



UNIVERSITY OF MINNESOTA
University Health and Safety

Respiratory Protection Program

Effective Date: January 2019, revision October 2019

I. PURPOSE

The purpose of the Respiratory Protection Program (RPP) is to provide guidance and instruction for individuals who wear a respirator to reduce exposure to irritants or respiratory hazards.

II. SCOPE

This program applies to all work units with mandatory and voluntary respirator users at the University of Minnesota.

III. DEFINITIONS

Filtering Facepiece (FFP) - a particulate respirator with the entire facepiece composed of the filtering medium. Common FFPs include dust masks and N-95s.

Mandatory use – when the use of a respirator is required for one of the following:

- staff have an exposure to a respiratory hazard that is above a relevant exposure limit.
- a qualified safety professional or medical personnel determines respiratory protection is required, regardless of exposure limits.
- Supervisors or principal investigators choose to require the use of respiratory protection regardless of exposure level.
- a chemical label or Safety Data Sheet specifically requires the use of respiratory protection is required for the activity being performed.

Physician or Licensed Health Care Professional (PLHCP) - 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 this program.

Respirator - a protective device worn over the mouth and nose or the entire face to prevent the inhalation of dusts, mists, gasses, fumes or vapors. Respirators filter or supply clean air. Respirators must be certified by the National Institutes of Occupational Health and Safety (NIOSH).

Voluntary use - the use of a respirator is by employee's choice, and is for personal comfort even though the respiratory exposure potential is less than permissible exposure limits (PEL).

IV. RESPONSIBILITIES

Respirator User Responsibilities

- Participate in all required training, medical evaluations, fit testing, and other program activities.
- Inspect the respirator before each use and report any damage or malfunctions and remove from service or discard.
- Wear the respirator appropriately when required.
- Store, clean, and maintain the respirator.
- Promptly report any symptoms of illness that may be related to respirator usage or exposure to hazardous atmospheres.
- Report any changes in the workplace which may require re-evaluation of respirator use.
- Report any changes of health status which affect the ability to safely wear a respirator.

Supervisor/Principal Investigator Responsibilities

- Identify tasks that may need respiratory protection, or changes in the workplace that require re-evaluation of respirator use.
- Ensure staff complete medical evaluations, fit test, and training requirements, and are using respirators properly.
- Provide staff with the recommended respirator, cartridges and filters.
- Ensure respirators are properly cleaned, maintained, and stored.
- Maintain, store, and inspect emergency use respirators monthly.

University Health & Safety Responsibilities

- Assist in identification and evaluation of respiratory hazards in the workplace and report the findings to the affected department.
- Evaluate the workplace as necessary to ensure the program provisions are being implemented.
- Recommend appropriate types of respirators to be worn, and assist in determining the service life of cartridges and filters.
- Administer the University's online medical evaluation system and coordinate medical evaluations for respirator users.
- Coordinate or conduct fit testing services for respirator users.
- Ensure records are maintained for medical clearances, fit testing, and respirator training.
- Recommend appropriate training methods and materials.
- Update Respiratory Protection Program every two years.

Occupational Health Physician or Other Licensed Health Care Professional (PLHCP) Responsibilities

- Perform initial and periodic medical evaluations and follow-up examinations of staff to determine their ability to wear a respirator.
- Provide a written recommendation regarding the respirator user's ability to use a respirator and restrictions for use.

- Maintain records of medical evaluations.

V. PROGRAM ELEMENTS

1. **Hazard evaluation and respirator selection.** Respiratory hazards must be identified and evaluated to determine the workplace exposure potential. Based on the exposure evaluation results, respirator use is classified as mandatory or voluntary and an appropriate type of respirator will be selected. For mandatory use, a NIOSH-certified respirator, cartridges and filters must be used.
2. **Medical evaluation and approval.** Respirator users must complete a medical evaluation and receive approval to wear a respiratory from a PHLCP. Voluntary use of an FFPs does not require a medical evaluation.
3. **Fit tests.** Fit tests must be completed prior to respirator use and then annually thereafter. Voluntary use of FFPs is the exception of this requirement.
4. **Training.** All respirator users must be trained initially, and annually thereafter.
5. **Use of respirators.** Standard operating procedures (SOPs) for use of respirators must be established.
6. **Inspection, storage and care.** Respirators must be inspected for damage before use, stored in sanitary conditions and maintained in usable condition.
7. **Program evaluation.** This program is reviewed at least every 2 years.

