

 CORPORATE SAFETY MANUAL	ENVIRONMENTAL, HEALTH AND SAFETY STANDARDS	
TITLE: RESPIRATORY PROTECTION	Document Number: *	
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1 Purpose

(Insert Company Name) will utilize engineering controls, where feasible to control exposures to hazardous chemicals. When engineering controls are not feasible, appropriate respiratory protection will be used. These procedures provide standards and training in the selection, inspection, and use of respiratory protective equipment in order to assure employees are properly protected in hazardous atmospheres. This procedure is in accordance with OSHA’s Respiratory Protection Standard (29 CFR 1910.134).

These procedures apply to all employees who wear respirators to reduce their exposure to hazardous substances. Respirators, training and medical evaluations are provided at no cost to the employee

2 Responsibilities

The Vice President or his designee is the Respirator Program Administrator and has the responsibility of overseeing this program.

(Insert Company Name) is responsible for performing the medical evaluations on employee’s who will be wearing a respirator.

3 Policy Content

3.1 Medical Evaluation:

Any employee who will wear a respirator requires medical authorization that he/she is physically capable of wearing a respirator. Medical authorization will include an assessment of pulmonary function, medical history (via a questionnaire), and job requirements. The Physician will be notified of any unusual situations that will affect the ability of the employee to wear a respirator (i.e. temperature extremes, additional PPE, frequency, etc.)

A medical assessment will be conducted prior to placement on a jobsite and at the completion of the job. An annual medical surveillance assessment will be conducted on those employees who have not had a medical assessment within the last year.

Any follow-up medical evaluations will be conducted prior to allowing the employee to wear a respirator. Additional medical evaluations will be provided to employees:

- who report medical signs or symptoms related to the use of the respirator
- if the provider, supervisor or administrator determine it is necessary
- any changes occur in the workplace that warrant a need for re-evaluation

A written determination of the medical evaluation will be provided to the employee and supervisor. A copy of this determination will be maintained in the employee's medical file.

3.2 Respirator Selection:

Only NIOSH certified respirators will be acceptable in the workplace. The following are the respirators used at (* insert company):

a) Air Purifying Respirators

* insert respirator brand

b) Air Supplying Respirators

* insert respirator brand

Several sizes of respirators are available to ensure employees are comfortable and protected.

The following factors must be considered when selecting the appropriate respirator and/or cartridge:

- a) Nature of the hazard
- b) Airborne concentration (based on environmental monitoring)
- c) Nature of the work operation or process
- d) Length of time respirator protection is required
- e) Work activity and potential stress
- f) Fit-test results
- g) Warning properties
- h) Type of respirator

Prior to the entry onto a jobsite, a Site Specific Health and Safety Plan is prepared. This plan contains the risk assessments of the chemicals likely to be encountered on the jobsite. An MSDS is assessed for main hazards and appropriate personal protective equipment, including the type of respirator and cartridge to be worn. The Site Specific Health and Safety Plan will contain the respiratory protection that is required for the jobsite.

Industrial hygiene monitoring and workplace surveillance is conducted, when appropriate, to assess occupational exposures. Based on these results, respirators and cartridges will be determined. Respirators may or may not be required in situations where exposures are below the permissible exposure limit or threshold limit value. In all cases, employee's who will be wearing a respirator (voluntary or required) will be included in all provisions of this policy.

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In order to ensure respirator cartridges are changed before the end of their service life, all cartridges will be disposed of at the end of the day. Where industrial hygiene monitoring indicates that more frequent changing of cartridges is required, then the Site Specific Health and Safety Plan will be modified.

Cylinders of compressed air used with the above SCBA's will be at least Type 1 - Grade D or better. A certificate of Analysis will be obtained from the supplier for the cylinders of compressed air.

All emergency use respirators must be NIOSH approved.

3.3 Fit Testing:

Before an air-purifying respirator is issued to an employee, a qualified representative to determine the correct respirator size and ensure the proper fit (as described in Appendix 7.1) will conduct a qualitative fit test. Employee's who will be using Self-Contained-Breathing-Apparatus will be fit tested using a surrogate facepiece.

A qualitative fit test must be re-conducted by a qualified representative:

- if an employee's facial configuration changes in a way which may affect the fit of the respirator (e.g., change in weight of 20 lbs. or more, significant facial scarring or dental changes, re-constructive or cosmetic surgery).
- whenever a different respirator is needed.
- when the employee notified the company that the fit is no longer acceptable.

