A. POLICY

This procedure follows requirements set forth in 29 CFR 1910.134.

B. SCOPE AND APPLICATION

This document applies to Alvernia University personnel who are required to wear respirators and those who choose voluntarily to use respirators.

1. Mandatory use of Respirators

This program applies to all employees who are required to wear respirators during normal work operations and during certain non-routine or emergency operations. The requirement to wear a respirator is determined based on the employee’s potential exposure to respiratory hazards. Types of respirators include:

- Half-facepiece type negative-pressure air-purifying
- Full-facepiece type negative-pressure air-purifying
- Powered air-purifying (PAPR)
- Self-contained breathing apparatus (SCBA)
- Disposable respirator (filter-mask, non-cartridge type only)

The Alvernia University Respiratory Program Administrator, in conjunction with the responsible supervisor, will determine if a respirator is required based on the employee’s potential exposure to respiratory hazards. Employees who are required to wear respirators during normal work operations and during certain non-routine or emergency situations must participate in all elements of the Alvernia University Respiratory Protection Program. The following elements are required:

- Procedures for:
  - Selection of appropriate respirators
  - Fit testing
  - Proper respirator use in routine and foreseeable emergencies
  - Ensuring adequate air quality, quantity and flow for air supplied respirators
  - Cleaning, disinfecting, storing, inspecting, repairing, removing from service or discarding, and otherwise maintaining respirators, with schedules for implementation
  - Regularly evaluating the effectiveness of the program
- Provision of a medical evaluation
- Training for employees and responsible supervisors in their potential respiratory hazards and in the proper use, limitations, and maintenance of respirators

Employees participating in the Respiratory Protection Program do so at no cost to them. The expense associated with medical evaluations, training, and respiratory protection equipment will be borne by Alvernia University.

2. Voluntary use of Respirators

Employees who voluntarily choose to use a disposable filter-mask respirator when it is not required are not required to complete the Medical Evaluation Questionnaire, participate in training sessions or undergo respirator fit testing. In addition, the information specified in Section 3000 Number 3: “Important Information about Voluntary Use of Respirators” will be provided to all voluntary users of respirators.
The requirements of the Alvernia University Respiratory Protection Program do not apply to users of disposable paper-type dust masks.

C. DEFINITIONS

“Air-purifying respirator” means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

“Assigned protection factor (APF)” means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by 29 CFR 1910.134.

“Atmosphere-supplying respirator” means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

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

“Demand respirator” means an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

“Emergency situation” means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an air-borne contaminant.

“Employee exposure” means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

“End-of-service-life indicator (ESLI)” means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

“Escape-only respirator” means a respirator intended to be used only for emergency exit.

“Filter or air purifying element” means a component used in respirators to remove solid or liquid aerosols from the inspired air.

“Filtering face piece (dust mask)” means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

“Fit factor” means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

“Fit test” means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

“Helmet” means a rigid respiratory inlet covering that also provides head protection against impact and penetration.
“High efficiency particulate air (HEPA) filter” 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.

“Hood” means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

“Immediately dangerous to life or health (IDLH)” 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.

“Loose-fitting facepiece” means a respiratory inlet covering that is designed to form a partial seal with the face.

“Maximum use concentration (MUC)” means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

“Negative pressure respirator (tight fitting)” means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

“Oxygen deficient atmosphere” means an atmosphere with an oxygen content below 19.5% by volume.

“Physician or other licensed health care professional (PLHCP)” means an individual whose legally permitted scope of practice (i.e. license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by 29 CFR 1910.134.

“Positive pressure respirator” means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

“Powered air-purifying respirator (PAPR)” means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

“Pressure demand respirator” means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

“Qualitative fit test (QLFT)” means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual’s response to the test agent.

“Quantitative fit test (QNFT)” means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
“Respiratory inlet covering” means that portion of a respirator that forms the protective barrier between the user’s respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

“Self-contained breathing apparatus (SCBA)” means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

“Service life” means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

“Supplied-air respirator (SAR) or airline respirator” means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

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

“User seal check” means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

D. RESPONSIBILITIES

1. Respiratory Program Administrator

The Respiratory Program Administrator is responsible for overseeing the respiratory protection program and ensuring that all requirements are fully implemented. The designated Respiratory Program Administrator is the Alvernia University Environmental Health & Safety Manager.

Duties of the Respiratory Program Administrator include:

- Develop and evaluate the written Respiratory Protection Program
- Conduct work place assessments for potential employee exposure to respiratory hazards including a reasonable estimate of employee exposure.
- Provide guidance to employees for selection and purchase of approved respirators
- Develop and provide Respiratory Protection training
- Provide qualitative and/or quantitative fit testing
- Ensuring employees are physically able to perform the work and use the respirator
- Coordinate with either the Alvernia University Director of Health & Wellness (if the current Director is a licensed physician) or the Reading Hospital Occupational Health Services physician (if the Alvernia University Director of Health & Wellness is not currently a licensed physician), Alvernia University supervisors and Alvernia University employees to facilitate medical evaluations for respirators as needed.

2. Respirator Users

Respirator users include those employees who are required to wear respirators or who voluntarily wear respirators related to their work at Alvernia University. Duties of all respirator users include:

- Use respirators according to instruction and training provided by the Respiratory Program Administrator
ALVERNIA UNIVERSITY

OSHA REGULATION: 29 CFR 1910.134 RESPIRATORY PROTECTION


- Clean, store and maintain their respirator properly.
- Inspect respirator for any defects before each use.
- Report to their supervisor or the Respiratory Program Administrator any defect or malfunction of the respirator.
- Report to their supervisor or the Respiratory Program Administrator any signs, symptoms or difficulty related to respirator use.
- Conduct respirator user seal-checks each time the respirator is donned.
- Do not wear voluntary use respirators in required use areas without approval from the Alvernia University Respiratory Program Administrator.
- Be clean-shaven before donning any respiratory devices.

3. Physician or other Licensed Health Care Professional (PLHCP)

The physician or PLHCP is an individual who is legally permitted (i.e. by license, registration or certification) to provide some or all of the health care services required by the OSHA Respiratory Protection Standard.

- Conduct medical evaluation in accordance with the OSHA Standard
- Provide written recommendation on employees’ ability to use a respirator
- Provide follow-up medical examination if indicated
- Maintain all medical records as required by the Standard

4. Other Responsible Individuals

The Alvernia University Respiratory Program Administrator has the authority to assign responsibility and accountability to employees and/or supervisors for each phase of this program.

E. RESPIRATORY HAZARDS ASSESSMENT

When an overexposure to an airborne contaminant is suspected, either during routine operations or during a foreseeable emergency, it is important that a thorough hazard evaluation be conducted. The Alvernia University Respiratory Program Administrator will perform hazard assessments in the workplace to determine any workplace conditions where airborne contaminants may be present and potential worker exposure exists. The following elements will be considered when conducting a hazard assessment:

- Identification of hazardous substances in the workplace
- Review of work processes to determine where potential exposures to hazardous substances may occur. This review may include a survey of the workplace, review of process records, and talking with Alvernia University employees and supervisors.
- Exposure monitoring will be conducted where it is determined that the potential for overexposure to hazardous levels of airborne contaminants exists and when sampling and analysis methods exist.

F. RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE AND CERTIFICATION

A Respirator Medical Evaluation Questionnaire must be provided by Alvernia University at no cost to the employee and during normal business hours. At the discretion of the Alvernia University Respiratory Program Administrator and the employee’s supervisor or department head, either a follow-up medical examination may be provided for an employee who gives a positive response to
any question among questions 1 through 8 in Section 2 of the Questionnaire or the employee may be assigned duties which do not require the use of a respirator.

Personal health and medical information obtained in the Evaluation will be kept confidential by the PLHCP. The only information returned to the Respiratory Program Administrator and the employee’s supervisor is a written recommendation regarding the employee’s ability to use the respirator.

1. Prior to respirator use

Medical evaluations must be provided when:

- Elastomeric (e.g. latex or silicone) facepiece respirators are required or worn voluntarily
- Filtering facepiece respirators are required. Medical evaluations are not required for voluntary use of disposable filtering facepiece respirators or use (mandatory or voluntary) of dust masks.

Respirator use is absolutely prohibited until a physician or other licensed health care professional (PLHCP) has submitted a medical certification that the employee is medically able to do so. The medical evaluation must be provided before the employee is fit tested and uses the respirator for the first time. Any employee refusing a medical evaluation will not be allowed to work in an area requiring respirator use.

The requirement for medical evaluation is necessary because using a respirator may place a burden on a worker’s health. This burden varies according to a number of factors, such as the weight and breathing resistance of the respirator and the workplace conditions under which the respirator is worn. Specific medical conditions that may place an employee at increased risk of illness, injury or death include:

- Cardiovascular and respiratory disease, such as high blood pressure, angina, asthma, chronic bronchitis, or emphysema
- Cardiovascular damage caused by heart attack or stroke
- Reduced lung function caused by factors such as smoking or prior exposure to respiratory hazards
- Neurological disorders, such as epilepsy
- Musculoskeletal disorders, such as lower back pain
- Psychological conditions, such as claustrophobia and severe anxiety

2. Facilities Providing Service

Occupational medical evaluations are provided by the Alvernia University Director of Health & Wellness (only if the current Director is a physician or other licensed health care professional) or the Reading Hospital Occupational Health Services (if the current Alvernia University Director of Health & Wellness is not a physician or other licensed health care professional). The evaluating physician’s office has been provided with a copy of the Alvernia University Respiratory Protection Program and the OSHA Respiratory Protection Standard and is familiar with the requirements of both documents.

The medical evaluation for Respirator Qualification is conducted using the Respirator Medical Evaluation Questionnaire (Appendix C of the OSHA Standard 29 CFR 1910.134). The employee’s supervisor or the Alvernia University Respiratory Program Administrator provides each employee who is required to use a respirator (excluding voluntary use of disposable respirators or mandatory or voluntary use of dust masks) with a copy of Medical Questionnaire and is responsible for assuring the
questionnaire is administered confidentially during the employee’s normal working hours or at time and place convenient to the employee.

In order to maintain strict confidentiality of the information obtained on the questionnaire, a blank questionnaire is distributed to the employee for him or her to fill out. A sealable preaddressed envelope must be provided by the employee’s department for the employee to place the completed form and send or deliver to the Alvernia University Respiratory Program Administrator. The questionnaire must be administered in a way that the employee understands the content and that the confidentiality of the record is maintained. If the employee cannot read or understand the content of the questionnaire, a physician or other licensed health care professional (PLHCP) will administer the questionnaire.

The employee’s department is responsible for providing any medical follow-up as determined by the Physician or PLHCP evaluating the Medical Respirator Evaluation Questionnaire. This includes any additional follow-up, medical tests, or diagnostic procedures necessary to make a final decision on the employee’s ability to use respiratory protection.

3. Worksite Information Supplied to the PLHCP
The employee and the Alvernia University Respiratory Program Administrator must provide the physician or PLHCP with specific information about the employee’s work place conditions using the form Worksite Information Regarding Respirator Use. This information must be provided to the evaluating physician before a recommendation is made concerning the employee’s ability to use a respirator. The following information is required:
- The type and weight of the respirator being used by the employee
- Description of the task
- The duration and frequency of respirator use, including use for rescue and escape
- The expected physical work effort
- Additional protective clothing and equipment to be worn
- Temperature and humidity extremes that may be encountered

4. Information the PLHCP Provides Alvernia University
The PLHCP will provide the Respiratory Program Administrator with a copy of the employee’s certification for respirator use before fit testing. To assure confidentiality of medical records, the physician will provide Alvernia University with only the following information:
- Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
- The need, if any, for follow-up medical evaluations
- A statement that the physician has provided the employee with a copy of the written recommendation

If the medical evaluation excludes the use of respirators, appropriate modifications will be made so that the employee’s job does not require the use of respiratory protection.

5. Additional Medical Evaluations
After an employee has received medical certification and begun to wear their respirator, additional medical evaluations may be provided under the following circumstances:
• The employee reports signs or symptoms that are related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
• The physician, employee’s responsible supervisor, or the Program Administrator recommends re-evaluation.
• The information from the Alvernia University Respiratory Protection Program, including observations made during fit testing, program evaluation, or hazard re-assessment indicates a need for employee re-evaluation.
• A change occurs in the workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in an increased physiological burden placed on the employee.

Alternatively, appropriate modifications may be made so that the employee’s job does not require the use of respiratory protection.

The employee or employee’s supervisor must notify the Respiratory Program Administrator if any of these conditions arise. The Alvernia University Respiratory Program Administrator will contact the PLHCP for consultation and recommendation.

The Alvernia University Respiratory Program Administrator will maintain copies of the Respirator Qualification Certificate. The physician or PLHCP must maintain all medical records for at least the duration of the employee’s employment plus 30 years.

G. EDUCATION AND TRAINING

Selecting the proper respirator for a given hazard is important, but equally important is using the selected device correctly. Proper use can be ensured by carefully training both supervisors and workers.

1. Employee Training

Respiratory Protection training is mandatory for all employees who are required to wear a respirator for protection against hazardous air contaminants. Respiratory Protection training is conducted by the Alvernia University Respiratory Program Administrator.

Employees voluntarily using a respirator, not including disposable filter-mask respirators, must also participate in Respiratory Protection training. They must also be given a copy of Information for Employees Using Respirators When Not Required under the Standard (See Section 3000 Number 3). The Alvernia University Respiratory Program Administrator must maintain a signed copy, ensuring the employee reads and understands the information contained in the document.

Employees who voluntarily use a disposable filter-mask respirator or a dusk mask are not required to participate in this training.

2. General Training

Training will include the contents of the Alvernia University Respiratory Protection Program and the personnel requirements under it. Along with classroom instruction, hands-on training is provided on the proper use and limitations of each specific respirator assigned. The user will be fitted with an appropriate size and type of respirator he or she will use in their workplace.
The training course is presented in a comprehensive and understandable format with hands-on use of the specific make, model and brand of the respirator each employee will be assigned. The training covers the following topics:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- The limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- How to inspect, put on, and remove, how to use, and how to check the seals of the respirator
- The procedures for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- The general requirements of the OSHA Respiratory Protection Standard

The Alvernia University Respiratory Program Administrator will periodically review the training program to ensure the material is current and appropriate for the existing conditions.

