

RESPIRATORY PROTECTION PROGRAM

UNO Campus Safety Policy

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INTRODUCTION

1.01 It is the policy of the University of Nebraska at Omaha to provide its employees with a safe and healthful working environment. The guidelines in this policy are designed to help reduce the employee's exposure against potentially harmful occupational dusts, fumes, mists, radionuclides, gases and vapors. The primary objective is to prevent excessive exposure to these contaminants. This is primarily accomplished by accepted engineering and work practice control measures. When effective engineering controls are not feasible, or while they are being implemented or evaluated, respiratory protection may be required to achieve this goal. In these situations, respiratory protection is provided at no cost to the employees.

1.02 The following procedures and elements of the program are based on the guidelines established by OSHA 29 CFR 1910.134, the American National Standard for Respiratory Protection, ANSI Z88.2., and the National Institute for Occupational Health and Safety (NIOSH).

RESPONSIBILITIES

Management

2.01 It is management's responsibility to work with EHS to identify what specific applications may require the use of respirators. Management must also provide proper respiratory protection equipment to meet the needs of each application. Employees must be provided with adequate training and instructions on all equipment.

Management/Supervisory

2.02 Supervisors of each area are responsible for insuring that all personnel under their supervision are knowledgeable of the respiratory protection requirements for the areas in which they work. They are also responsible for insuring that their subordinates comply with all facets of the Respiratory Protection Program, including respirator inspection and maintenance. They are

responsible for notifying management of failure of any employee to follow the respiratory program.

Employees

2.03 It is the responsibility of the employee to be aware of the respiratory protection requirements for their work areas as explained by management and through training. Employees are also responsible for wearing the appropriate respiratory protection equipment according to proper use and fitting instructions and for maintaining the equipment in a clean and operable condition. This respirator policy is established to help maintain a healthy working environment for all employees. Employees who do not follow the requirements of this policy are subject to discipline outlined in the UNO employee handbook.

Environmental Health and Safety (EHS)

2.04 EHS supports the responsibilities of management and supervisors by providing the technical information necessary for identification of chemical exposures and the application of the respirator selection process. EHS is responsible for the Respiratory Protection Policy development, and the Respiratory Protection Program development, implementation, training, and fit testing.

PROGRAM ADMINISTRATION

3.01 The Manager of EHS has responsibility for the administration of the Respiratory Protection Program and is referred to as the Respiratory Protection Program Administrator. This individual has the authority to act on any and all matters relating to the operation and administration of the Respiratory Protection Program.

3.02 The EHS Safety Specialist is responsible for monitoring or conducting an exposure assessment of the respiratory hazard if needed, assisting with the development of standard operating procedures for the Respiratory Protection Program, maintaining records, and conducting program evaluations. This individual will assist in contaminant identification and measurement.

3.03 Emphasis will be placed on developing engineering controls and/or selection of materials that reduce the need for respiratory protection. Department managers are responsible for coordinating these efforts.

3.04 Environmental Health and Safety is responsible for the selection, training, fit testing and record keeping for all respirators.

MEDICAL EVALUATION

4.01 Every employee who is being considered for inclusion on the Respiratory Protection Program must participate in a medical evaluation. A determination for inclusion in the program is made initially upon employment, or change into a job classification requiring respiratory protection.

4.02 The employee will fill out the Medical Questionnaire for Respirator Users which will be reviewed by a physician. The purpose of the questionnaire and a physical examination is to assure that the employee is physically and psychologically able to perform their work while wearing a respirator. If a physician denies approval, the employee will not be able to participate in the Respiratory Protection Program.

4.03 Copies of the Respirator Use Questionnaire for each respirator wearer are kept in Health Services. Copies of the Medical Clearance for Respirator Users are kept in EHS and the respective departments. The program administrator will ensure that the information required for the first half of the Medical Clearance form is provided to the physician.