A qualified representative during the annual respirator training session will give annual fit testing.

The employee prior to entering the work environment must perform a positive and negative user seal check. This will assure that the facepiece is properly adjusted and there are no leaks.

3.4 Training:

At the time of the initial fit testing, a qualified representative will conduct an initial respirator training session. This training will cover these procedures and the requirements outlined in 29 CFR 1910.134.

A qualified representative will conduct a formalized respirator-training program on an annual basis for all employees currently wearing respirators. This training will include:

- Respirator Standard Requirements (1910.134)
- Necessity of proper use, fit and maintenance of a respirator
- Limitations and capabilities of respirators
- Emergency use respirators
- Medical signs and symptoms that may limit the use of a respirator
- Malfunctioning procedures

- Respirator maintenance, inspection, storage and use
- Cartridge selection
- Qualitative fit testing
- How to perform a user seal check
- Evaluation of competency

Training is repeated when jobsite changes occur that obsolete previous training, inadequacies in employee's knowledge are evident and when situations arise that are necessary to ensure safe operation.

Employees are trained on the hazards to which they are routinely exposed during the annual Hazard Communication Training program and in the pre jobsite orientation and at toolbox safety meetings.

3.5 Respirator Use:

Normal Operations:

(Insert Company Name) has identified those materials and processes which require respiratory protective equipment to be worn, and communicated this information to all affected workers and their supervisors. The Site Specific Health and Safety Plan contains information concerning precautions to be taken when handling hazardous materials. Site Specific Health and Safety Plans must be consulted prior to starting a job. Respirators cannot be removed while a hazardous situation exists.

Employees may leave the work area:

- to wash face and respirator
- to change cartridges, filters or cylinders
- if breakthrough is detected
- if resistance or facepiece leakage occurs

The employee should continually monitor the effectiveness of the respirator during the workshift. Indicators of ineffective respirator use include:

- breakthrough, leakage and resistance
- end of service life indicators on cartridges
- inability to pass a user seal check
- warning bells on SCBA's

Special Situations: Immediately Dangerous to Life and Health (IDLH)

IDLH atmospheres may be encountered at the jobsite or in the event of an emergency. Until industrial hygiene monitoring is conducted to determine the levels of exposure, all jobsites must be considered IDLH.

- In an IDLH atmosphere, only Full Face positive-pressure self-contained breathing apparatus (SCBA) with at least a thirty (30) minute service life, may be worn, and

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only those trained in SCBA use at (Insert Company Name) will be allowed to wear an SCBA.

- A "buddy system" must be used whenever it is necessary to enter an IDLH atmosphere. Voice, visual or signal line communication must be maintained.
- The person responsible for emergency assistance must be equipped with a positive-pressure SCBA and appropriate retrieval equipment.
- Confined space rescues must be conducted in accordance with confined space entry procedures. See "Confined Space Entry" (HS-AD-00013).
- Any escape respirators used in an IDLH environment must be NIOSH approved.

3.6 Restrictions

There are certain conditions, which do not allow a good facepiece seal, and therefore would prohibit the wearing of a respirator. These include:

- Absence of dentures
- Facial hair (sideburns, beards, mustaches that interfere with the face to facepiece seal)
- Any condition that interferes with the face to facepiece seal

3.7 Eye Protection With a Respirator

Corrective glasses or goggles will be worn in a manner, which does not interfere with the facepiece-to-face seal.

If there is any interference with the seal, then a full facepiece must be worn. (Insert Company Name) can purchase spectacle kits for those who need corrective glasses.

Contact lenses are prohibited from being worn with respirators.

3.8 Maintenance and Care of the Respirator

Respirator Cleaning Procedure

A respirator will be issued by the Program Administrator or qualified representative to an employee when deemed appropriate. The assigned employee is responsible for cleaning and disinfecting the respirator after each use or as frequently as needed to maintain good hygiene.

Respirators should be disassembled and examined for defects. The respirator should then be cleaned with respirator wipes or washed with warm water and a mild detergent that contains a disinfecting agent. Thoroughly rinse the respirator and hand dry with a clean lint free cloth or air dry. Reassemble the respirator and test.

Emergency use respirators must be cleaned and disinfected after each use.

Storage of a Respirator

All respirators must be stored in a plastic bag or plastic Tupperware container and protected from the effects of dust, sunlight, heat, extreme cold, excessive moisture and damaging chemicals. Respirators must be stored in a manner to prevent deformation of the facepiece and exhalation valve.