Employees will be trained annually and more frequently if retraining appears necessary to ensure the safe use of respirators, for example:

- Changes in the workplace or in the type of respirator render previous training obsolete.
- Inadequacies in the employee’s knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill in using a respirator.
- Any other situation arises in which retraining appears necessary to ensure safe respirator use

3. Voluntary Use
For employees who choose to wear a respirator but are not required to do so, the Alvernia University Respiratory Program Administrator will provide training on care, maintenance, and storage of the respirator.

In addition, the employee must also be given a copy of Information for Employees Using Respirators When Not Required under the Standard (See Section 3000 Number 3). The Alvernia University Respiratory Program Administrator must maintain a signed copy, ensuring the employee reads and understands the information contained in the document.

4. Supervisor Training
All supervisors who oversee the work activities of respirator users must have a fundamental knowledge of respirators and of Alvernia University’s respiratory protection practices. Their training will include at least the following:

- The fundamentals of respiratory protection
- The respiratory protection practices of Alvernia University as described in this Respiratory Protection Program.
- The nature and extent of the hazards to which employees under their charge may be exposed
- The selection and use of respirators used by employees under their charge
Each employee's responsibilities and duties that facilitate functioning of the Alvernia University Respiratory Protection Program

The employee's supervisor must assure each employee required to wear a respirator receives the Alvernia University training prior to initial use of a respirator and annually thereafter. Workers must be trained before being fit tested and before using a respirator in the workplace. A workplace hazard assessment must be conducted and each employee must have a Respirator Qualification Certificate issued by an approved PLHC prior to the training and fit testing.

H. FIT TESTING

Fit testing is a procedure used to determine how well a respirator “fits”, that is, whether the respirator forms a good seal to the wearer’s face. If a good face-to-facepiece seal is not achieved, this may allow the respirator to leak. Since only tight fitting respirators rely on this seal, they are the only type of respirator for which fit testing is valid.

1. General Requirements

Fit testing is provided by the Alvernia University Respiratory Program Administrator in conjunction with General Respiratory Protection training. Employees must contact the Respiratory Program Administrator in advance to schedule fit testing and training if the fit testing and training has not been previously scheduled. The Director of Science Laboratory Services & Safety is also authorized to conduct respirator fit testing in accordance with the requirements of the Alvernia University Respiratory Protection Program.

Fit testing will not be conducted until the Alvernia University Respiratory Program Administrator has a copy of the employee’s signed Respirator Evaluation Questionnaire.

Fit testing is mandatory when employees are required to wear a tight fitting respirator on their job. Employees must be fitted for the specific brand, model and size for each respirator they are required to wear.

Fit testing must be conducted:

- Before a respirator is provided or used in the workplace.
- At least annually
- Whenever an employee switches to a different tight fitting respirator (e.g. different size, make, model or type)
- When there are changes in the employee’s physical condition that could affect the respirator fit (e.g. an obvious change in body weight, facial scarring, extensive dental work, or cosmetic surgery) either reported by the employee, observed by the employee’s supervisor, PLHCP or the Program Administrator.
- When an employee reports that their respirator does not fit properly (e.g. smelling a contaminant while wearing the respirator with new cartridges, hearing or feeling air leaking around the facepiece).

Employees are fit tested with the same make, model and size respirator that they will actually wear on the job. The Respiratory Program Administrator or other qualified personnel will conduct the fit testing following the OSHA quantitative or qualitative fit test procedures.
2. Required Use of Filtering Facepiece Respirators
   Fit testing is also mandatory when employees are required to use disposable filtering facepiece respirators. Fit testing is not required for their voluntary use. The respirators must be NIOSH certified and approved by the Alvernia University Respiratory Program Administrator prior to fit testing. Alvernia University will offer fit testing for filtering face piece respirators upon request from the employee or employee’s supervisor using Bitrex® or irritant smoke qualitative fit test procedures.

3. Quantitative Fit Testing
   Quantitative fit testing is a method of measuring the amount of leakage into a respirator. It is a numeric assessment of how well a respirator fits a particular individual. Quantitative fit tests (QNFT) are administered using OSHA-accepted QNFT protocols and procedures, which are included in Appendix A of the OSHA Standard.

   A quantitative fit test measures the concentration of the challenge agent within the respirator facepiece and does not depend on the subject’s response to the challenge agent. The PortaCount® system uses ambient particles as the test aerosol with measurements made of particle concentration outside and inside the facepiece. A fit test adapter specific to the brand of respirator being fit tested is used to measure within the respirator facepiece. An assessment of the quantitative fit is made based on the ratio of the particle concentration in the ambient air to the concentration inside the facepiece. This ratio or “Fit Factor” achieved by the fit test must be at least 100 (preferred 1000) for half face respirators and at least 500 (preferred 5000) for full facepiece respirators.

4. Qualitative Fit Testing
   Qualitative fit testing is available from the Alvernia University Respiratory Program Administrator. Qualitative fit testing is a non-numeric pass/fail test that relies on the respirator wearer’s response to a substance, (i.e. test agent) used in the test to determine respirator fit. While wearing the respirator and after successfully completing respirator fit checks, the employee is exposed to an atmosphere containing an odorant, irritant, or taste agent such as Bitrex® or irritant smoke. If the individual can detect the test agent, this indicates that the agent has leaked into the facepiece and the respirator has failed the test because a good facepiece-to-face seal has not been achieved. If the employee cannot successfully complete the qualitative fit test with a particular respirator, then another make, size, or brand of respirator will be tried. Qualitative fit testing may only be used when the employee’s exposure to air contaminants will not exceed ten times the OSHA PEL for that contaminant.

I. RESPIRATOR SELECTION

   Effective respiratory protection programs are dependent on proper selection and use of respirators. Since there are many types of respirators, with very different characteristics, capabilities, and limitations, it is essential that sufficient information be gathered to determine which respirators are appropriate for the hazards that exist in the workplace.

   1. General Requirements
      Employees exposed to respiratory hazards will be provided, at no cost to them, with respirators based on the hazards to which they are exposed, taking into consideration how workplace and user factors may affect respirator performance and reliability. Several different brands, models and sizes of
2. Hazard Identification

One of the most critical components of the Respiratory Protection Plan is respirator selection, which relies on accurate respiratory hazard identification. The hazard identification may be completed in several ways. The Alvernia University Environmental Health & Safety Manager, working with employees and supervisors, may use actual exposure monitoring, historical documentation, or an industrial hygiene calculation with sound industrial hygiene practice to conduct hazard assessments.

Each respirator issued must be NIOSH certified, equipped with the filters or cartridges selected for the specific hazard, and used in compliance with the conditions of its certification. Changes in workplace conditions that affect the employees’ potential exposure to air contaminants will require reassessment to determine if the respirator is still effective.

Specific respirators and cartridges are selected for employees based on specific environments and conditions. If conditions change, the Alvernia University Respiratory Program Administrator must approve any changes in respirator use. Do NOT share or exchange respirators or cartridges without approval.

