

Messiah College  
**RESPIRATORY PROTECTION POLICY**  
**Policy and Procedure**

*Purpose:* The purpose of the Messiah College Respiratory Protection Program is to ensure that all employees who may be required to wear any type of respirator, as part of their job assignment, completely understand their proper use and selection. Respirators will be used to control occupational diseases caused by breathing air contaminated with harmful dust, fogs, fumes, mists, gases, smokes, sprays, or vapors. Any change or modification to this program must be approved by the Environmental Health and Safety Manager.

The Environmental Health and Safety Manager will be responsible for administration and supervision of the respiratory protection program. The guidelines in the Messiah College Program will be based on the Occupational Safety and Health Administration's (OSHA) standard 29CFR 1910.134.

### **Where to Use Respirators**

In the Facilities Department, employees in the following areas may be required to wear respirators due to the nature of their operations:

1. Personnel trained to perform asbestos abatement work.
2. Personnel trained to maintain the swimming pool.
3. Painters.

Employees performing duties in these areas will be trained and educated in accordance with the procedures outlined in the training section of this program. Supervisors will be responsible for notifying the Environmental Health and Safety Manager concerning any change of an employee's health status that may disqualify him/her from using a respirator, or any new or transferred employee who will need to be trained. Most work that requires respirator use is contracted out. Under no circumstances will Messiah employees be required to wear SCBA's, this work would be performed by a subcontractor.

### **Selection of Respirators**

When choosing a respirator, a number of factors have to be taken into consideration. Employees will be made aware that respirators do have their limitations and will not eliminate all hazards.

Employees will also be made aware that if the equipment is not properly fitted, maintained and kept in serviceable condition, a respirator may fail and over-exposure could occur.

Messiah College will use the following criteria to select respirators for its employees:

1. Chemical and physical properties of the contaminant.
2. Characteristics of the hazards present in each operation performed.
3. Toxicity and concentration of the hazardous material.
4. Period of time respiratory protection may be needed.
5. Amount of oxygen present.
6. Nature and extent of work to be performed.
7. Respirator/protection factors and respirator fit.
8. Work rate and mobility required.
9. Location of hazardous material with respect to a safe area having respirable air.
10. Emergency or routine use.

If an employee, after having received a respirator, determines that there is a problem(s) with it, the Environmental Health and Safety Manager should be notified immediately. A respiratory protection program can only be effective if all employees communicate to make it so.

Respirators are divided into two major classifications:

1. Air purifying respirators (APR's) remove contaminants by passing breathing air through a purify element. Many APR models are available to protect against specific contaminants, but they all fall into two subclasses:
  - (a) Particulate APR's which employ a mechanical filter element.
  - (b) Gas and vapor APR's that utilize chemical sorbents contained in a cartridge or canister.

Limitations to the applications of APR's are that they are specific for certain types of contaminants, so the identity of the hazardous agent must be known. There are maximum concentration limits for exposure to many hazardous substances; this requires a knowledge of the ambient concentration of the contaminant, as well as the maximum use limit (MUL) of the respirator. Since APR's only clean the air, ambient concentration of oxygen must be sufficient (>19.5%) for the user.

2. Air supplying respirators (ASR's) provide a substitute source of clean breathing air. The respirable air is supplied to the worker from either a stationary source through a long hose or from a portable container. The first type are called supplied air respirators (SAR's) and the latter are known as self-contained

breathing apparatus (SCBA's). These devices can be used regardless of the type of airborne contaminant or oxygen concentration. However, the contaminant concentration limits vary for the different types of SAR's, and the wearer must be aware of the limitations of his/her respirator.

The following chart presents a simplified version of characteristics and factors used for respirator selection:

<u>HAZARD</u>	<u>RESPIRATOR</u>
1. Oxygen Deficiency. Immediately dangerous to life and health (IDLH). *	Any positive pressure SCBA.
Not IDLH.	Any positive pressure SCBA or supplied air respirator.
2. Gas and vapor contaminants IDLH.	Positive pressure SCBA.  Combination positive pressure SAR with auxiliary self-contained air supply.
Not IDLH.	Any positive pressure SAR, gas mask or chemical cartridge respirator.
3. Particulate contaminants	Any positive pressure SAR including abrasive blasting respirator, powered APR equipped with high efficiency filters, an air purifying respirator with a specific particulate filter.
4. Gaseous and particulate contaminants. IDLH	Positive pressure SCBA.  Combination positive pressure SAR with auxiliary self-contained air supply.
Not IDLH	Any positive pressure SAR, gas mask, chemical cartridge respirator.
5. Escape from contaminated atmosphere	Any positive pressure SCBA, gas mask, combination positive pressure SAR with

escape SCBA.

6. Fire fighting

Any positive pressure SCBA.

\*Note: "Immediately dangerous to life and health" is any condition that poses either an immediate threat to life or health or an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse delayed effects on health.