VI. PROCEDURES

1. Hazard Evaluation and Respirator Selection

Supervisors, and other employees identify situations where respiratory protection may be required, based on professional judgment, prior experience, materials being used, or other considerations. Employees or their supervisors should contact University Health and Safety to request a workplace exposure assessment.

Depending upon the exposure assessment and the level of hazard, respiratory protection will be designated as either mandatory or voluntary use. Mandatory respirator user must be included in the University RPP. Voluntary users of FFPs (i.e., dust masks used for comfort) may use them without inclusion in the university RPP.

UHS will assist in selecting the appropriate respirator, cartridges and filters based upon the hazard assessment and workplace conditions. Cartridges used for the protection from gases or vapors must have an End of Service Life Indicator (ESLI) if available. If no ESLI is available, then a written change schedule must be developed to ensure cartridges are discarded before they lose their effectiveness. UHS staff will assist in determining a change-out schedule for cartridges.

Employees who are required to wear a respirator will have it provided to them at no cost by their department. Voluntary use FFPs may be provided upon request.

2. Medical Evaluation and Approval

Mandatory use of respirators requires each individual be evaluated to ensure their medical fitness to use a respirator. The evaluation results and approval (i.e., recommendation) must be obtained prior to fit-testing and respirator use. Voluntary users of FFPs respirators are exempt from the medical evaluation requirement.

Staff must complete an [online medical questionnaire](#) available through Occupational Health. Most recommendations for respirator use may be based on the results of this questionnaire. However, some scenarios may require an in-person medical evaluation that can be scheduled in consultation with Occupational Health.

In addition to the initial medical evaluation and follow-up, periodic re-evaluation is required if:

- Staff report signs or symptoms that affect their ability to wear a respirator. Examples include: wheezing, lightheadedness, and new significant health diagnoses (i.e., chronic obstructive pulmonary disease (COPD), asthma, cardiovascular issues).
- A PLHCP, supervisor/PI, or other qualified person believes there is a need.
- Departments require regular and periodic evaluations (e.g., every 5 years).
- A change in workplace conditions (e.g., physical work effort, temperature, humidity, protective clothing, etc.) that may result in a substantial increase in the physiological burden.
- Respirator use is required by another OSHA standard or by unit work practices (e.g., asbestos standard).

The PLHCP will issue a written recommendation regarding the employee's ability to safely use a respirator. The recommendation will provide *only* the following information:

- The ability to wear the respirator, including any medical limitations for use.
- The need for any follow-up medical evaluations.
- A statement that the PLHCP has provided the employee with a recommendation.

If an employee is required to wear a respirator and the PLHCP determine there is a medical condition which precludes the employee from wearing a negative pressure respirator, the department may provide a Powered Air Purifying Respirator (PAPR) or other appropriate respirator. If a subsequent medical evaluation shows that the employee may safely wear a negative pressure respirator, then the department may opt to no longer provide the PAPR.

3. Fit Tests

Employees who are required to wear a respirator must be fit tested prior to respirator use. Fit test requirements:

- Fit tests will be completed only after medical approval is received, before initial use of the respirator and at least annually thereafter.
- Fit tests must be completed with the same (i.e., the same make, model and size) respirator that will be used.
- Employees must be clean-shaven to be fit tested with a respirator that fits tight to the face (i.e., half and full-face respirators, and required use of FFP respirators).

- If proper fit is not able to be achieved for any reason, including cultural/religious practices, accommodations may be made in consultation with University Health and Safety.
- Additional fit testing will be provided if requested by employees, or if there are changes to an individual's physical condition that will affect respirator fit (i.e., facial scarring, dental changes, cosmetic surgery, or change in body weight).

Instructions for scheduling a fit-testing and further information on the process can be found [here](#).

All completed fit test records must be provided to UHS for recordkeeping purposes.