Some of the factors considered in respirator selection include:

- Characteristics of the operation or process
  - Hot operations: chemical reactions, welding, soldering, burning
  - Liquid operations: Painting, degreasing, spraying, etching, cleaning, plating, chemical reactions
  - Solid operations: measuring, weighing, loading, crushing, demolition, sanding, scraping

- Nature of the hazard
  - Identification of air contaminants including physical (e.g. gas, vapor, particulate) and chemical properties
  - Potential health effects, including the potential for eye irritation and skin absorption
  - Oxygen deficiency or the likelihood of one developing

- A reasonable estimate of the concentration of the contaminant using either:
  - Exposure monitoring where feasible and analysis techniques available to assess time-weighted average (TWA) or short term exposures
  - Historical data and sound industrial hygiene practice
  - If a number of contaminants are present, assessment of the potential additive effects

- Comparison to Occupational Exposure Limits when they exist
  - OSHA Permissible Exposure Limits (PEL): OSHA established upper exposure limits for 8-hour day
  - ACGIH Threshold Limit Values (TLV): recommended upper exposure limits
  - Short-term Exposure Limits (STEL): maximum concentration to which workers can be exposed for a period of time, generally 15 minutes
o Ceiling (C): concentrations that should not be exceeded for any part of the work day
o Substance–Specific Standards
  • Consideration of the Respirator Design to specific scenarios
    o Tight-fitting or loose fitting respirators
    o Disposable or Reusable
    o Need for face or eye protection and use with eye glasses
    o Respirator Protection factor relative to maximum contaminant concentration
  • Worker activity
    o Duration of the job, physical exertion, temperature and humidity of the work area
    o Requirements for ease of communication

3. Site Audit

Frequent observation of work areas by the Alvernia University Respiratory Program Administrator / Environmental Health & Safety Manager is vital in ensuring the continued effectiveness of the respiratory protection program and the protection of workers.

By observing workers under actual workplace conditions, it is possible to determine:

  • Other protective equipment is interfering with respirator use
  • The respirator interferes with hearing, vision, communication, or job performance or restricts movement
  • Workers are experiencing discomfort, such as skin irritation or breakthrough of contaminants
  • A change in work conditions might result in exposure to new contaminants
  • A change or addition of new machinery might cause employees to work or breath harder
  • The respirator causes undue discomfort
  • Employees have confidence in the respirators effectiveness

Any condition that might affect the need for respiratory protection, for example, by diminishing the effectiveness of the current program, or increasing the need for additional protective measures, or even negating the need for mandatory respirator use, will be noted and forwarded to the Alvernia University Respiratory Program Administrator.

4. Respirators for Routine and Non-IDLH Atmospheres

Where there are non-IDLH (not Immediately Dangerous to Life or Health) atmospheres, appropriate respirators will be selected that are NIOSH certified and adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergencies.

Respiratory protection may also be provided for substances not regulated by OSHA, but may be of concern due to their toxicity (i.e. hazardous substances used in research, cytotoxic or other hazardous drugs).
5. Gas and Vapor Respirators
For protection against gases and vapors, employees will be provided an atmosphere-supplying respirator or an air-purifying respirator equipped with appropriate cartridges or canisters for the respiratory hazard.

Cartridges and canisters for air purifying respirators will have an End-of-Service-Life Indicator (ESLI) certified by NIOSH if available. Currently, there are few ESLI’s commercially available. So far, NIOSH has approved only four cartridges or canisters (mercury vapor, carbon monoxide, ethylene oxide, and hydrogen sulfide).

6. Change-Out Schedules
For all other cartridges and canisters without ESLI’s, change out schedules will be developed by the employee’s responsible supervisor and must be approved by the Alvernia University Respiratory Program Administrator.

- Cartridge change out schedules will be developed based on available data and information that can be relied upon to ensure that cartridges are changed before the end of their useful service life.
- Break through, or the employees’ ability to detect the odor or taste of an air contaminant cannot be used as an indicator for cartridge change out.

An employee may not rely on the detection of odor as protection against respiratory hazards posed by gases and vapors because:

- Most toxic substances do not have appropriate sensory (odor or irritant) warning properties.
- Some chemicals have odors that are only detectable above their established exposure limits, meaning the employee will smell the chemical only after they have already been exposed to unsafe levels of the contaminant.
- Individuals’ abilities to perceive particular odors may differ quite markedly from the population average due to a variety of innate, chronic or acute physiological conditions. For example, about 10% of the people have a markedly impaired sense of smell.
- There is no good screening mechanism to identify persons with sensory receptor problems.
- Continuing exposure to the odor usually results in diminishing or even loss of the smell sensation. This phenomenon is known as olfactory fatigue. When this happens, the worker unknowingly gets used to the contaminant breaking through the cartridge or canister and loses the ability to detect its smell.

Cartridges may be re-used if documentation of use and care demonstrates the cartridge or canister has not become saturated or may otherwise allow chemicals to break through. Factors to be considered in determining change schedules include:

- The contaminants the respirator is used for
- The concentration of contaminants in the work area
- Frequency of use (i.e. is the respirator used continuously or intermittently throughout the work shift).
- Temperature, humidity and air flow through the cartridge or canister.
- The employees’ level of exertion affecting breathing rate
- The presence of other potentially interfering chemicals
7. Particulate Respirators

For protection against particulates, employees will be provided an atmosphere supplying respirator or air purifying respirator equipped with an appropriate filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84.

There are nine filter types certified under 42 CFR 84 for non-powered air purifying respirators. These are based on three levels of filter efficiency and three levels of resistance to degradation by oil. The three levels of filter efficiency are 95, 99, and 99.97 (referred to as 95, 99 and 100 respectfully). The three levels of oil resistance are N (non-oil resistant), R (oil resistant), and P (oil proof). The most common commercially available filters are “N-95” and “P-100”. The P-100 is comparable to the HEPA filter used in powered air purifying respirators (PAPR).

For respirators worn for protection from particulates, filters should be changed according to the manufacturer’s recommendations, when the wearer detects an increase in breathing resistance (i.e. has difficulty breathing due to lack of air being drawn through the filter), they become damaged or otherwise unsuitable for use.

8. Respirators for IDLH atmospheres

IDLH means an atmosphere that poses an immediate threat to life, would cause irreversible health effects, or would impair an individual’s ability to escape from a dangerous atmosphere.

Currently at Alvernia University, there is NO routine use of respirators in IDLH atmospheres.

If potentially hazardous contaminants cannot be determined, if the exposure level cannot be identified, or reasonably estimated or if no exposure limit or guidance is available and estimates of the toxicity cannot be made, the atmosphere should be considered IDLH, and respirator choice should be made accordingly. All oxygen-deficient atmospheres (less than 19.5% O2 by volume) are considered IDLH.

IDLH environments require the highest level of respiratory protection and reliability. Either of the following two types of respirators must be provided and worn in IDLH atmospheres:

- Full facepiece pressure-demand SCBA’s that are certified by NIOSH for a minimum service life of 30 minutes
- Combination full-facepiece pressure-demand supplied-air respirator with auxiliary self-contained air supply

Under no circumstances may an air-purifying respirator be used in an IDLH atmosphere.

9. Respirator Failure during Use

At times, a situation may develop during routine respirator use that causes the respirator to fail. Whenever an employee suspects their respirator is no longer providing adequate protection, they must immediately go to an area with fresh air and notify their supervisor and the Alvernia University Environmental Health & Safety Manager. The respirator or filters/cartridges can be checked for damage or functioning only after leaving the contaminated area.
Recognizing an Emergency:
Be alert for the following danger signals. If any of these occur, get to fresh air immediately.

