

Respiratory Protection Program
Revision 1
August 2019

1. Introduction

- 1.1. It is the policy of Bristol Community College(BRISTOL COMMUNITY COLLEGE) to provide employees with a safe and healthful working environment. This is accomplished by utilizing facilities and equipment that have all feasible safeguards incorporated into their design. When effective engineering controls are not feasible, or when they are being initiated, protection shall be used to ensure personnel protection. OSHA Standard 29CFR 1910.134, OSHA Respirator Standard.

2. RESPONSIBILITIES

- 2.1. Bristol Community College
- 2.1. A. BRISTOL COMMUNITY COLLEGE is responsible for establishing and maintaining a respiratory protection program consistent with the goal of protecting all required personnel. BRISTOL COMMUNITY COLLEGE will implement a Respiratory Protection Program which is designed and organized to ensure respirators are properly selected, used, and maintained by all required personnel, and to meet federal regulatory standards (29 CFR 1910.134) and industry accepted standards (ANSI).
- 2.1. B. BRISTOL COMMUNITY COLLEGE is also responsible for evaluating those tasks for which respiratory protection is thought to be necessary, determine the degree of hazard posed by the potential exposure, determine whether engineering or administrative controls are feasible, and will specify which respiratory protection device is to be used at each task. In addition, BRISTOL COMMUNITY COLLEGE will train personnel in the selection, care, and use of respiratory protective devices, conduct qualitative and quantitative fit testing, and issue necessary protective devices.
- 2.1. C. It is the responsibility of each respirator wearer to wear his/her respirator when and where required and in the manner in which they were trained. Respirator wearers must report any malfunctions of the respirator to his/her supervisor immediately. The respirator wearer must also guard against mechanical damage to the respirator, clean the respirator as instructed, and store the respirator in a clean, sanitary location.

3. Respirator

- 3.1. Appendix D of OSHA 29 CFR 1910.134 allows for an employee to wear a respirator when not required under the standard (i.e. no respiratory hazards exist that exceed the Action Level for that contaminant). This appendix states that:

3.1.A. *Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following:*

1. *Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.*
2. *Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for*

Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. *Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.*

4. Selection and Use

4.1. Respirator Use

- 4.1.A. Respiratory protection is authorized and issued for the following personnel:
 - 4.1.A.1. Workers in areas known to have contaminant levels requiring the use of respiratory protection or in which contaminant levels requiring the use of respiratory protection may be created without warning (e.g., emergency purposes such as hazardous material spill responses).
 - 4.1.A.2. Workers performing operations documented to be health hazardous and those unavoidably required to be in the immediate vicinity where similar levels of contaminants are generated.
 - 4.1.A.3. Workers in suspect areas or performing operations suspected of being health hazardous but for which adequate sampling data has not been obtained.

4.2. Respirator Selection

- 4.2.A. Selection of the proper respirator(s) to be used in any work area or operation is made only after a determination has been made as to the real and/or potential exposure of employees to harmful concentrations of contaminants in the workplace atmospheres. This evaluation will be performed prior to the start of any routine or non-routine tasks requiring respirators. Respiratory protective devices will be selected based on the type of hazard involved. The following items will be considered in the selection of respirators:
 - 4.2.A.1. Effectiveness of the device against the substance of concern;
 - 4.2.A.2. Estimate maximum concentration of the substance in the work area;
 - 4.2.A.3. General environment (open shop or confined space, etc.);
 - 4.2.A.4. Known limitations of the respiratory protective device;
 - 4.2.A.5. Comfort, fit and worker acceptance;
 - 4.2.A.6. Other contaminants in the environment or potential for oxygen deficiency.

4.2.B. Types of Respirators

- 4.2.B.1. Air-Purifying Respirator (APR) - These respirators remove air contaminants by filtering, absorbing, adsorbing, or chemical reaction with the contaminants as they pass through the respirator canister or cartridge. This respirator is to be used only where adequate oxygen (19.5 to 23.5 percent by volume) is available. Air-purifying respirators can be classified as follows:

- Particulate removing respirators, which filter out dusts, fibers, fumes and mists. These respirators may be single-use disposable respirators or respirators with replaceable filters.
- NOTE: Surgical masks do not provide protection against air contaminants. They are never to be used in place of an air-purifying respirator. They are for medical use only.