4. Training

All respirator users must receive training at their time of initial assignment to a job, area, or task in which respirators are used. Training is available online through the Training Hub or can be given in-person by a qualified supervisor or principal investigator. UHS staff are available to assist upon request.

Training content for mandatory users must include:

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

Retraining must be provided:

- When changes in the workplace or respirator use are significant enough to require it.
- When observation indicates a user needs refresher training.
- For any reason to ensure respirators are used safely.

Training for voluntary users of a FFP is limited to the information contained in the form entitled "Information for Employees Using Respirators When Not Required" (Appendix A).

Respirator training documentation must be provided to UHS for recordkeeping purposes. Trainers must use Appendix B or equivalent to document training and return the documents to UHS.

5. Use of Respirators

Respirators that fit tight to the face may not be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face, or that interferes with valve function, or

- Any other condition that interferes with the face-to-face piece seal or valve function.

If staff wear corrective glasses or goggles or other personal protective equipment, they must be worn so they do not interfere with respirator seal and the face. This means that glasses cannot be worn with full-face respirators, as the temple bars cross through the respirator seal. If needed, corrective lenses may be supplied to staff if a full-face respirator is used.

For all tight-fitting respirators, employees must perform the positive and negative pressure seal checks each time they put on the respirator.

No member of the University is to knowingly work in an area which is, or is suspected of being, immediately dangerous to Life and Health (IDLH).

6. Inspection, Storage and Care

All respirators used in routine situations shall be inspected before each use and during cleaning.

Respirator inspections must at least include the following:

- A check of respirator function (i.e. are all the parts and attachments working).
- Tightness of connections.
- The condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tubes, batteries and cartridges, canisters or filters.
- A check of elastomeric parts for pliability and signs of deterioration.

Respirators that fail inspection or are otherwise defective cannot be used until they are repaired or replaced. Only NIOSH-approved parts for that respirator can be used for repairs. UHS staff can assist with repairs and finding appropriate replacement parts.

All respirators must be cared for, cleaned, maintained, stored, and repaired, as directed by the manufacturer. Respirators must be stored outside of the work area in a clean container, such as a plastic bag or bin, and should be protected from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Cartridges should be stored separately from the respirator. The respirator should be arranged so that the facepiece and exhalation valves are not bent or deformed during storage. N95 masks should be disposed of after each use.

An individually assigned respirator which is used routinely must be cleaned as often as necessary to maintain it in a sanitary and usable condition. Respirators not individually assigned shall be cleaned and disinfected before each use.

7. Emergency Respirators

Respirators maintained for use in emergency situations must be inspected at least monthly. The inspection date, the inspector's identification, findings, and remedial actions must be documented and provided on a tag or label attached to the storage compartment. The tag or label must remain until the next inspections in completed. Emergency use respirators must be stored in

a cabinet or a cover that is clearly recognizable and marked as emergency respirators. They must be cleaned and disinfected after each use.

8. Supplied Air Requirements

Employees using atmosphere-supplying respirators (i.e., supplied air lines or self-contained breathing apparatus) must be supplied with breathing gases that meet at least the requirements for Grade D breathing air.

The installation, use, maintenance, storage, inspection, etc., of any supplied air system must comply with manufacturer's instructions. Contact University Health and Safety before installing any supplied air system.

9. Program Evaluation

At least every two years, University Health and Safety will review and evaluate the written Respiratory Protection Program.

10. References

29 CFR 1910.134 Respiratory Protection Standard
ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1 -2018

11. Appendices

Appendix A – Information for Employees Using Respirators when Not Required
Appendix B – Respiratory Protection Training Records

APPENDIX A – INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED

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, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's 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 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.

APPENDIX B – RESPIRATORY PROTECTION TRAINING DOCUMENTATION

Training Date	Time	Location	Trainer
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Training outline
<ul style="list-style-type: none"> ● Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator. ● The limitations and capabilities of the respirator. ● How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions. ● How to inspect, put on and remove, use, and check the seals of the respirator. ● Procedures for maintenance and storage of the respirator. ● How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators. ● General requirements of the Respiratory Protection Program.

Other topics discussed

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