

Respiratory Protection Program

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Purpose:

The purpose of this respirator protection program is to ensure the protection of all employees from respiratory hazards, through proper use and selection of respirators. Respirators are to be used only where engineering control of respirator hazards is feasible, while engineering controls are being installed, or in emergencies.

Responsibility:

The Safety Director, Bruce Bongers, The Assistant Physical Plant Director, and The Central Heating Plant Supervisor will be responsible for the administration of the overall respiratory protection program.

The responsibilities would include:

1. Identification and location of hazardous exposures
2. Supervision of respirator selection
3. Supervision of medical screening for potential respirator users
4. Supervision of employee training and qualitative respirator fitting
5. Supervision of cleaning, maintenance and storage for respirators
6. Evaluation of overall respirator program

It is the responsibility of the employee to wear the respirator when conditions require it, and to clean and maintain the respirator as necessary.

General:

The University of Wisconsin - Platteville has determined respirators are necessary in certain areas to protect employee's health. These respirators will be provided by UWP to the employees that require them. Those employees are expected to use them according to instructions and training given to them.

All respirators will be selected on the basis of hazards to which the worker is exposed. All respirators selected at UWP must be NIOSH/MSHA approved and be selected by the safety director.

*Note: NIOSH - National Institute of Occupational Safety and Health
MSHA - Mine Safety and Health Administration*

A. Employees will be instructed and trained in the proper use of respirators and their limitations. Training will allow the employee an opportunity to handle the respirator, have it fitted properly, test its facepiece-to-face seal, wear it in normal air for a long familiarity period and to wear it in a test atmosphere. Every respirator wearer will receive fitting instructions, including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly.

Respirators should not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. No employees of UWP who are required to wear respirators, may wear beards. Also the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors will be evaluated by periodic checks. To assure proper protection, the facepiece fit will be checked by the wearer each time the wearer puts on the respirator. This will be done by following the manufacturer's facepiece-fitting instructions.

B. If possible, respirators will be assigned to each worker for their exclusive use.

C. Respirators must be cleaned and disinfected regularly.

1. If the respirator is used by more than one employee, it must be cleaned and disinfected after every use.
2. If the respirator is used for emergency use, it must be thoroughly inspected at least once a month and after every use.
3. During cleaning, the respirator should be inspected for worn or deteriorated parts. Those parts must be replaced as soon as possible.
4. Frequent, random inspections will be conducted by a qualified individual to assure respirators are properly selected, used, cleaned and maintained.

D. Proper surveillance of the work area conditions, employee stress and exposure, will be maintained by the supervisors.

E. Regular inspection and evaluation will be conducted to determine the continued effectiveness of the program. Supervisors will frequently inspect all the areas respirators are used to ensure compliance with the

respiratory protection program.

F. Only employees that are physically able to perform the work and use the equipment will be allowed to do the work assignments requiring respirators.

G. Written procedures must be followed at all times during respirator use.

H. No one but spray operators and their helpers will be allowed within a zone where a mist or deposit is apparent, unless this person is protected the same as the operators and helpers.

I. The nose and mouth of each operator and any other person in the area contaminated by spray, shall be protected with an approved respirator and maintained in a clean and efficient condition.

J. The head shall be covered with a low fitting cap with a visor in spray operations.

K. In spray operations, the body should be covered with close fitting clothes fitting as close as possible, paying close attention to fit at neck and wrists.

L. In spray operations, the hands should be protected by gloves, preferably of the Gauntlet type.

Selecting a respirator:

Criteria:

Respirators will be selected based on the hazards to which the worker is exposed to. Use these questions, statements, and the worksheet on the next page to select a respirator.

1. Could the contaminant concentration be Immediately Dangerous to Life or Health (IDLH)?
2. Is there less than 19.5% oxygen at the work site?
3. Is the work area ventilated? If so, how well? Is it an open area or a confined space? What are the temperature and humidity levels?
4. What is the permissible exposure limit of the contaminant? If it has a TLV (Threshold Limit Value), what is it?
5. How is the contaminant used in the work process? Is it heated or mixed with other chemicals?
6. Is the sorbent efficiency of air purifying canister satisfactory where gases and vapors are of concern? If not, then supplied air is needed.
7. Only respirators that are NIOSH/MSHA approved may be selected.
8. During a given week or day, how long are the workers exposed?
9. If eye irritation is the problem, then, a full facepiece is required.

10. If the contaminant is a particulate with a Permissible Exposure Limit(PEL) of less than 50 micrograms/M3 (or 0.05 milligrams/M3), then a high efficiency filter is needed.

Definitions:

Full-facepiece masks

Cover the face from the hairline to below the chin.

Half masks

Cover the face from below the chin to over the nose. They do not provide eye protection.

Supplied-air respirator (SAR)

Supply air from a source located some distance away and is connected to the user by an air-line hose. Also called air-line respirators.

