

**I. Introduction**

- A. It is the policy and practice of the Geocomp Corporation (Geocomp) to control hazards in the workplace to the greatest extent feasible to reduce the potential for employee injury.
- B. The Geocomp Respiratory Protection Program is designed to provide guidance in order to protect employee health from exposure to airborne hazardous or potentially hazardous materials during the performance of certain aspects of their work. Respirators are required for use by employees when performing work in a hazardous or potentially hazardous atmosphere which cannot be feasibly controlled by engineering methods. As an interim protective measure, respirators may also be used until engineering controls, such as exhaust ventilation, are installed. Employees may also use certain respirators on a voluntary basis.
- C. The Geocomp Respiratory Protection Program is designed to provide guidance to management regarding appropriate choices of respiratory protection and to achieve compliance with the Respirator Protection standard as found at Title 29, Code of Federal Regulations 1910.134.

**II. Respiratory Protection Responsibilities**

**A. Company President**

- 1. Ensure that adequate staff resources, budget, time, equipment, and training are available for all employees who have Respiratory Protection Program responsibilities.
- 2. Ensure that all managers and employees are held responsible for their Respiratory Protection Program responsibilities.
- 3. Ensure that the Respiratory Protection Program is managed as are all the other important company programs.

**B. Managers**

- 1. Implementation of the Respiratory Protection Program on their work sites/projects.
- 2. Conduct of the Workplace Hazard Assessment.
- 3. With the assistance of the Safety Officer, determine and make the appropriate respiratory protection available to employees.
- 4. Ensure employees are trained on the proper use, care, and cleaning of respirators.
- 5. Monitor the maintenance and storage of respirators on their work sites.
- 6. Maintain records on employee respiratory training.

7. Supervise staff to ensure that the Respiratory Protection Program elements are followed and that employees properly use and care for respirators.
8. Seek assistance from the Safety Officer to evaluate hazards so determination of proper respiratory protection can be made.
9. Notify the Safety Officer when new hazards are introduced or when processes are added or changed so that the Workplace Hazard Assessment can be updated.
10. Ensure that an adequate inventory is maintained of all brands and sizes of respirators approved for use, and any associated supplies are available including cleaning supplies.
11. Ensure that the following records for each employee are maintained
  - a. Verification of medical fitness
  - b. Fit-test record
  - c. Respiratory training form
12. Ensure that employees are fit tested and trained on annual basis.

**C. Employees**

1. Wear respiratory protection as required.
2. Attend required training and fit-testing sessions.
3. Care for, clean, and maintain respirators as required.
4. Inform their Manager of the need to repair or replace a respirator.
  - Use only the respirator issued to them and only in accordance with instructions and training provided.
5. Inform their Manager and/or the Safety Officer of any health problems, or change in health that could be aggravated by the use of a respirator.
6. Use only a respirator that is clean, in good condition, and appropriate for the task. If cartridge respirators are used, cartridges must correspond to the potential hazard encountered.
7. Replace cartridges as instructed by the Safety Coordinator.
8. Inspect the respirator prior to each use and report any malfunction or degradation to their Manager.
9. Clean and disinfect respirator after each use.
10. Store respirators in a clean, dry place away from chemicals, heat or direct sunlight.

**D. Human Resources**

1. Identify a qualified Occupational Healthcare Provider to conduct medical evaluations for workers required to use respirators. The provider should be familiar with the required "OSHA Respirator Medical Evaluation Questionnaire" found in Appendix C of the OSHA Respiratory Protection Standard 1910.134.
2. Ensure that all respirator users are medically capable to wear a respirator. This evaluation is conducted by Geocomp's Occupational Health Care Provider, and must be coordinated through the Human Resources Department/Safety Coordinator.
3. Ensure that employees required to wear respirators have been evaluated and certified for respirator use by a physician or licensed healthcare professional before wearing a respirator.
4. Distribute the appropriate questionnaire to employees prior to their medical evaluation for respirator use.
5. Maintain employee records of completed Respiratory Protection Authorization Forms and provide a copy to the employee's Manager.
6. Maintain the following Records or Forms:
  - a. Respirator Selection Information
  - b. Annual Medical Evaluation of Respirator Users Form.