- Breathing becomes more difficult
- You detect any odor, taste or irritation that might indicate the contaminant is getting into your respirator
- The respirator becomes extremely uncomfortable
- You become ill, with symptoms such as dizziness, nausea, weakness, shortness of breath or coughing

10. Procedures for Interior Structural Firefighting
Alvernia University employees do not engage in interior structural firefighting. In the event of a fire, 911 and/or Public Safety should be called. Public Safety will immediately contact emergency services and respond as appropriate.

J. TYPES OF RESPIRATORS AND THEIR LIMITATIONS

The purpose of a respirator is to prevent the inhalation of harmful airborne substances or to an oxygen deficient atmosphere. Respirators provide protection either by removing contaminants from the air before it is inhaled, or by supplying an independent source of respirable (clean, oxygen sufficient) air. In addition, respirators are designed to be tight fitting or loose fitting.

1. Air Purifying Respirators
Air purifying respirators (APR’s) use filters, canisters or cartridges to remove contaminants from the air. Elements that remove particles are called filters, while vapor and gas removing elements are called either chemical cartridge or canisters. Each cartridge or canister is designed for use to a specific gas, vapor or particulate hazard, with some offering protection against a combination of hazards. Filters or canisters are the functional part of the respirator, and can generally be removed and replaced once their effective service life has expired. The exception is filtering facepiece respirators (dust masks), which cannot be cleaned, disinfected, or re-supplied with filter elements.

Advantages of Air Purifying Respirators: Air purifying respirators are lighter, less restrictive and easier to use than atmosphere supplying respirators. They are also less expensive to purchase, use, maintain and replace.

Disadvantages of Air Purifying Respirators: While the majority of respiratory protection needs at Alvernia University are met by air purifying respirators, they cannot be used in any of the following situations:

- Oxygen deficient atmospheres (i.e. less than 19.5% oxygen)
- IDLH atmospheres
- When a substance specific standard mandates use of a different type of respirator
- When the contaminant, or concentration of the contaminant is unknown

2. Powered Air Purifying Respirators (PAPR)
Powered air purifying respirators function like other air purifying respirators in that they use filters, canisters or cartridges to remove contaminants from the air. Their difference lies in the belt-mounted, battery-operated blower that delivers a supply of purified air to the facepiece.
Advantages of PAPR’s Since purified air is delivered to the facepiece of the user, the user does not have to draw air directly through the filters. Consequently, PAPR’s tend to be more tolerated by the user than negative pressure APR’s. The constant flow of fresh air can also make the user more comfortable in hot environments or when worn with protective clothing. Users who may not be medically qualified to use negative pressure respirators in some instances may use PAPR’s when approved by a physician or other licensed health care professional (PLHCP).

Disadvantages of PAPR’s Batteries must be fully charged before using the blower. Like tight fitting negative pressure APR’s, models that rely on a good face seal cannot be used with beards or other conditions that might interfere with this seal. They are significantly more expensive to purchase and maintain. The general use limitations for air purifying respirators apply to PAPR’s as well.

3. Atmosphere Supplying Respirators
Atmosphere supplying respirators provide breathing air from a source independent of the surrounding atmosphere.

There are three Types of Atmosphere Supplying Respirators:
- Air-Line Respirators: Also called supplied air respirator (SAR): The respirator is connected to a stationary source of compressed breathing air by a hose. The air is delivered in a sufficient volume and pressure to meet the user’s breathing requirements.
- Self-Contained Breathing Apparatus: (SCBA) The air is supplied from a compressed gas cylinder, usually through a full-face mask, which is worn on the wear’s back. (Not to be confused with what a SCUBA diver might use)
- Combination Respirators: Consist of a small auxiliary self-contained breathing air supply (SCBA) that is normally used in atmospheres that are or may be IDLH. The auxiliary unit can be used if the primary air supply fails.

Advantages of Atmosphere Supplying Respirators Atmosphere supplying are the only respirators that can be used in IDLH or oxygen deficient atmospheres.

Disadvantages of Air Atmosphere Supplying Respirators: Air-line respirators supply breathing air to the user by a hose connected to an air compressor or cylinders. The user is limited by the length of the hose and the dangers of damage to the hose. If breathing air from a fuel-generated compressor is used, the supply air must be continuously monitored with audible alarm for carbon monoxide. Airline respirators may not be used in an IDLH atmosphere unless the worker also wears an emergency escape SCBA. A SCBA is limited due the cylinders of compressed air that must be carried by the wearer. This makes SCBA’s heavy and bulky, and the duration of air supply is limited, typically 30 minutes. These respirators are expensive to purchase and maintain.

4. Types of Respirator Facepieces
The degree of protection offered by a respirator and its acceptability by workers varies according to facepiece style. Respirator facepieces may be tight fitting, half mask or full facepiece; or loose fitting hood or helmet.

Tight Fitting Respirators Tight fitting respirators include both half mask and full facepiece models that rely on the face-to-facepiece seal for adequate protection. They cannot be used when facial hair or other conditions interfere with this seal. Fit testing is required before an employee is
assigned a respirator with tight fitting facepiece. Tight fitting respirators may be either negative pressure APR’s or PAPR’s.

Loose Fitting Respirators

Loose fitting respirators are powered air purifying units that deliver purified air to a hood, helmet or other loose fitting face covering. They may be used by employees with facial hair or other conditions that might prohibit a good face-to-facepiece seal. Fit testing is not required for loose fitting respirators.

K. RESPIRATOR USE

Though the specific procedures for using respirators vary with the type of respirator being used, there are general requirements common for all respirator use. These requirements include respirator certification, prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments and taking actions to ensure continued effective respirator operation throughout the work shift.

1. NIOSH Certification

All respirators used by Alvernia University employees, for required or voluntary use, must be certified by the National Institute of Occupational Safety and Health (NIOSH). All respirators must be used in compliance with the conditions of its certification and according to the manufacture’s specifications. Substitution of filters or parts from a different brand or type of respirator violates OSHA requirements, invalidates NIOSH approval and may cause the respirator to malfunction.

2. Facepiece Seal

Facepiece seals and valves are important in tight-fitting respirators. The proper function of these respirators depends on maintaining a complete seal to the wearer’s face. If there is a leak in the face-to-facepiece seal or in a valve, then the respirator cannot protect against exposure to airborne contaminants. Consequently, facial hair or any other conditions that can interfere with the seal or the valve are prohibited when using tight-fitting respirators.

Conditions that can interfere with the seal or valve include:

- Facial Hair
- Facial Scars
- Jewelry or headgear that projects under the facepiece seal
- Missing dentures
- Corrective glasses or goggles or other PPE (i.e. face shields, protective clothing)

Note: Employees who have facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function may not wear tight fitting respirators.

These restrictions apply only to tight-fitting respirators. Several alternatives such as loose-fitting hoods or helmets are commercially available to accommodate workers with facial hair, scars, or other conditions that interfere with the seal of the respirator facepiece to the face of the wearer. Similarly, workers wearing full-facepiece respirators who also need glasses (corrective lenses) either can wear contact lenses or the supervisor must provide the employee special corrective lenses (corrected to the employee’s prescription) mounted inside the facepiece of the respirator. The
responsible supervisor must insure that if an employee wears glasses, goggles or other personal protective equipment, it is worn in such a manner that does not interfere with the face seal.

3. User Seal Checks or Fit Check
The employee and the employee’s supervisor must be sure that workers perform user seal checks each time they put on a tight-fitting respirator.