Respirator Selection Worksheet:

1. Material:

- a. Chemical Name _____
- b. Trade Name _____
- c. Formula _____
- d. TLV or TWA: OSHA 1910.1000 _____ Current ACGIH _____

2. Form in which it will be used:

Liquid? _____ Solid? _____ Gaseous? _____
 If gaseous, is it an organic vapor? _____
 or acid gas? _____ Other? _____

3. Maximum expected concentration material will be used at:

- a. _____ Parts per million, or
- b. _____ Milligrams per cubic meter

4. Will the material be heated? _____

To what temperature? _____

5. What is the odor threshold of the material? _____

6. At what concentration is the material considered to be Immediately Dangerous to Life and Health?

7. Is the material absorbable through the skin? _____
8. Irritant to eyes? _____ Respiratory tract? _____ Skin? _____
9. At what concentration is it an irritant? _____
10. If the substance is known to be flammable, what are the upper and lower flammable limits, in percent by volume? _____
11. What is the vapor pressure of the material? _____
12. Will material be mixed with other chemicals? _____

If so, give details:

13. Any possibility of oxygen deficiency? _____
14. Can good ventilation of the area be maintained where the material is being used?

15. Will exposure be continuous? _____
- Or intermittent? _____
16. Will the respiratory device be used for routine exposures, or will it be used as an escape device?

17. Provide as much detail as possible concerning exposure conditions: _____
-

Selection Guide:

Air-Purifying Disposable Particulates Mask

Comfortable, lightweight for limited use. Protection against dust mists and fumes (not for mists containing gases, vapors or non-absorbed contaminants). No cleaning or spare parts. Not for use in IDLH situation. 10x PEL

Air-Purifying Disposable Half-mask Respirator Complete with Chemical Cartridges/Filters

For limited use - easy to use, convenient for one-time users, little cleaning and requires no spare parts. Protection against specific gases, vapors, dusts, and mists. May be used in same situations as reusable half-mask. Cartridges permanently fixed to respirator - discard entire respirator when cartridges or filters are fully expended. Not for use in IDLH situations. 10x PEL

Air-Purifying Reusable Disposable Half-Mask Respirator

Limited-use mask can be cleaned, reused and then disposed of. No replacement parts except cartridges and filters. Not for use in IDLH situations. 10x PEL

Air-Purifying Reusable Half-Mask Respirator

Only protects against specific chemicals and only up to specific concentrations. Lightweight, easy to maintain, very little restriction of movement or vision. Uses replaceable cartridges and filters. Protects against only specific chemicals and only up to specific concentrations. Not for use in IDLH situations. 10x PEL

Air-Purifying Reusable Full-Face Respirator

Offers greater eye and face protection than half-mask. Uses replaceable cartridges and filters. Protects against chemical hazards such as dusts, fumes, mists, vapors. Not for use in IDLH situations. 50x PEL

Gas Mask

Protection limit of canister may exceed that of cartridges (see canister for limitations and concentrations). Offers a greater capacity for trapping contaminants and offers eye and face protection. Single large canister for trapping contaminants.

PAPR - Powered Air-Purifying Respirator

Cooler, less exhausting for worker. Use with cartridges or filters. Face or belt-mounted with a battery for power, includes air glower that does the work of pulling air through the cartridges and filters into the facepiece. Protects against specific chemicals and only up to specific concentrations. 100x PEL

Airline Respirator

Uses an outside air source. Keeps worker cooler. Offers greater protection than an air-purifying respirator. Two styles: constant flow and pressure demand. Not for use in IDLH situations unless equipped with an emergency egress unit such as an escape-only SCBA that can provide immediate emergency respiratory protection in case of air-line failure. Airline is vulnerable to damage, chemical contamination and degradation. Therefore the line requires supervision or monitoring. Impairs mobility because NIOSH limits the hose length to 300 ft. Enables longer work periods than SCBA. Also less bulky than SCBA.

Emergency Escape Breathing Apparatus (EEBA)

For use in escape situations only: IDLH, oxygen deficiency. Service life depends on a 5-10 minute bottle of air. Not for rescue use.

Self-Contained Breathing Apparatus (SCBA)

Offers greatest protection available. A pressurized bottle of air is carried on worker's back. For use in

oxygen deficient atmospheres. IDLH and emergency situations. Bulky, heavy (up to 35 pounds). Finite air supply limits work duration. May impair movement in confined spaces. 10,000x PEL

Training:

Training should include:

1. An opportunity for the user to handle the respirator, learn how to wear it correctly, and how to check the facepiece-to-face seal
2. Long familiarizing period of wear in normal air and in test atmosphere
3. Practice in wearing, adjusting, and fitting
4. Explanation of why respirators are necessary
5. Nature of the respiratory hazard and what could happen if the respirator is not used properly
6. Explanation of why a particular respirator was chosen
7. Discussion of how to recognize and handle emergencies
8. Explanation of the operation and the capabilities and limitations of the selected respirator
9. Explanation of proper maintenance and storage
10. Regulations concerning respirator use

Respirator wearers shall be retrained annually.