**E. Safety Officer**

1. Assist in evaluating the work environment for potential industrial hygiene exposures that may require respirator use.
2. Provide the overall administration of the Respiratory Protection Program including approval, program administration, and annual program review.
3. Implement, evaluate, and maintain the Respiratory Protection Program.
4. Select and procure the appropriate respirators for employees, as required.
5. Ensure that employees required to wear respirators have been evaluated and are qualified for respirator use by a physician (or licensed healthcare professional) before wearing a respirator.
6. Ensure that the respirator user(s) is informed of the nature of hazards which require the use of a respirator.
7. Ensure the conduct of annual fit-testing and training on the proper use, selection, limitations, fitting, care, and maintenance of respirators to all employees issued a respirator.
8. Ensure fit-testing is conducted prior to respirator use.

9. Document employee fit-test results on the Respiratory Protection Authorization Form (or equivalent), maintain copies for the records, distributing copies to Human Resources for the employee's file.
10. Ensure that all required respirators are maintained in a clean and sanitary condition and that appropriate facilities and materials are provided for any cleaning activities.
11. Ensure that respirator users have no facial hair or other physical characteristics that may interfere with the respirator face piece and the seal of the respirator.
12. Coordinate all repairs or replacements of damaged respirators and replacing with only NIOSH-approved parts for the specific brand of equipment involved.

**F. Sub-Contractors**

1. Provide documentation of training, fit testing and medical clearance before being allowed to perform tasks that require respiratory protection on site, as a subcontractor to Geocomp.

**III. 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 this section.

*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 facepiece only when a negative pressure is created inside the facepiece 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 airborne 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 facepiece (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.

**Interior structural firefighting** means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

**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 paragraph (e) of this section.

**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.

**This section** means this respiratory protection standard.

**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.

#### IV. Selection and Approval for Respirator Use

- A. Respiratory protection varies in design, application and protective capability.
- B. Only NIOSH/MSHA approved equipment and cartridges will be acceptable for use. It will be selected on the basis of the hazards to which employees are exposed.
- C. An exposure assessment shall be made under the direction of the Safety Officer to determine respiratory protection requirements by area, operation, and/or activity.
- D. The choice of respiratory protection shall be based upon this assessment which should include, as a minimum, an evaluation and understanding of the following information and conditions:
  - 1. Nature of the Hazard
  - 2. Location of Use
  - 3. Characteristics of Operation
  - 4. Type of Hazard
  - 5. Oxygen deficiency
  - 6. Contaminant
  - 7. Physical and Chemical Characteristics of Contaminant
  - 8. Physiological Effects of the Body
  - 9. Concentration of Contaminants in the Area
  - 10. Activities of Employees
  - 11. Length of Use Required
- E. Where possible, each employee participating in the Respiratory Protection Program will be assigned respiratory protection for their personal use.

**V. Medical Examinations**

- A. Geocomp does not allow any employee to wear respiratory protection equipment if, in the opinion of the company physician, the employee may suffer physical or psychological harm due to wearing the respirator.
- B. In order for an employee to wear a respirator (required use), even for the purposes of fit testing, a medical evaluation is required to determine their ability to wear such a device.
- C. The Geocomp company physician will use the medical questionnaire found in Sections 1 and 2, Part A of Appendix C of 29 CFR 1910.134, or an equivalent as the basis for an initial medical evaluation.
- D. A follow-up medical examination shall be provided for an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of Appendix C of 29 CFR 1910.134 or whose initial medical examination demonstrates the need for a follow-up medical examination. The follow-up medical examination may include any medical tests, consultations, or diagnostic procedures that the company physician deems necessary to make a final determination.
- E. To assist in this evaluation of an employee's ability to use a respirator, the Geocomp company physician will be provided with the following information:
  - 1. A copy of this program and the OSHA Respiratory Protection Standard 1910.134 including the Appendices;
  - 2. Type and weight of the respirator to be used by the employee;
  - 3. Duration and frequency of respirator use (including use for rescue and escape);
  - 4. Expected physical work effort;
  - 5. Additional protective clothing and equipment to be worn;
  - 6. Temperature and humidity extremes that may be encountered.
- F. All medical questionnaires and examinations are confidential and to be handled during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire is administered so that the employee understands its content. All employees are to be provided an opportunity to discuss the questionnaire and examination results with their physician or other licensed health care professional (PLHCP).
- G. The Geocomp company physician will provide the company a written recommendation containing only the following information:
  - 1. 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;

