing material.**
- Cartridges on filter type half-mask respirators should be discarded when breathing becomes difficult. Chemical cartridges should be discarded after 8 hours of use or when the agent can be detected through the mask by smell or taste.

### a. Full Face-Mask Respirators

- Full face-mask respirators provide more protection than half-masks because their shape allows a better mask-to-face seal. They also protect the eyes from irritating chemicals or particulate atmospheres. Full face-masks come equipped with selective types of air-purifying canisters, dependent upon the protection required.
- Air-purifying full face-masks have the same limitations for use as half-mask respirators. Additionally, standard eyeglasses interfere with the mask-to-face seal; therefore, eyeglasses require special installation into a full face mask. Contact lenses shall not be worn unless specifically approved by EH&S.

### a. Powered Air Purifying Respirator

- **Powered Air Purifying Respirator (PAPR) are full face respirators which use a battery-powered blower that passes that contaminated air through the cartridge or filter where the air is cleaned and forced to the face piece.** An advantage of using a PAPR is that air creates a positive pressure within the face piece so that any leak is hopefully outward. These respirators can be obtained only from the EH&S office and are used primarily for minor asbestos work.

### a. Self-Contained Breathing Apparatus (SCBA)

- SCBA units provide the user with a pure supply of breathing air regardless of ambient air contamination. They may be used in atmospheres unsuitable for air-purifying respirators. This includes use in atmospheres immediately dangerous to life and health (IDLH), in confined spaces, and for emergencies where breathing hazards may exist. Departments required to utilize SCBA units must purchase their own equipment as approved by EH&S. SCBA units may be used in IDLH atmospheres, only in conjunction with a positive-pressure full face-mask.
- The air supply in a standard SCBA cylinder is normally rated for a 15 or 30 minute duration; however, heavy exertion and stress will increase breathing rates and deplete the air in less time. When the alarm bell on the unit sounds, the wearer has about 5 minutes of air remaining and should leave the area immediately. No one should work alone in hazardous atmospheres; a standby with SCBA and proper communications equipment...
should always be nearby. The positive-pressure full face-mask used with the SCBA unit cannot be worn with contact lenses or when facial hair extends under the face piece sealing area of the mask.

8.2 SUPPLY OF RESPIRATORY EQUIPMENT

Respiratory equipment will be made available to the employees requiring such equipment. The Facility Services Warehouse shall be stocked with respirators that provide necessary protection. Each respirator user shall have filters and/or cartridges that are designed for the particular respirator and capable of providing protection for any potential hazard.

Individuals should have their names on their equipment to identify them and to keep them from being misplaced with those of other employees. The University’s supply of respiratory equipment is maintained at the Facility Services Warehouse, building 70.

8.3 MEDICAL SURVEILLANCE

Only those individuals who are medically able to wear respiratory protective equipment shall be issued a respirator. Before being issued a respirator, an employee will receive pertinent tests for medical and physical conditions. Medical tests to be considered by a physician include: pulmonary function test (FVC and FEV), chest X-ray, and any others deemed appropriate by the examining physician. Medical factors to be considered by a physician include: emphysema, asthma, chronic bronchitis, heart disease, anemia, hemophilia, poor eyesight, poor hearing, hernia, lack of use of fingers or hands. epileptic seizures, and other factors which might inhibit the ability of an employee to wear respiratory equipment.

Follow up medical surveillance will be conducted annually after. Annual review of a medical questionnaire and a biannual examination by a physician shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. Any further medical services will be determined at the discretion of the physician. The employee will have an opportunity to discuss the questionnaire and examination results with the physician.

8.4 EMPLOYEE EDUCATION AND TRAINING

Education and training of employees in the use of respirators shall include a complete description of equipment issued, and the care, maintenance, purpose, and function of all parts thereof. Each employee will be instructed in proper wearing of the respirator approved for his or her use. Training will also include discussion of pertinent State and Federal regulations and standards and campus policies.

The length of these instruction sessions will vary with the type of equipment being described. More time is needed to train personnel who may use equipment in IDLH atmospheres than would be necessary for low hazard atmosphere nuisance dusts.

8.5 RESPIRATORY FIT TESTING

There are two major categories of fit testing, qualitative (pass/fail basis) and quantitative (scientific measure basis). Then there are several methods within both major categories.