RESPIRATOR SELECTION

Work Area Monitoring

5.01 Monitoring will be on an as needed basis to provide for a continuing healthful environment for employees and to aid in proper respirator selection. An exposure assessment based on analogous processes or professional judgement will be used in order to determine the exposure level in questionable areas. Air sampling of the work place, representative of the work period, may be conducted. Personal air sampling equipment may be used in accordance with accepted industrial hygiene standards to sample each work area. Results of these samples may be used to pinpoint areas where respiratory protection is required.

5.02 Air purifying respirators will not be used in immediately dangerous to life and health (IDLH) atmospheres. Air purifying respirators will not be used in oxygen concentrations less than 19.5% (normal room air contains approximately 20.9% oxygen). UNO personnel will not engage in work practices that would involve contaminants immediately dangerous to life or health, or work in oxygen deficient atmospheres. EHS is available to assist in determining the types of contaminants and the proper selection of respiratory protection.

Respirator Selection and Availability

6.01 Respirators are selected and approved for use by EHS. The selection is based upon the physical and chemical properties of the air contaminants and the concentration level likely to be encountered by the employee. After proper training, department supervisors will make a respirator available to each employee as required by their job. Replacement respirators/cartridges and filters will be made available as required.

6.02 The selection of the proper respirator type will be made by following ANSI and NIOSH procedures.

6.03 All respirators will be NIOSH/MSHA approved.

6.04 Each department will be responsible for the cost and availability of respirators and cartridges/filters issued to their respective personnel. EHS will provide respirator protection training and fit testing, along with ongoing technical support.

Use of Respirators

7.01 Tight fitting respirators require a seal between the face and the respirator surface. Facial hair that prevents direct contact between the face and the respirator's sealing surface will not be permitted.

7.02 Each department will be responsible for the task specific standard operating procedures (SOP) determining the appropriate respirator use. EHS is available for technical assistance and training in determination of the SOP's.

SPECIAL CONSIDERATIONS

8.01 A positive and/or negative pressure check (fit check) is required upon each donning.

8.02 The use of air supplied respirators or surgical masks is not covered in this program.

RESPIRATOR TRAINING AND FITTING

Training

9.01 Employees, upon assignment to an area which may require respirators, must be instructed by their supervisors relative to their responsibilities in the Respiratory Protection Program. They will also be instructed in the need, use, limitations, and care of their respirator according to the procedures in the Respirator Training Program. The specific training content will be provided by the respiratory protection trainer.

9.02 Refresher training is given periodically after initial training. Records of the training given each individual will be kept in EHS files.

Fit Testing

10.01 Employees will be properly fitted and tested for a face seal prior to use of a respirator. Annual qualitative fit testing will be the preferred method of fit testing. This is done by following the procedures listed in the Appendix F of the Respiratory Protection Program.

10.02 Fit testing is done initially upon employee assignment to an area where respirators may be required. Fit testing is repeated periodically thereafter. All persons wearing tight fitting respirators will be fit tested.

10.03 Individual fit testing records are kept on each individual in EHS files and in the respective departments.

10.04 Fit testing will not be performed if facial hair interferes with the face/respirator seal.

RESPIRATOR INSPECTION, MAINTENANCE AND STORAGE

11.01 Respirators must be properly maintained by the user to retain their original effectiveness by periodic inspection, repair, cleaning and proper storage.

Inspection

12.01 The wearer of the respirator will inspect it daily when in use. Supervisors will periodically spot check respirators for fit, usage, and condition. Inspection procedures for respirators in use are located in Appendix B of the Respiratory Protection Program. The use of defective respirators is not permitted. If a defective respirator is found during inspection, the user is to return it to their supervisor for replacement.

Repair

13.01 During cleaning and maintenance, respirators that do not pass inspection for defective parts will be replaced or repaired immediately. Repair of the respirator must be done with parts designed for the respirator in accordance with the manufacturer's instructions. No attempt will be made to replace components or make adjustments, modifications or repairs beyond the manufacturer's recommendation.