### **Training and Education**

All employees required to use respiratory protective equipment will be instructed in the proper use of the type they will use. Respirator training will be conducted by qualified person (Eichelberger's) designated by the Environmental Health and Safety Manager. As part of their training, employees will be given an opportunity to handle a respirator, wear it in normal air for a period of time to become familiar with it and practice adjusting it. Employees who will be required to use respiratory protection equipment in atmospheres immediately dangerous to life or health, will be trained in rescue procedures. It is important for users to know that improper respirator use, poor maintenance, or an improper fit, can cause acute or chronic diseases and possibly death from over-exposure to contaminants present in the air.

The respiratory protection training and education program will focus on explanation of the following:

1. Nature of respiratory hazards and what may happen if the respirator is not used properly.
2. Engineering and administrative controls being used and the need for the respirator as added protection.
3. Reason(s) for selection of a particular type of respirator.
4. Limitations of the selected respirator.
5. Methods of donning and removing the respirator and checking its fit and operation.
6. Proper use of the respirator.
7. Respirator maintenance and storage.
8. Proper methods for handling emergency situations.

### **Fit Testing**

Since no one respirator fits everyone, it will be necessary to fit-test each employee required to use one. The employee will be fitted with the respirator assigned to them. All employees will receive fitting instructions, including demonstrations and practice with how to wear the

respirator, how to adjust it and how to determine if it fits properly for the type(s) each is require to use. Qualitative fit testing will be used to check for leaks in the face piece. To assure proper protection, the face piece shall be checked for leaks by the wearer each time he/she puts on the respirator.

Respirator protection depends on the equipment being used. When a good face seal is not achieved, a respirator shall not be worn. Conditions that could prevent a good face seal are:

1. Growth of beard or sideburns.
2. A skull cap that projects under the face piece.
3. Absence of one or both dentures.
4. Temple pieces of glasses.

## **Maintenance and Care**

Respiratory equipment must be properly maintained to retain its original effectiveness. The maintenance program will include the following:

Inspection for defects (including a leak check)--All respirators must be inspected routinely before and after each use. The inspection check will cover tightness of connections, condition of the face pieces, headbands, valves, connecting tubes and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. These parts can be kept pliable and flexible and prevent the rubber or plastic from forming into an abnormal shape by stretching and manipulating these parts with a massaging action. Emergency use respirators will be inspected after each use by the persons using them, or at least monthly by the supervisor of the area in which they are used.

Cleaning and disinfecting--Respirators will be cleaned and disinfected before they are issued and after each use. Respirators can be cleaned in a mild detergent solution and disinfected by immersion in a sanitizing solution specially provided for that purpose. Strong cleaning and sanitizing agents, along with many solvents can damage rubber or elastomer respirator parts.

Repairs--All repairs will be made by experienced and trained personnel, with parts designed for each particular respirator. No attempt will be made to repair or replace components or make adjustments beyond the manufacturers recommendations. Reducing or admission valves or regulators will be returned to the manufacturer or to a trained technician for adjustments or repairs.

Storage--Respirators will be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals. Respirators placed at stations and work areas for emergency use will be quickly assessable at all times. Storage will be in such a way that the face piece and exhalation valve will rest in a normal position and function will not be impaired.

## **Medical Status**

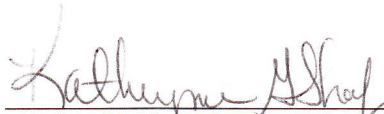
No employees will be permitted to use a respirator unless it has been determined by a doctor that they are physically able to perform the assigned work while using the assigned respirator. The

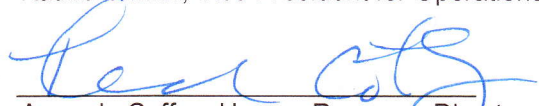
employee will provide the examining doctor with pertinent data and guideline's regarding the requirements of each employee's working environment in order to get a proper determination regarding the individual's physical ability to wear a respirator in normal performance of their duties will have their medical status reviewed anytime there is a change in work or medical conditions.

**Record Keeping**

All records required by this OSHA standard will be maintained by the Environmental Health and Safety Manager.

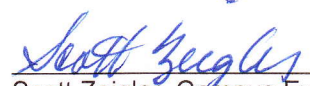
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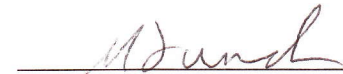
  
Kathie Shafer, Vice President for Operations

  
Amanda Coffey, Human Resource Director

  
Brad Markley, Director of Facility Services

  
Hilary Kreider, Environmental Health & Safety Manager

  
Scott Zeigler, Campus Events/Laundry Manager

  
Steven Funck, Lab Manager

  
Dan Smith, Facility Maintenance Service Manager

**"Note - The signed copy of this procedure is filed in the Facility Service Department. By signing this policy you have agreed to enforce the contents and adhere to standards".**