Be aware of special conditions:

1. Ordinary eyeglasses can not be worn with full-facepiece respirators. Eyeglasses with temple bars or straps that pass between the sealing surface of a full-facepiece and the worker's face will prevent a good seal, and should not be used. Special corrective lenses can be mounted inside a full-facepiece respirator. These are available through the manufacturer.
2. Eye glasses or goggles may interfere with the half facepieces. When interference occurs, a full-facepiece with corrective lenses should be provided and worn.
3. Contacts are not allowed
4. Facial deformities, such as scars, deep skin creases, prominent cheekbones, severe acne and the lack of teeth or dentures, can prevent a good seal.

Fit Testing:

Every time an employee puts on a respirator, a fit test should be performed. These tests are relatively easy and take very little time. Most facepieces fit only a certain percentage of the population, therefore, it is essential that the wearer be tested to ensure a tight seal.

Determination of facepiece fit should be determined by performing both the qualitative fit test and the quantitative fit tests. A qualitative test relies on the wearer's subject response. A quantitative test uses other means of detecting facepiece leakage.

Cleaning, Disinfecting, Inspecting, & Storing the Respirator:

Respirators must be cleaned and disinfected before issuing them to employees and after each use. Emergency-use respirators must be cleaned and disinfected after each use.

How to clean and disinfect the respirator:

Be sure to follow manufacturer's guidelines for cleaning. The following is a recommended guideline:

1. Take off the cartridges, filters, headbands and filter holders. Completely disassemble the respirator. Dispose of the filters.
2. Wash the facepiece in soapy water or in the solution the manufacturer recommends. Follow with a disinfecting rinse
3. Rinse in warm water and let the facepiece air dry on shelf or countertop. Do not hang the respirator - this could cause distortion of the facepiece which would prevent face-to-facepiece seals in the future.

Inspecting the respirator:

Look over the respirator every day before and after use to make sure it's in good condition. This is important in maintaining the respirator to protect from hazardous dusts, fumes, mists, vapors, or gases.

1. Take the respirator apart and check all the valves and seats for dirt or grit - anything that may cause a leak
2. Check all the parts for wear or damage, paying special attention to rubber or plastic parts which can deteriorate. Replace any worn or damaged parts right away
3. SCBA's and Emergency use respirators must be inspected monthly. These types of respirators should be returned to the manufacturer or to a trained technician for adjustments or repair
4. Check for tightness of connections
5. Condition of the facepiece, headbands, valves, connecting tube, and canisters
6. Keep a written record of inspection dates and findings

Repairs must be done immediately or a replacement respirator must be provided. Repairs must be done by trained personnel using parts specifically designed for the particular brand or type of respirator.

Storage:

Respirators must be stored in such a manner that protects it from dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals. Do not hang the facepiece by the headbands or place it in any position that may cause distortion of the respirator. Respirators for emergency use should be kept in areas that are quickly accessible. Be sure the storage cabinet or container is clearly marked.

Respirator Inspection Record:

Date: _____

Type of respirator: _____

Number: _____

Defects found:

1. Facepiece: _____
 2. Inhalation Valve: _____
 3. Exhalation Valve Assembly: _____
 4. Headbands: _____
 5. Cartridge Holder: _____
 6. Cartridge/Canister: _____
 7. Filter: _____
 8. Harness Assembly: _____
 9. Hose Assembly: _____
 10. Speaking Diaphragm: _____
 11. Gaskets: _____
 12. Connections: _____
 13. Other defects: _____
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Medical surveillance:

Only the employees physically able to perform the work and use the equipment will be allowed to use the respirators. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed annually.

Letter to Doctor:

Bruce Bongers, Safety Director
University of Wisconsin - Platteville
1 University Plaza
Platteville, WI 53818

Subject: Respirator protection

Dear Doctor:

It is the policy of University of Wisconsin - Platteville that before we can require an employee to wear a respirator, they must have a medical examination to determine their ability to wear the protective equipment.

The examination should include, at the least, the information on the following form. This will help you to determine if the employee is physically able to use the protective equipment and be able to perform the work that is required.

The form will need to be completed by you explaining the physical fitness of the employee and sent back to me before the employee will be allowed to use the equipment. Please add any comments you may have.

Sincerely,

Bruce Bongers

1910.1001 App D

Part Number 1910

Title Medical questionnaires; Mandatory

* This mandatory appendix contains the medical questionnaires that must be administered to all employees who are exposed to asbestos above permissible exposure limit, and who will therefore be included in their employer's medical surveillance program. Part 1 of the appendix contains the Initial Medical Questionnaire, which must be obtained for all new hires who will be covered by the medical surveillance requirements. Part 2 includes the abbreviated Periodical Medical Questionnaire, which must be administered to all employees who are provided periodic medical examinations under the medical surveillance provisions of the standard.

1910.1001 App D, Paragraph 1

Part 1 Initial Medical Questionnaire 1. Name _____