2. The need, if any, for follow-up medical evaluations; and
  3. A statement that the company physician has provided the employee with a copy of their written recommendation.
- H.** If the respirator is a negative pressure respirator and the company physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, the company may provide a powered air-purifying respirator (PAPR) if the physician's medical evaluation finds that the employee can use such a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then it may be decided that a PAPR will no longer be used.
- I.** Independent additional medical evaluations if:
1. An employee reports medical signs or symptoms that are related to ability to use a respirator;
  2. The company physician, manager, or the Safety Officer informs the employer that an employee needs to be reevaluated;
  3. Information from the Respiratory Protection Program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
  4. A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

**VI. Training and Education**

- A.** All employees who are required to wear respiratory protective equipment shall be properly trained in the requirements of this program.
- B.** Training shall include the following at a minimum:
1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
  2. What the limitations and capabilities of the respirator are;
  3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
  4. How to inspect, put on and remove, use, and check the seals of the respirator;
  5. What the procedures are for maintenance and storage of the respirator;
  6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
  7. The general requirements of this section.

8. The training shall be conducted in a manner that is understandable to the employee.
  9. The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.
- C. Retraining shall be administered annually, and when any of the following situations occur:
1. Changes in the workplace or the type of respirator render previous training obsolete;
  2. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
  3. Any other situation arises in which retraining appears necessary to ensure safe respirator use.
- D. Initial and annual retraining will be coordinated by the Safety Coordinator.

## **VII. Fit Testing**

- A. Before a Geocomp employee may be required to use any respirator with a negative or positive pressure tight-fitting face piece, they must be fit tested with the same make, model, style, and size of respirator that will be used. The results are to be documented on the Respirator Fit Test Form, Appendix A to this document (or the equivalent).
- B. Employees are to be fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.
- C. The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.
- D. Fit testing shall be conducted according to 29 CFR 1910.134, Appendix A. The OSHA-approved fit testing protocol shall either be a qualitative fit test (QLFT) or quantitative fit test (QNFT).
1. QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
  2. QNFT shall be used when the required fit factor is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full face pieces, including SCBAs.
- E. Additional fit tests are required whenever the employee reports or the employer, physician, manager, or Safety Officer makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to:

1. Facial scarring
  2. Dental changes
  3. Cosmetic surgery, or
  4. An obvious change in body weight.
- F. If after passing a QLFT or QNFT, the employee subsequently notifies the program Coordinator, manager, or physician that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

**VIII. Maintenance and Care**

- A. Each respirator shall be clean, sanitary, and in good working order.
- B. Respirators are to be cleaned and disinfected using OSHA-prescribed or procedures recommended by the respirator manufacturer.
- C. Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- D. Respirators issued to or used by more than one employee shall be cleaned and disinfected after each use.
- E. Respirators used for fit testing shall be cleaned and disinfected after each use.
- F. Storage
1. Protected from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals
  2. Packed or stored to prevent deformation of the face piece and exhalation valves
  3. Emergency respirators shall be:
  4. Kept accessible in the workplace
  5. Stored in compartments or in covers that are clearly marked as containing emergency respirators
  6. Stored in accordance with any applicable manufacturer instructions
- G. Inspection
1. Routine use situations, before each use and during cleaning
  2. Emergency use, at least monthly and in accordance with manufacturer's recommendations, and checked for proper function before and after each use. Certify the respirator by documenting and generating a record that the inspection was performed
- H. Repairs