Cleaning

14.01 Respirators not discarded after one shift use will be cleaned by the user on a daily basis, or after each use if not used daily, according to the manufacturer's instructions. Facilities and supplies for cleaning these respirators will be made available. Detailed cleaning procedures can be found in Appendix C of the Respiratory Protection Program.

Storage

15.01 Respirators not discarded after one shift use will be stored in a suitable container away from areas of contamination. The respirators will be stored in a location where they are protected from sunlight, dust, heat, cold, moisture and damaging chemicals. Respirators not discarded after one shift use will be marked and stored in such a manner to assure that they are worn only by the assigned employee. If use by more than one employee is required, the respirator will be cleaned and disinfected by the user before being stored.

PROGRAM EVALUATION

16.01 This program is periodically reviewed and evaluated. The program review is located in Appendix A. A written report is made of each evaluation, summarizing the findings. For each area of concern, corrective action taken is noted. Copies of the summary reports are found on file at EHS.

APPENDIX A - PROGRAM REVIEW

Answer Yes, No, or N/A

PROGRAM ADMINISTRATION CRITERIA:

Is there a written standard operating procedure (SOP) for respirator use?

Are the following procedures being correctly implemented?

1. Hazard recognition information available to employees?
2. Respirator selection criteria in place?
3. Is there a statement regarding use of approved devices?
4. Written requirements for training of respirator wearers?
5. Policy on facial hair?
6. Procedures for issuing respirators to users?
7. Are respirators routinely inspected?
8. Are there procedures for repair and maintenance of respirators?
9. Is there documentation of the requirement for medical evaluation and/or examination of respirator wearers?

PROGRAM EVALUATION CRITERIA:

1. Are overall program responsibility and authority assigned to a single individual?
2. Do all respirator wearers have current fit-testing documentation?
3. Does any individual required to wear a respirator have facial hair in sealing area of the device?
4. Have all respirator wearers been medically evaluated for use of respiratory protective devices?
5. Are respirators cleaned after each use?
6. Is the correct cartridge/filter being used?
7. Are respirator wearers performing positive and negative pressure checks prior to each use?
8. Are respirators stored correctly?

Review conducted by: _____

Date: _____

APPENDIX B - RESPIRATOR INSPECTION AND FIT CHECK

Inspect the Respirator Prior to Each Use:

1. Check the elasticity and tightness of headbands, fasteners and adjusters.
2. Inhalation/exhalation valves: Check for crack, tears, dirt or buildup of material between valve and valve seat.
3. Cartridge holders: Check to make sure gaskets are in place and not cracked or damaged.
4. Cartridges/filters: Check that the cartridge is appropriate for the hazard. Make sure cartridges are clean. Never clean a cartridge by washing it or using compressed air. Inspect cartridges for dents, scratches, or damage to the sealing band around the bottom.

Fitting the Respirator:

Half face piece: Place the respirator in the palm of your hand with the nosepiece by your fingertips and the chin section by your wrist. Move the straps so the face piece is clear. Lift the respirator to your face, placing the curved chin section under your chin. Continue lifting the respirator to your face, placing the nose piece to the bridge of your nose. Hold the respirator in place with one hand. With your free hand, hold the upper strap in the middle and place it on your

head. The strap should rest above your ears and lie flat. Put on the lower strap. Some straps are a single piece of elastic and others have a buckle. The strap should rest comfortably on your neck and lie flat. Adjust for a comfortable fit by moving adjustments slides to lengthen or shorten straps. Adjust left and right straps at the same time. To tighten, pull **back**, not to one side. Tighten upper and lower straps alternately, a little at a time. Do not pull the straps so tight that the respirator digs into the face. When it feels like the respirator has sealed properly against your face, do a fit-check.

Negative and Positive Fit Checks:

1. Negative pressure check:

- a. Cover the air intake by placing the palms of the hands or a piece of paper over the cartridge inlet.
- b. Inhale gently and hold breath for 10 seconds.
- c. The face piece should remain slightly collapsed and allow no air to leak into the mask.