To conduct a seal check, the worker must follow either the procedures for a user seal check that are contained in the appendices of the Respiratory Protection Standard or an equally effective procedure that the respirator manufacturer recommends.

A user fit check is NOT a substitute for a fit test. Fit testing is a more rigorous procedure that is used to determine whether the respirator fits the face of the worker. The section on Fit Testing in this document contains a complete discussion of respirator fit testing and additional information may be found in the OSHA Standard.

How are fit checks conducted?
For a negative pressure check, the worker:
- Covers the respirator inlets (cartridges, canisters or filters) with the palms
- Gently inhales
- Holds breathe for 10 seconds
- The facepiece should collapse on the workers face and remain collapsed

For a positive pressure check, the worker:
- Covers the respirator exhalation valve with the palms
- Gently exhales into the facepiece
- The facepiece should hold the positive pressure for a few seconds.
- During this time, the worker should not hear or feel the air leaking from the facepiece seal.

4. Continuing Respirator Effectiveness
Supervisors must be aware of the conditions in their respective work areas where employees are using respirators. Employees must be allowed to leave the respirator use area to perform any activity that involves removing or adjusting the respirator facepiece, or if there is any indication that a respirator may not be fully effective. If there is any indication that respirators are not functioning properly, the Alvernia University Respiratory Program Administrator must be notified. After inspection by the Alvernia University Respiratory Program Administrator, the respirator must be replaced, repaired, or discarded as needed, before the employee may return to the respirator use area.

Supervisors must routinely look for any changes that may affect the effectiveness of the respirator and its use. This includes changes in the work area, such as changes in tasks or processes that can result in changes in the respiratory hazard or the time of exposure, or workers proximity to the hazard. This includes changes in equipment or process that would cause the employee to exert more energy or breathe harder. By observing respirator use under actual workplace it can be determined if:
- Other protective equipment is interfering with respirator use (i.e. eyeglasses)
Changes in working conditions may result in exposure to new contaminants or concentration of contaminants
Whether workers are experiencing discomfort, such as skin irritation or breakthrough of contaminants through cartridges or canisters

If any of these conditions exist, the Alvernia University Respiratory Program Administrator must be notified so that appropriate adjustments may be made. These may include providing a more protective respirator, or a different size or style of respirator, or altering work practices to reduce the stress on workers. This will help ensure that all Alvernia University employees continue to receive adequate respiratory protection.

From time to time workers must be allowed to leave the respirator use area and go to an area free of respiratory hazards.
Workers must be able to leave the respirator use area:
- If the worker needs to wash his or her face or the respirator facepiece to prevent eye or skin irritation associated with respirator use
- If the worker detects vapor or gas breakthrough (indicating cartridge is saturated)
- If the worker notices the facepiece is leaking
- If the respirator or its parts, such as valves and straps, are not working properly or need replacement

L. RESPIRATOR INSPECTION, CLEANING, STORAGE AND MAINTENANCE

1. General Requirements
All respiratory equipment must be clean, sanitary and in good working order. Regular care and maintenance is important to ensure the equipment functions as designed and protects the user. The responsible supervisor will assure that all employees who wear respiratory protective equipment are provided with the means to clean, disinfect, store and maintain their equipment. Whenever possible, respirators are assigned to individual workers who are primarily responsible for their care and maintenance. The responsible supervisor must assure respirators are regularly cleaned and disinfected according to specified procedures outlined in the OSHA Standard or according to manufacturer specifications, provided they are equally as effective. Equivalent effectiveness simply means that the procedures must ensure the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

2. Respirator Inspection
The most important part of a respirator maintenance program is continual inspection of the devices. If properly performed, inspections will identify damaged or malfunctioning respirators before they can be used. To ensure that respirators remain in proper working condition, users will inspect the respirator immediately before use and during cleaning and disinfecting.

All respirator inspections must include a check of the following:
- Respirator function
- Tightness of the connections
- Conditions of the various parts including the
  - Facepiece
  - Valves
o Connecting tubes
o Canisters, filters or cartridges
o Pliability and signs of deterioration of elastomeric parts

3. Cleaning and Disinfecting
The frequency of cleaning and disinfecting or sanitizing respirators will depend in part, on whether respirators are shared by employees or issued for the employee’s exclusive use. Worksite conditions also dictate the cleaning frequency (i.e. working in dirty environment will require the respirator to be cleaned more frequently). Respirators must be cleaned and disinfected at the following intervals:

- Individually assigned respirators will be cleaned by the employee as often as necessary to keep them in a clean and sanitary condition and at the end of each shift it is used
- Respirators that may be issued to more than one employee will be cleaned and disinfected before being worn by different individuals
- Respirators for emergency use will be cleaned after each use
- Respirators used for fit testing and training will be cleaned between employees with individually wrapped cleaning towelettes, and thoroughly cleaned and disinfected at the end of each day

The employee’s supervisor must ensure that employees responsible for cleaning their own respirators, or emergency use respirators, are allowed time during work hours to perform this function. Written assignments for cleaning and inspecting respirators must be. A checklist for inspection, cleaning and sanitizing respirators may be useful for employees assigned to cleaning their own respirator.

General cleaning procedures
**Disassemble** the respirator, removing any filters, canisters or cartridges
**Wash** the facepiece and associated parts in a mild detergent with warm water
**Rinse** in clean warm water
**Sanitize and disinfect** if detergent does not contain disinfecting agent (i.e. bleach or iodine solution or commercially available disinfectant)
**Dry** with clean cloth, or air dry
**Re-assemble** respirator
**Test** to assure the respirator and all components work properly

The clean, dry respirator facepiece should be reassembled and inspected in a clean area. Special emphasis should be given to inspecting the respirators for detergent or soap residue left by inadequate rinsing. This residue appears most often under the seat of the exhalation valve, and can cause valve leakage or sticking. Wiping this surface with a lint-free cloth after rinsing can eliminate the problem. The respirator should be thoroughly inspected, and all defects must be corrected.

Appropriate cartridges, canisters or filters should be obtained and installed prior to use by the wearer, unless the approved change-out schedule indicates otherwise. Each Department is responsible for maintaining an on-hand inventory of spare parts and filters, cartridges or canisters that are approved for use by the Alvernia University Respiratory Program Administrator. The Alvernia
University Respiratory Program Administrator and/or Environmental Health & Safety Manager can order spare parts and filters for each Department if requested.

Single use disposable respirators must not be cleaned. They must be discarded at the end of the work shift or more frequently if they become dirty or damaged.

4. Respirator Storage

When not in use, all respirator facepieces, cartridges, canisters and filters must be stored to protect them from damage and contamination. The responsible supervisor must provide employees with an appropriate area and supplies to store their respirators. Employees with individually assigned respirators are responsible for their storage.

Freshly cleaned and dry respirators should be placed in re-sealable plastic bags (e.g. drawstring or zip lock bags) in a clean, dry location away from direct sunlight. Respirators should be stored in a plastic bag inside a rigid container. Respirators can be stored in their original cartons, but these may provide only minimal protection from mechanical damage.

Gas and vapor cartridges must be kept in a sealable plastic container or bag so they do not passively absorb gases or vapors from the storage area and thereby reduce their useful service life. Cartridges and particulate filters should also be protected from dust and dirt.

Non-routine or emergency use respirators should be stored in a readily accessible, well marked, storage cabinet or similar container and all workers should be made aware of its location.

