Respiratory Protection

Supersedes:
Effective: 9-20-01

1. Introduction

   1.1. In our continuing effort to enhance the safety of Boston Emergency Medical Services (BEMS) personnel, the Scott AV-2000 full facepiece with Scott 642-MPC-P100 cartridges have been issued.

   1.2. The intent is to allow BEMS personnel to escape from environments contaminated with harmful or toxic materials.

   1.3. The Scott AV-2000 full facepiece with appropriate canister(s) may be worn to manage patients under certain conditions (example: outdoor activity with adequate ventilation and product such as riot control agent).

2. Responsibilities

   2.1. The Scott full facepiece and canisters must be kept with you, in your assigned unit, whenever you are working.

   2.2. While stored, canisters must be kept in sealed containers.

   2.3. Immediately notify your supervisor if either your mask or canisters are damaged.

3. Use of Respirators

   3.1. The Scott AV-2000 full facepiece and canister ensemble will be donned when directed by a supervisor or command personnel.

   3.2. If supervisory or command personnel are not on scene, the facepiece and canister ensemble may be donned to escape or protect you from known or suspected hazardous environments. (For example: ill/injured patient presenting contaminated with some product, or someone inadequately decontaminated presenting to you)

   3.3. Do not knowingly enter a contaminated atmosphere.

4. Respirator Limitations

   4.1. These respirators should generally be worn only to escape from an environment contaminated with harmful or toxic materials. They are not for use in an atmosphere immediately dangerous to life or health (IDLH).

   4.2. All oxygen-deficient atmospheres shall be considered IDLH.

   4.3. The respirator is not for use in an oxygen-deficient atmosphere (an atmosphere containing less than 19.5 % oxygen). The canister or cartridge does not supply the respirator user with breathing air from a source independent of the ambient

atmosphere (a supplied air respirator (SAR) or self-contained breathing apparatus (SCBA) must be used in an oxygen deficient atmosphere.)

4.4. The 642-MPC-P100 cartridge – (P-100 particulate filter), combination filter cartridge, is approved for escape from an atmosphere contaminated with an identified product that falls into one of the categories below:

- OV- Organic Vapor
- AN- Ammonia
- MA- Methylamine Chlorine
- HC- Hydrogen Chloride
- SD- Sulfur Dioxide
- CD Chloride Dioxide
- HF- Hydrogen Fluoride
- FM- Formaldehyde
- HS- Hydrogen Sulfide

4.5. The P-100 cartridge is a HEPA filter, and as such will protect against the inhalation of biological hazards.

4.6. Facepiece seals and valves are important in tight-fitting respirators.

4.6.1. Tight-fitting respirators must have a complete seal to the face.

4.6.2. If there is a leak in the seal of a tight-fitting respirator or valve, then the respirator cannot reduce the wearer's exposure to respiratory hazards.

4.6.3. Nothing should interfere with the seal of the respirator to the user's face or with the valves.

4.6.4. Facial hair, jewelry, corrective glasses or goggles, helmets and other personal protective equipment must not interfere with the sealing surface of the tight-fitting facepiece and the face.

5. Cleaning, Disinfecting and Maintenance

5.1. The AV-2000 is normally cleaned and inspected after each use.

5.1.1. Refer to SCOTT *Cleaning and Maintenance Instructions for AV-2000 Full Facepiece*

5.1.2. Normal cleaning

5.1.3. Removal, maintenance, and replacement of nosecup assembly

5.1.4. Removal and replacement of voicemitter and voicemitter ducts

5.1.5. Removal, maintenance and reinstallation of head harness assembly

5.1.6. Removal and replacement of lens, seal and frame

5.1.7. Replacement parts

6. Storage

6.1. You must store your respirator and equipment in a manner that:

6.1.1. Allows accessibility at all times

6.1.2. Protects from contamination, dust, sunlight, extreme temperatures, excessive moisture, damaging chemicals, or other destructive conditions.

6.1.3. Prevents the facepiece or valves from becoming deformed

6.1.4. Follows all storage precautions issued by the respirator manufacturer

7. Inspection

7.1. Emergency use respirators must be inspected before and after each use, at least monthly, and during cleaning and disinfection, checking for proper function.

7.2. All respirator inspections must include:

7.2.1. A check of respirator function, i.e., visual inspection to identify any parts that may be missing, distorted, blocked, loose, deteriorated, or otherwise interfere with proper performance.

7.2.2. A check of rubber parts for pliability and deterioration.

8. Repairs

8.1. If your respirator does not pass inspection, you must immediately report it to your supervisor, or shift commander

8.2. Examples of when a respirator should be removed from service:

8.2.1. A cartridge has become saturated or a contaminant has broken through the cartridge and must be replaced.

8.2.2. A respirator strap, valve, or connection damaged or missing

8.2.3. The mask portion of a respirator is misshapen or degraded and can no longer form a good seal around the user's face.

8.3. Repairs may be performed only by an appropriately trained person, who must use NIOSH-approved parts designed for that particular respirator.

9. Definitions

9.1. Canister or cartridge means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminates from the air passed through the container.

9.2. <u>High efficiency particulate air (HEPA) filter</u> means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

9.3. <u>Immediately dangerous to life or health (IDLH)</u> means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

9.4. Tight-fitting facepiece means a respiratory inlet covering that forms a complete seal with the face.

9.5. Oxygen-deficient atmosphere means an atmosphere with an oxygen content below 19.5% by volume.