Only parts that were designed for the particular make and model respirator being worn will be used if replacement parts are needed. This is to assure the proper certification of each respirator.

3.9 Inspection

Every employee who wears a respirator will conduct a routine inspection of the respirator before each use and during the cleaning process (see Appendix 7.2).

All SCBA's will be inspected on a monthly basis. The appropriate checklist will be maintained with each SCBA. The completed forms will be forwarded to the program administrator for filing.

Emergency use only respirators must be stored in an accessible area at the jobsite and inspected monthly.

3.10 Financial Responsibility

(Insert Company Name) has financial responsibility for providing employees with respirators and cartridges. Respirators must be ordered through the Respirator Program Administrator.

3.11 Program Evaluation

The Respirator Program Administrator and/or a qualified representative will conduct random inspections of the jobsite to assure the proper implementation of the program.

The Respirator Program Administrator and/or a qualified representative will conduct an annual audit of the Respirator Protection Program to assure compliance with each provision. Employee comments will be solicited to assist in the determination of inadequacies in the program.

3.12 Recordkeeping and Access to Records

All training, fit-testing and medical records will be kept at the (Insert Company Name) Headquarters. All medical evaluations will be kept separate from the employees personnel file.

3.13 Schedules

Medical Evaluation	Pre and Post Job and Annual (as needed)
Fit Testing	Annual
Cartridge Replacement	@ the end of the day or sooner
Training on Respirators	Initial and Annual
Hazard Communication	Initial and Annual
Program Evaluation	Annual
Respirator Cleaning & Inspection	After each use
Respirator Discard	When damaged
Emergency Use Respirator inspection	after each use and monthly
SCBA inspection	monthly

The Program Administrator will maintain records of the training required by the Standard.

These records (as applicable) include attendance rosters, copies of handouts, a list of audiovisual aids used and a list of any equipment that may have been used during a hands-on session.

4 References

OSHA Respiratory Protection Program 29 CFR 1910.13

5 Appendices

5.1 FIT-TESTING PROCEDURE

A. Qualitative Fit Test - using Saccharin Solution Aerosol

- Explain test procedure to the test subject.
- Make sure the test subject has not been chewing gum or eaten or drank anything sweet within 15 minutes of conducting the threshold screening test. Also, a fit test cannot be conducted if the test subject has any hair growth between the skin and the facepiece sealing surface.
- Conduct the taste threshold screening: The test subject dons the 3M hood enclosure without wearing the respirator. The test subject is told to breathe normally through a slightly open mouth and to indicate when he/she detects a sweet taste. Ten (10) squeezes of the saccharin solution are repeated rapidly through the hole in the front of the enclosure. The taste threshold is noted as ten even if the test subject detects a

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sweet taste at less than ten squeezes. If the first response is negative, ten more squeezes are repeated rapidly and the test subject is asked whether he/she can detect it. If the response is still negative, then a third set of ten (10) squeezes is administered. If the response is still negative, then the saccharin fit test cannot be performed. If the test subject can detect the saccharin then the number of squeezes (10,20,30) is noted on the fit test documentation.

- Have the test subject select a respirator that is acceptable and provides a good fit. Then assess the comfort and fit of the respirator with the test subject. This includes:
 - ◇ position of the mask on the nose
 - ◇ room for eye protection
 - ◇ room to talk
 - ◇ position of the mask on face and cheeks
 - ◇ chin properly placed
 - ◇ adequate strap tension
 - ◇ tendency of the respirator to slip
 - ◇ self observation in a mirror (if necessary)
- The test subject then dons the respirator and adjusts to obtain a good fit. The test subject should then conduct a positive and negative user seal check.
- Place the 3M hood over the test subjects head. Have the test subject perform the following tests while being challenged every 30 seconds with the saccharin test solution using $\frac{1}{2}$ the number of squeezes found to illicit a response in the screening test:
 - ◇ normal breathing
 - ◇ deep breathing
 - ◇ moving head side to side
 - ◇ moving head up and down
 - ◇ talking
 - ◇ jogging in place
- If the test subject does not detect the sweet taste of saccharin then the fit test is passed. If the test subject detects saccharin during the fit testing procedure then the test has failed. A different respirator must be selected and the entire testing procedure must be repeated, including the taste threshold screening.