5. Respirator Maintenance and Repair

Respirators must be properly maintained at all times to ensure they function properly and adequately protect employees. Wearing a poorly maintained or malfunctioning respirator may be more dangerous than not wearing a respirator at all by providing employees with a false sense of protection. Supervisors must ensure respirators used in their respective areas and by their employees are adequately maintained. Employees assigned individual respirators are responsible for the day-to-day maintenance of their respirators. Respirators that fail an inspection or otherwise is found defective must be removed from service, and discarded or repaired or adjusted in accordance with the following guidelines.

Repairs: If defects are found during any field inspection or use, minor repair or adjustments may be made on the spot. If the defect is major, the device should be removed from service until it can be repaired. Under no circumstance may an employee use a defective respirator.

Repairs and adjustments to respirators may only be made by people appropriately trained to perform such work. Only the respirator manufacturer’s NIOSH certified parts, designed for that respirator, may be used. No components may be replaced or repairs made beyond those recommended by the manufacturer.

Substituting parts from a different brand or type of respirator violates certification of the device.

Repairs or adjustments to regulators, reducing and admission valves, cylinders or alarms, on air-supplied respirators can only be conducted by the manufacturer or other person specifically trained by the manufacturer to perform these activities.
6. Respirator Malfunction During Use

Whenever respirator malfunction is suspected (i.e. breakthrough, facepiece leakage, difficulty breathing) the employee must immediately leave a required-use work area and go to an uncontaminated area to inspect and perform needed repair or maintenance. Responsible supervisors must ensure that employees receive the needed parts to repair the respirator, or are provided a new respirator before re-entering a required use-area.

M. DOCUMENTATION AND RECORDKEEPING

Written information regarding the medical evaluations, medical opinions related to the worker’s ability to wear a respirator, fit testing, inspection of emergency use respirators and the overall Respiratory Protection Program must be maintained. The information is necessary to facilitate employee involvement, to assist in auditing the program, and provide a record for compliance determination.

1. Respiratory Protection Program

Alvernia University supervisors who have an employee included in the Respiratory Protection Program must have a copy of the Alvernia University Respiratory Protection Program. A hard copy of the Alvernia University Respiratory Protection Program document is available in the Environmental Health & Safety Manager’s office.

2. Respirator Evaluation Questionnaire and Medical Records

Records of the medical evaluations required by this program must be retained and made available in accordance with OSHA 29 CFR 1910.1020. These records will be maintained by the PLHCP for the duration of the employee’s employment with Alvernia University plus 30 years.

3. Physician’s Certification for Respirator Use

The only information the PLHCP may provide to the Alvernia University Respiratory Program Administrator and the employee’s responsible supervisor is a written recommendation regarding the employee’s ability to use a respirator.

The Alvernia University Respiratory Program Administrator must be given a copy of the employee’s Certification for Respirator Use prior to fit testing and training.

4. Fit Testing and Training Records

A fit test/training record will be established of all qualitative and quantitative fit tests administered to an employee. The Alvernia University Respiratory Program Administrator will send a copy of the fit test/training record with the employee, or through Campus Mail, to the employee’s responsible supervisor. These records will be maintained for respirator users until the next fit test is administered. Fit Test records will include the following information:

- Name of the employee tested
- Type of fit test performed
- Specific make, model, style and size of respirator
- Date of test
- Pass/Fail results for qualitative fit tests or fit factor and a copy of the print-out for quantitative fit tests

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N. PROGRAM EVALUATION

Any written program must be reviewed periodically to evaluate its effectiveness. The Alvernia University Respiratory Program Administrator is responsible for reviewing and updating this Respiratory Protection Program periodically to assure the provisions of the current written program are being properly implemented and that it continues to be effective. The Program will be updated as needed to reflect current conditions and practices.

The Respiratory Program Administrator or other authorized personnel will consult individual employees periodically and during fit testing and training sessions to assess the employee’s views on the program effectiveness and to identify any problems. Factors to be assessed include:

- Respirator Fit (including the ability to use the respirator without interfering with effective workplace performance)
- Appropriate respirator selection for the hazards the employee encounters
- Proper respirator use under the workplace conditions the employee encounters
- Proper respirator maintenance

O. OUTSIDE CONTRACTORS

Outside contractors who perform work at Alvernia University shall comply with all of the requirements of the OSHA Respiratory Protection Standard 29 CFR 1910.134.

P. ALVERNIA UNIVERSITY MANDATORY OSHA RESPIRATOR EVALUATION QUESTIONNAIRE

See attached Section 3000 Number 2.

Q. ALVERNIA UNIVERSITY INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED UNDER THE STANDARD

See attached Section 3000 Number 3.

R. CLEANING AND SANITIZING THE RESPIRATORY CHECKLIST

See attached Section 3000 Number 4.

S. REFERENCES

A. MANDATORY OSHA RESPIRATOR EVALUATION QUESTIONNAIRE

Employees who are required to wear respirators during normal work operations and during certain non-routine or emergency situations must participate in all elements of the Alvernia University Respiratory Protection Program. This includes completion and submission of the following Mandatory OSHA Respirator Evaluation Questionnaire. Employees who voluntarily choose to use a respirator when it is not required are also subject to this requirement.

Employees who voluntarily use dust masks are excluded from the requirements of the Alvernia University Respiratory Protection Program except that they must be provided with the information outlined within Section 3000 Number 3.
Mandatory OSHA Respirator Evaluation Questionnaire

To: ____________________________________________ (name of employee)

Can you read (circle one):  

Yes  No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the healthcare professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today’s date: ____________________________________________

2. Your name: ____________________________________________

3. Your age (to nearest year): ________________________________

4. Sex (circle one): Male/Female

5. Your height: _________ ft. _________ in.


7. Your job title: __________________________________________

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): __________________________

9. The best time to phone you at this number: __________________________

10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one):  Yes/No

11. Check the type of respirator you will use (you can check more than one category):
   a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
b. Other type (for example, half or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator (circle one): Yes No

If “yes”, what type(s): _______________________________________________

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle “yes” or “no”).

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes No

2. Have you ever had any of the following conditions?
   a. Seizures (fits): Yes No
   b. Diabetes (sugar disease): Yes No
   c. Allergic reactions that interfere with your breathing: Yes No
   d. Claustrophobia (fear of closed-in places): Yes No
   e. Trouble smelling odors: Yes No

3. Have you ever had any of the following pulmonary or lung problems?
   a. Asbestosis: Yes No
   b. Asthma: Yes No
   c. Chronic bronchitis: Yes No
   d. Emphysema: Yes No
   e. Pneumonia: Yes No
   f. Tuberculosis: Yes No
   g. Silicosis: Yes No
   h. Pneumothorax (collapsed lung): Yes No
   i. Lung cancer: Yes No
   j. Broken ribs: Yes No
   k. Any chest injuries or surgeries: Yes No
   l. Any other lung problem that you’ve been told about: Yes No