During any type of fit-testing, the respirator straps must be properly located and as comfortable as possible. Over-tightening the straps will sometimes reduce face piece leakage, but the wearer may be unable to tolerate the respirator during the work period. The face piece should not press into the face and shut off blood circulation or cause major discomfort. At the time of respirator issuance, a visual inspection of the fit should always be made by a second person. That person should check to see that there are no visible openings/leaks (around the nose, for example) and that the respirator appears properly adjusted and comfortable.

Qualitative (pass/fail) tests are fast, require no complicated, expensive equipment, and are easily performed. However, they depend on the wearer’s response.

Negative Pressure Test - For this test, the user closes off the inlet of the cartridges or filters by covering with the palms so it does not allow air to pass; inhales gently so the face piece collapses slightly; and holds his/her breath for about 10 seconds. For some cartridges, users with small hands must use a secondary block - a piece of foam covered with plastic often works well.

If the face piece remains slightly collapsed and no inward leakage is detected, the respirator probably fits tightly enough.
If the face piece remains slightly collapsed and no inward leakage is detected, the respirator probably fits snugly enough. This test of course, can only be used on respirators with tight-fitting face pieces. It also has potential drawbacks, such as the hand pressure modifying the face piece seal and causing false results.

**Positive Pressure Test** - This test is very similar in principle to the negative pressure test. It is conducted by closing off/covering the exhalation valve and exhaling gently into the face piece. The respirator fit is considered okay if slight positive pressure can be built up inside the face piece without any evidence of outward leakage around the face piece. For some respirators, this test requires that the wearer remove the exhalation valve cover. This removal often disturbs the respirator fit if not done before the respirator is put on. The test is easy for respirators whose valve cover has a single small port that can be closed by the palm or a finger.

**Banana Oil Test** - Once the wearer has passed the visual, negative pressure, and positive pressure tests, they can be tested with banana oil. It can be used for both air-purifying and air supplied respirators. However, an air-purifying respirator musts have organic vapor filters. The test substance is a chemical which produces odors that resembles banana (isobutyl acetate). When the tube ends are broken and air passed through them, a banana odor is emitted.

For this test, the user enters the test enclosures (often a clear, suspended plastic bag) without smelling the test media. The ampule is then introduced into the test hole. If the wearer detects any unusual odors inside the respirator, it means a defective fit, and adjustments or replacement of the respirator is required. If the user successfully passes the test, the mask is removed and he or she will be asked if they can detect the odor without the mask to ensure they are able to detect the odor.

The negative pressure, positive pressure, and irritant smoke fit tests are all qualitative (pass/fail) type methods. Another qualitative test frequently used is a saccharin test.

There are more scientific methods of determining the fit of a respirator. Those methods are called quantitative fit tests. Quantitative fit-testing requires a test substance which can be generated into the air, specialized equipment to measure the airborne concentration of the substances and a trained tester. Quantitative fit testing is usually performed in a laboratory under research conditions.

Regardless of the type of fit test, its advantages and disadvantages, it is necessary to include such a test in an effective respirator program. It is the key to detecting and correcting contaminant leakage around the face piece to face seal. This leakage can be critical when the contaminant is a proven human carcinogen.

### 8.6 PROTECTION FACTORS

Respirators offer varying degrees of protection against varying contaminants. The key to understanding the differences between types of respirators (air-purifying, powered-air purifying, air-supplied, etc.) is the amount of protection afforded the wearer. To compare these, one must understand the concept of a protection factor (PF).

A protection factor is a number obtained when the concentration of a contaminant outside the mask is divided by the concentration found inside the mask. This simple formula is illustrated below.

\[
\text{Protection Factor (PF) = } \frac{\text{Conc. outside mask}}{\text{Conc. inside mask}}
\]

It is virtually impossible to measure the concentration inside the mask (where the worker is breathing) for each worker, all the time, during all the various activities he or she may be conducting. Accordingly, protection factors, based on extensive research, have been developed for different categories of respirators. Using these protection factors, it is easy to determine what type of respirator is appropriate to maintain the concentration of the contaminant inside the mask below a certain level.