1. Respirators failing an inspection or otherwise found to be defective in use shall be removed from service.
2. They shall be discarded, repaired, or adjusted.
3. Repairs or adjustments shall only be made by persons appropriately trained, using only manufacturer's NIOSH-approved parts designed for the specific respirator

**IX. Respirator Use**

- A. Employees shall be medically cleared and trained if they are required to use respiratory protection equipment.
- B. Employees will not be permitted to use a tight-fitting respirator if they have:
  1. Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function
  2. Any condition that interferes with face-to-face piece seal or valve-function
  3. Corrective glasses or goggles or other personal protective equipment shall be worn in a manner that does not interfere with the seal of the face piece to the face of the user.
- C. For tight-fitting respirators, employees shall perform a seal check each time they put on a respirator using OSHA prescribed procedures or those equivalent that are prescribed by the respirator manufacturer.
- D. Respirators shall be used for their intended purpose.
- E. If a cartridge type unit is used, the proper cartridge must be used and changed out on an established schedule.
- F. If there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the continued effectiveness of the respirator shall be reevaluated.
- G. Employees shall leave the respirator use area if:
  1. They must wash their faces and respirator face pieces as necessary to prevent eye or skin irritation from developing with respirator use
  2. To replace the respirator or the filter, cartridge, or canister elements
  3. If there is vapor/gas breakthrough, changes in breathing resistance, or leakage of the face piece. The respirator must be repaired or replaced before the employee is permitted to return to work.
- H. **Voluntary Use of Respirators**
  1. Basic advisory information on respirators shall be provided to employees who wear dust mask respirators when such use is not required by program or by Geocomp.

2. The details of this information are contained in Appendix B to this document.

**I. Program Evaluation**

1. Geocomp will conduct documented evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly and to identify any problems. Any problems that are identified during this assessment must be corrected.
2. Factors to be assessed include, but are not limited to:
  - a. Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
  - b. Appropriate respirator selection for the hazards to which the employee is exposed;
  - c. Proper respirator use under the workplace conditions the employee encounters; and
  - d. Proper respirator maintenance

**J. Recordkeeping**

1. Geocomp will maintain written records as required by OSHA to verify completion of each portion of the Respiratory Protection Program, to evaluate the performance of the Program and to satisfy regulatory requirements.
2. Records include the following:
  - a. Written Respiratory Protection Program
  - b. Medical Evaluation Fit Testing and Training
  - c. Program Evaluation

**GEOCOMP CORPORATION**

**RESPIRATORY PROTECTION QUALITATIVE FIT TEST FORM**

**To be completed by Employee (Please Print):**

Name: _____	Employee #: _____	Loc/Dept: _____
-------------	-------------------	-----------------

**To be completed by Fit Tester (Please Print):**

Employee Medically Qualified? _____ Yes _____	Date of Medical Exam: _____
Comments: _____	
Respirator manufacturer _____	Model #/size: _____
Cartridge type: _____	
Fit Test Performed – Per OSHA 1910.134 App A, Fit Testing Procedures	
Challenge Agent _____	Sensitivity _____ squeezes _____
Comments: _____	

*I have been fit tested for the use of the respirator listed above.*

*I understand that this is a subjective test. I have to the best of my ability, assured that my answers are truthful, describe what I actually experienced, and are consistent with the instructions that I was given.*

\_\_\_\_\_  
Employee Name (print) Employee Signature Date

*The above-named employee has been fit tested to wear the respirator listed above.*

\_\_\_\_\_  
Fit Tester Name (print) Fit Tester Signature Date

Comments:

## GEOCOMP CORPORATION

### Information for Employees Using Respirators When Not Required Under the Standard (Mandatory - Appendix D to Sec. 1910.134)

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, 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.

*Employee Name and Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

*Safety Coordinator/Manager Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_