2. Positive pressure check:

- a. Cover the exhalation valve.
- b. Exhale gently.
- c. A slight pressure should build up inside the face piece without the detection of any outward leakage. Take care not to move the mask on the face while applying pressure to the exhalation valve.

Sealing problems:

1. A person who has facial hair which prevents direct contact between the face and the respirator's sealing surface will not be permitted to wear a tight fitting respirator.
2. A person who has facial hair which interferes with the function of a respirator valve(s) will not be permitted to wear a respirator.
3. A head covering which passes between the sealing surface of a respirator face piece and the wearer's face will not be used. An example is a stocking cap used by painters.

APPENDIX C - CLEANING AND STORING RESPIRATORS AND REPLACEMENT OF CARTRIDGES AND FILTERS

Cleaning:

1. Respirators will be cleaned and disinfected as frequently as necessary to ensure that skin penetrating and dermatitis causing contaminants are removed from respirator surfaces. Personnel will clean their respirators at least once a day if in daily use.

2. Wiping all surfaces with respirator cleaning wipes may be adequate. Detergent washing and disinfectant procedures may be needed.

3. The following procedure can be used to clean a respirator:

a. Wash with a mild detergent or a combination detergent and disinfectant, in warm water using a small flexible brush.

b. Rinse in clean water, or rinse once with a disinfectant and once with clean water. The clean water rinse is particularly important because traces of detergent or disinfectant left on the mask can cause skin irritation and/or damage respirator components.

c. Air dry on a rack or hang; position the respirator so that the face piece rubber/silicon will not dry misshaped.

Storing:

Respirators will be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, pressure and chemicals. Routinely used respirators may be placed in sealable plastic bags. Respirators will not be stored in tool lockers or boxes unless they are in containers or cartons. Respirators will not be stored in chemical storage cabinets, lockers, rooms or other chemical storage areas.

Replacement of Filters/Cartridges:

Cartridges will be replaced when the wearer begins to smell the contaminant inside the face piece. Cartridges/filters may be replaced when increased resistance to the inhalation of air through the face piece is noted by the wearer. Different types of cartridges/filters are required for different hazards.

APPENDIX D - MEDICAL QUESTIONNAIRE AND CLEARANCE FOR RESPIRATOR USERS

Medical Questionnaire for Respirator Users

Name: _____ Social Security # _____

Company Name: _____ Date (mm/dd/yy) _____

Supervisor: _____

Birth Date (mm/dd/yy) _____ Height: _____ Weight

Have you ever worn a respirator before? () Yes () No

If YES, describe any apparent difficulties noted with respirator use:

Have you had or do you now have any of the following:

- Lung disease () Yes () No
- Persistent cough () Yes () No
- Heart trouble () Yes () No
- Shortness of breath () Yes () No
- History of fainting or seizures () Yes () No
- High blood pressure () Yes () No
- Diabetes () Yes () No
- Fear of tight or enclosed places () Yes () No
- Sensation of smothering () Yes () No
- Heat exhaustion or heat stroke () Yes () No
- Defective vision () Yes () No
- Defective hearing () Yes () No
- Contact lenses or glasses () Yes () No
- Other conditions that might interfere with respirator use or result in limited work ability () Yes () No
- Are you taking any medications? () Yes () No

Please explain YES answers: _____

 Employee Signature

Medical Clearance

Name: _____ Date (mm/dd/yy) _____

Social Security # _____ Birth Date (mm/dd/yy) _____
 _____ Department: _____ Supervisor

Check type(s) of respirator(s) to be used:

- () Air-Purifying (non-powered) () Air-Purifying (powered)
- () Continuous-Flow Air-Line Respirator () Pressure Demand Air-Line Respirator

Select Level of work effort:

- () Light () Moderate () Heavy () Strenuous

Extent of usage:

- () Daily
- () Occasionally - but more than once a week
- () Rarely - or for emergency situations only

Length of time of anticipated effort (hours) _____

Special work considerations (i.e., high places, temperature, hazardous material, protective clothing, etc.)