**Protection Factors of Respirators Used on Campus**

**Respirator Protection Factor**
Half Mask Respirator - 10
Full Face Respirator - 50

*Powered Air Purifying Respirator with half facepiece* - 50

*full facepiece* - 1,000

Self-Contained Breathing Apparatus - 10,000

### 8.7 MAINTENANCE, STORAGE AND INSPECTION EQUIPMENT

#### a. Monthly Inspection

The department will appoint a responsible person (s) to conduct an inspection of each department personnel’s respirator and verify completion by initialing and dating an inspection tag mounted on the side of the respirator box.

1. Ensure respirators are stored properly in plastic bags and kept in respirator boxes, if provided.
2. See that respirators are kept clean and the filters are routinely changed.
3. Ensure that enough filters and cartridges are available for the types of hazards encountered.
4. Ensure every department member has a respirator issued to them.

#### b. Cleaning

Each employee issued a respirator is responsible for maintaining the equipment clean and free of defects. Cleaning should be done on a regular basis or after each days use.

Cleaning procedure:

1. Remove filter and straps.
2. Wash in mild soapy water. Use a soft brush if necessary.
3. Rinse in clean, warm water.
4. Air dry.

#### c. Storage

1. Store in re-sealable plastic bags.
2. Protect from sunlight, dust, chemicals, moisture and temperature extremes.

#### d. Repair

Respirator users should ensure their equipment is in working order by periodically checking the equipment for the following defects:

1. Cracks, tears, pits, decomposition, stiffening, swelling and distortion of rubber or silicone rubber.
2. Distorted or badly worn plastic adapters.
3. Rubber inhalation valve flap that is stiffened, decomposed, or contains cuts.
4. Headband strapping that is permanently stretched, stiffened, decomposed, frayed or contains cuts. It is very important that the headband of the respirator be in good operating conditions. A defective headband may prevent proper sealing of the respirator face piece to the face.
5. Snap fasteners on headbands and on face piece that are worn, distorted, or loose.
6. Plastic exhalation valve seat that is distorted, or contains scratches or cracks on its sealing surface.
7. Rubber exhalation valve flap that is stiffened, distorted, decomposed or contains cuts. It is extremely important that the exhalation valve system of the respirator be in perfect operating condition. A defective exhalation valve system may allow contaminated air to leak into the interior of the respirator and thus endanger the respirator wearer.
8. Exhalation valve cover that is distorted or decomposed.
9. If any of the above defects are found, the respirator should be turned into Material Control and a new respirator issued.

10. EXCHANGE OF PARTS FROM ONE BRAND TO ANOTHER IS NOT ALLOWED. USE ONLY CARTRIDGES, FILTERS AND REPLACEMENT PARTS SPECIFIED FOR EACH RESPIRATOR.

9.0 RECORD KEEPING

Attention should be given to proper record keeping. Records which should be kept include: employees who are trained in respirator use, documentation of the care and maintenance of respirators, and medical reports on each respirator user.

10.0 RESPIRATOR PROGRAM EVALUATION

The respirator program shall be evaluated at least annually with program adjustments, if needed.

Compliance to the aforementioned points of the program should be reviewed; respirator selection, purchase of approved equipment, medical screening of employees, fit testing, issuance of equipment and associated maintenance, storage, repair and inspection and appropriate surveillance of work area conditions.

A respirator training program should cover the following:

- Hazard assessment
- Hazard control
- Written operating procedures
- Selection
- Issuance
- Training and education
- Face piece fit testing
- Inspection and maintenance
- Sanitation
- Storage
- Medical surveillance
- Program surveillance and evaluation

RESPIRATOR CARE

Inspection

I. Schedule

A. All respirators

Before and after each use.

During cleaning.

B. Emergency respirators and SCBA

Before and after each use.

During cleaning.

At least monthly.

II. What to look at:

- General condition of mask.
  - Condition of Vueguard
  - Condition of seal
  -完整性 of 检查
- Condition of straps.
- Condition of valves.
- Filter elements.
- Condition of air hose.
- Hose clamps.
- Gaskets.
- Is the mask clean?
- Is the mask approved?
- Is it the right mask for the job?