- Gas and vapor removing respirators, which remove specific individual; contaminants or a combination of contaminants by absorption, adsorption or by chemical reaction. Gas masks and chemical cartridge respirators are examples of gas and vapor removing respirators.
- Combination particulate/gas and vapor removing respirators, which combine the respirator characteristics of both kinds of air-purifying respirators.

4.2.B.2. Supplied Air Respirators (SAR) - These respirators provide breathing air independent of the environment. Such respirators are to be used when the contaminant has insufficient odor, taste or irritating warning properties, or when the contaminant is of such high concentration or toxicity that an air purifying respirator is inadequate. Supplied air respirators, also called air line respirators are classified as follows:

- Demand - This respirator supplies air to the user on demand (inhalation) which creates a negative pressure within the face-piece. Leakage into the face-piece may occur if there is a poor seal between the respirator and the user's face.
- Pressure Demand - This respirator maintains a continuous positive pressure within the face-piece, thus preventing leakage into the face-piece.
- Continuous Flow / Positive Pressure - This respirator maintains a continuous flow of air through
- Self-Contained Breathing Apparatus (SCBA) - This type of respirator allows the user complete independence from a fixed source of air and offers the greatest degree of protection but is also the most complex. Training and practice in its use and maintenance is essential. This type of device will be used in emergencies only.

4.3. Identification of Respirator Cartridges and Gas Mask Canisters

- 4.3.A. Respirator cartridges and canisters are designed to protect against individual or a combination of potentially hazardous atmospheric contaminants, are specifically labeled and color coded to indicate the type and nature of protection they provide.
- 4.3.B. The NIOSH approval label on the respirator will also specify the maximum concentration of contaminant(s) for which the cartridge or canister is approved. For example, a label may read:

4.4. Warning Signs of Respirator Failure

- 4.4.A. Particulate Air Purifying
 - 4.4.A.1. When breathing difficulty is encountered with a filter respirator (due to partial clogging with increased resistance), the filter(s) must be replaced. Disposable filter respirators must be discarded.
- 4.4.B. Gas or Vapor Air Purifying
 - 4.4.B.1. If, when using a gas or vapor respirator (chemical cartridge or canister), any of the warning properties (e.g. odor, taste, eye irritation, or respiratory irritation) occur, promptly leave the area and check the following:
 - Proper face seal
 - Damaged or missing respirator parts

- Saturated or inappropriate cartridge or canister

4.4.B.2. If no discrepancies are observed, replace the cartridge or canister. If any of the warning properties appear again, the concentration of the contaminants may have exceeded the cartridge or canister design specification. When this occurs, an airline respirator or SCBA is required.

4.4.C. Service Life of Air Purifying Respirator Canisters and Cartridges

4.4.C.1. The canisters or cartridges of air purifying respirators are intended to be used until filter resistance precludes further use, or the chemical sorbent is expended as signified by a specific warning property, e.g. odor, taste, etc. New canisters, cartridges or filters shall always be provided when a respirator is reissued, When in doubt about the previous use of the respirator, obtain a replacement canister or cartridge.

4.4.D. Supplied Air Respirator

4.4.D.1. When using an airline respirator, leave the area immediately when the compressor failure alarm is activated or if an air pressure drop is sensed. When using an SCBA leave the area as soon as the air pressure alarm is activated.

5. TRAINING

- 5.1. Respirator users and their supervisors will receive training on the contents of the BRISTOL COMMUNITY COLLEGE Respiratory Protection Program and their responsibilities under it. They will be trained on the proper selection and use, as well as the limitations of the respirator. Training also covers how to ensure a proper fit before use and how to determine when a respirator is no longer providing the protection intended.
- 5.2. Bristol Community College provides training of respirator wearers in the use, maintenance, capabilities, and limitations of respirators upon initial assignment of personnel to tasks requiring the use of respirators. Retraining is given annually thereafter and only upon successful completion of the medical evaluation.

6. MAINTENANCE

- 6.1. The maintenance of respiratory protective devices involves a thorough visual inspection for cleanliness and defects (i.e., cracking rubber, deterioration of straps, defective exhalation and inhalation valves, broken or cracked lenses, etc.) Worn or deteriorated parts will be replaced prior to reissue. No respirator with a known defect is reissued for use. No attempt is made to replace components, make adjustments or make repairs on any respirator beyond those recommended by the manufacturer. Under no circumstances will parts be substituted as such substitutions will invalidate the approval of the respirator. Any repair to reducing or admission valves, regulators, or alarms will be conducted by either the manufacturer or a qualified trained technician.