Safety Representative: _____

Physician's Evaluation:

- () No restrictions on respirator use
- () Some specific use restrictions
- () Restricted from tight fitting respirator, may use a Powered Air Purifying Respirator
- () No respirator use permitted

Restrictions:

____ Examining Physician: _____

Examining Physician's Signature: _____

APPENDIX E - TRAINING

Respirator Training and Protocol

The following procedure will be followed for the training of employees required to use respiratory protection.

Step 1 - Instruction On Health Effects of Respiratory Hazards

The material safety data sheets for the chemicals in the workplace provide information on the health effects and hazards for those materials. A list of potential contaminants as well as individual material safety data sheets are available on request.

Step 2 - Instruction of Uses and Limitations

All respirators have use limitations. There is not one all-purpose respirator. The respirators on which you will be trained were selected for your work environment. The uses and limitations of the respirator on the NIOSH approval label and other information contained on/in each respirator package will be covered.

Support Material

The Care and Use of APR's Video: *Air Purifying Respirators* (13 minutes)
Respirator Package

Step 3 - Donning Instructions and Demonstrations

A respirator must be put on and worn properly if it is to fit and offer effective protection. The employee will be instructed to always inspect the respirator prior to donning. Instruction will

include how to inspect the respirator. Donning instructions are found on or in each respirator package and will be fully explained and demonstrated to the wearer.

Support Material

The Care and Use of APR's Video: *Air Purifying Respirators* (13 minutes)

Respirator Package

Appropriate Respirator Fitting Instructions Video(s)

Step 4 - Practice Donning Respirators

Once proper donning and adjustment procedures have been demonstrated, each employee will complete the same procedure as the trainer talks the employee through the directions.

Support Material

Sufficient respirators for each employee receiving instruction.

Step 5 - Fit Check

At this point, all employees will be wearing a respirator. The employees will be instructed on how to conduct a fit check. A fit check is a method of determining if the respirator has been put on properly and has been fitted properly. A fit check must be conducted each time the respirator is worn. Refer to fit check procedures on each respirator package. (They are sometimes referred to as positive pressure and negative pressure fit checks.)

Having completed the fit check procedure, the instructor will ask questions concerning the comfort and fit of the respirator. If there are concerns, make adjustments to the fit (review donning instructions) and perform the fit check again. If a proper fit cannot be accomplished, the wearer must select another respirator and repeat the fit check procedure.

Support Material

Respirator Package

Step 6 - Fit Testing

Fit Testing must be conducted according to the procedures included in the Appendix F. Persons unable to pass the fit test must select an alternate respirator.

Support Material

See Appendix F

Step 7 - Training Documentation

The Respirator Training Program Attendance Roster will be used to facilitate record keeping.

Support Material

Respirator Training Program Attendance Roster

APPENDIX F - FIT TEST PROCEDURES

From Appendix C to 29 CFR 1910.1001 - Qualitative Fit Testing Procedures

1. Match the testing agent with the respirator type:

<u>Respirator</u>	<u>Testing Agent</u>
dust, mist/fume	saccharin
HEPA	saccharin
organic vapor	isoamyl acetate (banana oil) followed by irritant smoke

2. Perform odor or taste sensitivity screening

3. Don respirator, perform positive/negative fit check, wear for five minutes

4. Conduct fit test inside fit-testing chamber

I. Breathe normally

II. Breathe deeply

III. Turn head side to side

IV. Nod head up and down

V. Talking (Repeat rainbow passage)

VI. Jog in place

VII. Normal breathing

5. If odor or taste becomes noticeable inside face piece stop the test and exit the chamber and then adjust/remove the respirator

6. Repeat procedures with adjusted/new type/size respirator until test is passed