**Maintenance**

I. Cleaning

A. Remove filters and straps

B. Wash in mild soap solution

1. Hand wash with soft brush

C. Rinse thoroughly with clean, warm water.

D. Air dry. Do not exceed 125 F.

II. Storage

A. Short term-routine use.

B. Long term-occasional use.

**RESPIRATOR FITTING**

Four steps:

1. Face fit.
2. Positive and negative pressure fit test.
3. *Banana oil test.*
4. Record keeping.

**When to check the fit:**

*At the time of issuance:*

- Face fit.
- Positive and negative pressure fit test.
- *Banana oil test.*

*Each day before using:*

- Face fit.
- Positive and negative pressure fit test.

Types of qualitative fit test:

- Positive pressure fit test:

  - Block exhalation valve with hand or other material
- Block exhalation valve with hand or other material.
- Breathe out into mask.
- Check for air leakage around the edge of mask.

Negative pressure fit test;
- Block inhalation valve with hand or other material.
- Attempt to inhale.
- Check for air leakage around the edge of mask.

Banana oil tests or saccharin;
- Challenge with saccharin or isoamyl acetate (Banana oil).
- Reject fit if wearer tastes sweetness or senses banana odor from test media.

Respirator Selection Criteria:

<table>
<thead>
<tr>
<th>Job Categories</th>
<th>Type of Respirators</th>
<th>Type of Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Care Worker</td>
<td>1 = Potential exposure to pathogens.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>7 = General dust and odor Control</td>
<td>F</td>
</tr>
<tr>
<td>Art Technician</td>
<td>1 = Potential overexposure to toxic chemicals and vapors.</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>7 = General dust and odor Control</td>
<td>F</td>
</tr>
<tr>
<td>Auto Shop Mechanic</td>
<td>1 = During asbestos brake changeout operation.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>7 = General dust and odor Control</td>
<td>G</td>
</tr>
<tr>
<td>Bldg. Service Engineer; Refrigeration Mechanic</td>
<td>1 = Potential overexposure to toxic chemicals and vapors.</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>7 = General dust and odor Control in an oily condition</td>
<td>G</td>
</tr>
<tr>
<td>Chem/Bio/Physic Technicians</td>
<td>1 = Potential overexposure to toxic chemicals and vapors.</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>During welding operations on stainless steel.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>7 = General dust and odor Control in an oily condition</td>
<td>G</td>
</tr>
<tr>
<td>Role</td>
<td>Potential exposures</td>
<td>Equipment</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Custodian</td>
<td>Spray painting operations. 7 = General dust and odor Control.</td>
<td>F, G</td>
</tr>
<tr>
<td>Groundworker</td>
<td>7 = General dust and odor Control.</td>
<td>F, G</td>
</tr>
<tr>
<td>Painter</td>
<td>1 = Spray painting operations. 7 = General dust and odor Control.</td>
<td>C, G</td>
</tr>
<tr>
<td>Pesticide Applicator</td>
<td>1 = Potential overexposure to toxic pesticides. When applying in confined areas with limited ventilations.</td>
<td>D</td>
</tr>
<tr>
<td>Police Officer</td>
<td>7 = General dust and odor Control.</td>
<td>F, G</td>
</tr>
<tr>
<td>Skilled Laborer; Building Maintenance; Carpenter</td>
<td>1 = Potential overexposure to toxic chemicals During asbestos abatement operations. 7 = General dust and odor Control.</td>
<td>C, B, F</td>
</tr>
<tr>
<td>Theater Technician</td>
<td>1 = Potential overexposure to toxic chemicals 7 = General dust and odor Control.</td>
<td>C, F</td>
</tr>
<tr>
<td>Tree Trimmers</td>
<td>7 = General dust and odor Control.</td>
<td>G</td>
</tr>
<tr>
<td>Emergency Response Team</td>
<td>1 4 2 5 3 6</td>
<td>D, F, G</td>
</tr>
</tbody>
</table>

**Equipment:**

- 1 = Half Face
- 2 = Full Face
- 3 = Half Face PAPR
- 4 = Full Face PAPR
- 5 = Hood with PAPR
- 6 = Pressure Demand SCBA
- 7 = Dust Mask

**Filters:**

- A = Organic Vapor (Black)
- B = HEPA (Magenta)
- C = Organic Vapor/Acid Gas (Yellow)
- D = OV/Acid Gas/HEPA (Yellow/Magenta)
- E = Ammonia (green)
- F = 8210 (N-95, General Dust)
- G = 8271 (P-95, Dusty, Oily Environment)