4. Do you currently have any of the following symptoms of pulmonary or lung illness?
   a. Shortness of breath: Yes No
   b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes No
   c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes No
   d. Have to stop for breath when walking at your own pace on level ground: Yes No
e. Shortness of breath when washing or dressing yourself:  
   Yes  No
f. Shortness of breath that interferes with your job:  
   Yes  No
g. Coughing that produces phlegm (thick sputum):  
   Yes  No
h. Coughing that wakes you early in the morning:  
   Yes  No
i. Coughing that occurs mostly when you are lying down:  
   Yes  No
j. Coughing up blood in the last month:  
   Yes  No
k. Wheezing:  
   Yes  No
l. Wheezing that interferes with your job:  
   Yes  No
m. Chest pain when you breathe deeply:  
   Yes  No
n. Any other symptoms that you think may be related to lung problems:  
   Yes  No

5. Have you ever had any of the following cardiovascular or heart problems?
   a. Heart attack:  
      Yes  No
   b. Stroke:  
      Yes  No
c. Angina:  
   d. Heart failure:  
      Yes  No
e. Swelling in your legs or feet (not caused by walking):  
   f. Heart arrhythmia (heart beating irregularly):  
      Yes  No
g. High blood pressure:  
   h. Any other heart problem that you’ve been told about:  
      Yes  No

6. Have you ever had any of the following cardiovascular or heart symptoms?
   a. Frequent pain or tightness in your chest:  
      Yes  No
   b. Pain or tightness in your chest during physical activity:  
      Yes  No
c. Pain or tightness in your chest that interferes with your job:  
   d. In the past two years, have you noticed your heart skipping or missing a beat:  
      Yes  No
e. Heartburn or indigestion that is not related to eating:  
   f. Any other symptoms that you think may be related to heart or circulation problems:  
      Yes  No

7. Do you currently take medication for any of the following problems?
   a. Breathing or lung problems:  
      Yes  No
   b. Heart trouble:  
      Yes  No
c. Blood pressure:  
   d. Seizures (fits):  
      Yes  No

8. If you’ve used a respirator, have you ever had any of the following problems?  
   (If you’ve never used a respirator, check the following space and go to question 9)
   a. Eye irritation:  
      Yes  No
   b. Skin allergies or rashes:  
      Yes  No
c. Anxiety:  
   d. General weakness or fatigue:  
      Yes  No
e. Any other problem that interferes with your use of a respirator:  Yes  No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire:  Yes  No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently):  Yes  No

11. Do you currently have any of the following vision problems?
   a. Wear contact lenses:  Yes  No
   b. Wear glasses:  Yes  No
   c. Color blind:  Yes  No
   d. Any other eye or vision problem:  Yes  No

12. Have you ever had an injury to your ears, including a broken ear drum:  Yes  No

13. Do you currently have any of the following hearing problems?
   a. Difficulty hearing:  Yes  No
   b. Wear a hearing aid:  Yes  No
   c. Any other hearing or ear problem:  Yes  No

14. Have you ever had a back injury:  Yes  No

15. Do you currently have any of the following musculo-skeletal problems?
   a. Weakness in any of your arms, hands, legs or feet:  Yes  No
   b. Back pain:  Yes  No
   c. Difficulty fully moving your arms and legs:  Yes  No
   d. Pain or stiffness when you lean forward or backward at the waist:  Yes  No
   e. Difficulty fully moving your head up or down:  Yes  No
   f. Difficulty fully moving your head side to side:  Yes  No
   g. Difficulty bending at your knees:  Yes  No
   h. Difficulty squatting to the ground:  Yes  No
   i. Climbing a flight of stairs or a ladder carrying more than 25 lbs.:  Yes  No
   j. Any other muscle or skeletal problem that interferes with using a respirator:  Yes  No

16. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals:  Yes  No
If “yes”, name the chemicals if you know them.

<p>| | |</p>
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</table>

17. Have you ever worked with any of the material, or under any of the conditions, listed below:

<table>
<thead>
<tr>
<th>Material</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Asbestos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Silica</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Tungsten/cobalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Beryllium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Aluminum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Coal (for example, mining)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Iron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Tin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Dusty environments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Any other hazardous exposures</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

If “yes”, describe these exposures:

-  
-  

18. List any second jobs or side businesses you have:

-  
-  

19. List your previous occupations:

-  
-  

20. Have you been in the military services?  
   If “yes”, were you exposed to biological or chemical agents (either in training or combat):  
   
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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</table>

21. Have you ever worked on a HAZMAT team?  
   Yes No

22. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)?  
   Yes No

If “yes”, name the medications if you know them:

-  
-  

23. Will you be using any of the following items with you respirator(s)?

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. HEPA Filters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
b. Canisters (for example, gas masks): Yes No
c. Cartridges: Yes No

24. How often are you expected to use the respirator(s) (Circle all that apply)
   a. Escape only (no rescue): Yes No
   b. Emergency rescue only: Yes No
c. Less than 5 hours **per week**: Yes No
d. Less than 2 hours **per day**: Yes No
e. 2 to 4 hours per day: Yes No
f. Over 4 hours per day: Yes No

25. Describe the work you will be doing while you’re using your respirator(s):

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

26. Will you be working under hot conditions (temperature exceeding 77 degrees F): Yes No

27. Will you be working under humid conditions: Yes No

28. Describe any special or hazardous conditions you might encounter when you’re using your respirator(s) (for example, confined spaces, life-threatening gases): Yes No
A. INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED UNDER THE OSHA RESPIRATORY PROTECTION STANDARD

Employees who voluntarily choose to use a respirator and/or a dust mask when it is not required by OSHA must be given the following information sheet. The Information Sheet must be signed and dated by the employee and a copy returned to the Alvernia University Respiratory Protection Program Administrator.
Information for Employees Using Respirators When Not Required Under the Standard

Supervisors: All employees who voluntarily use respirators must complete and sign a copy of this document. Maintain a signed copy for your records.

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, 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. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

(Please print)

<table>
<thead>
<tr>
<th>Employee Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>Supervisor's Name:</td>
<td></td>
</tr>
<tr>
<td>Employee Signature:</td>
<td></td>
</tr>
</tbody>
</table>

If you have any questions about this document, or the use of respirators please contact your supervisor or the Alvernia University Respiratory Protection Program Administrator at 610-796-8231.

5/4/2009
A. CLEANING AND SANITIZING THE RESPIRATOR

See the following checklist for guidelines in cleaning and sanitizing the respirator.
Cleaning and Sanitizing Your Respirator

If you are responsible for cleaning your own respirator, remove filters, cartridges, valve assemblies and any other detachable parts. As you clean and dry each part of the respirator, inspect it carefully to be sure it is in good condition.

Check for:

- Cracks in the face shield
- Worn straps, hoses, buckles or claps
- Wear or damage to the face piece seal
- Condition of filters, cartridges or canisters
- Worn or damaged screw threads or seating gaskets
- Bent, torn or misshapen exhalation and inhalation valve disks
- Damage to speaking diaphragm, if there is one
- Make sure flexible parts are still flexible, and check the stretch of elastic bands

Clean the respirator:

- Clean the respirator with a mild detergent and water, or follow the manufacturer's instructions for cleaning and disinfecting the respirator
- Rinse the respirator thoroughly in clean, warm water. Rinsing is extremely important because a residue of the cleaning agent can damage the respirator and irritate skin.
- Use a soft, lint-free cloth to absorb most of the water then let the respirator air dry.
- Be sure all parts are thoroughly dry before putting the respirator back together again.
- Store your respirator in a clean closeable plastic bag, in its proper location.

Contact your supervisor if you have any questions about taking care of your respirator