B. Qualitative Fit Test - using Irritant Smoke

- Explain fit testing procedure to the test subject. Explain that the smoke is irritating to the eyes, lungs and nasal passages and test subjects should keep their eyes closed during the test. The minimum amount of smoke necessary to elicit a response will be used. Absolutely, no enclosure can be used while administering the irritant smoke fit test.
- A fit test cannot be conducted if the test subject has any hair growth between the skin and the facepiece sealing surface.

- Conduct a sensitivity screening check by directing a small amount of smoke toward the test subject to make sure that they can detect it.
- Have the test subject select a respirator that is acceptable and provides a good fit. Then assess the comfort and fit of the respirator with the test subject. This includes:
 - ◇ position of the mask on the nose
 - ◇ room for eye protection
 - ◇ room to talk
 - ◇ position of the mask on face and cheeks
 - ◇ chin properly placed
 - ◇ adequate strap tension
 - ◇ tendency of the respirator to slip
 - ◇ self observation in a mirror (if necessary)
- The test subject then dons the respirator and adjusts to obtain a good fit. The test subject should then conduct a positive and negative user seal check.
- The test operator will then direct a stream of irritant smoke toward the faceseal area of the test subject. The test operator starts ~12" from the faceseal and gradually moves to within 6" of the mask. If irritant smoke has not been detected then the following exercises should be performed, while being continually challenged with irritant smoke.
 - ◇ normal breathing
 - ◇ deep breathing
 - ◇ moving head side to side
 - ◇ moving head up and down
 - ◇ talking
 - ◇ jogging in place
- If the test subject does not detect any irritant smoke during the fit testing procedure then a second sensitivity check must be conducted. If the test subject detects the irritant smoke during the sensitivity check then the test has passed. If at any time during the fit testing, irritant smoke is detected then the test has failed. A different respirator must be selected and the entire testing procedure must be repeated, including the sensitivity check.

C. File signed fit-test forms.

5.2 FIELD INSPECTION

Air-Purifying Respirators

Routinely used air-purifying respirators should be checked as follows before and after each use.

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- A. Examine the facepiece for:
- ◇ Excessive dirt,
 - ◇ Cracks, tears, holes, or distortion from improper storage
 - ◇ Inflexibility (stretch and massage to restore flexibility)
 - ◇ Cracked or badly scratched lenses in full facepieces
 - ◇ Incorrectly mounted full facepiece lens or broken or missing mounting clips
 - ◇ Cracked or broken air-purifying element holder(s), badly worn threads, or missing gasket(s) (if required)
- B. Examine the headstraps or head harness for:
- ◇ Breaks
 - ◇ Loss of elasticity
 - ◇ Broken or malfunctioning buckles and attachments
 - ◇ Excessively worn serrations on the head harness which might permit slippage (full facepieces only)
- C. Examine the exhalation valve for the following after removing its cover:
- ◇ Foreign material, such as detergent residue, dust particles, or human hair under the valve seat
 - ◇ Cracks, tears, or distortion in the valve material
 - ◇ Improper insertion of the valve body in the facepiece
 - ◇ Cracks, breaks, or chips in the valve body, particularly in the sealing surface
 - ◇ Missing or defective valve cover
 - ◇ Improper installation of the valve in the valve body
- D. Examine the air-purifying elements for:
- ◇ Incorrect cartridge, canister, or filter for the hazard
 - ◇ Incorrect installation, loose connections, missing or worn gaskets, or cross-threading in holder
 - ◇ Expired shelf-life date on cartridge or canister
 - ◇ Cracks or dents in outside case of filter, cartridge, or canister
 - ◇ Evidence or prior use of cartridge or canister, indicated by absence of sealing material, tape, foil, etc., over inlet
- E. If the device has a corrugated breathing tube, examine it for:
- ◇ Broken or missing end connectors
 - ◇ Missing or loose hose clamps
 - ◇ Deterioration, determined by stretching the tube and looking for cracks
- F. Cartridge Selection
- ◇ Select appropriate filter or cartridge for the contaminant
 - ◇ If in doubt, contact the Program Administrator

G. Donning

- ◇ After donning respirator, ensure it is seated correctly and valves are functioning properly by performing a positive and negative pressure user seal check.

Positive Pressure User Seal Check:

Cover exhalation valve with palm of hand.
Exhale; facepiece should expand.

Negative Pressure User Seal Check:

Cover cartridges/filters with palm of hand.
Inhale; facepiece should collapse.