PROGRAM STATEMENT

It is the policy of The University of Texas at Austin (UT Austin) to provide a safe educational, living, and working environment for its students, employees, affiliates, and visitors. UT Austin recognizes inhalation hazards as a serious threat to health and quality of life.

REASON FOR PROGRAM

To eliminate, control, and protect against potential inhalation exposures to airborne contaminants.

SCOPE AND AUDIENCE

The Respiratory Protection Program applies to employees who are required to wear respiratory protection due to the nature of their work.

The use of a respirator is required under the following circumstances:

• An exposure assessment indicates that an inhalation hazard exists over the occupational exposure limit and requires respiratory protection; or

• A job description, standard operating procedure, or emergency operating procedure requires a respirator to be worn.

Any respirator use that does not meet either of these criteria is designated as “voluntary use” and follows this program’s Voluntary Use of Respirators process.

This program does not apply to contractors required to wear respirators as part of work performed on UT Austin property. The contractor’s employees should be enrolled in the contractor’s own written respiratory protection program.

RELATED UT AUSTIN DOCUMENTS

UT Austin Handbook of Operating Procedures – Environmental Health and Safety Policy
Respirator Training
University Asbestos Operations & Maintenance Plan

DEFINITIONS
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Aerosol</td>
<td>A system consisting of particles, solids, or liquids suspended in air.</td>
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<tr>
<td>Canister or Cartridge</td>
<td>A container with a filter, sorbent, catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.</td>
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<tr>
<td>Contaminant</td>
<td>Any harmful, irritating, or nuisance material that is foreign to the normal atmosphere. Contaminants can be particulates, gases, or vapors.</td>
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<tr>
<td>DSR</td>
<td>Departmental Safety Representative</td>
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<tr>
<td>Dusts</td>
<td>A submicroscopic to visible solid, which is mechanically produced by such processes as grinding, crushing, drilling, or blasting.</td>
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<tr>
<td>Dust Mask</td>
<td>A mask providing limited protection from dusts and/or mists.</td>
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<tr>
<td>EHS</td>
<td>Environmental Health and Safety</td>
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<tr>
<td>Elastomeric Respirator</td>
<td>A half or full face respirator using replaceable filters or cartridges with either a washable (able to be cleaned and disinfected), or even a disposable (rubber-like) facepiece.</td>
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<tr>
<td>Exhalation Valve</td>
<td>A device that allows exhaled air to leave a respiratory device and prevents outside air from entering through the valve.</td>
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<tr>
<td>Facepiece</td>
<td>The portion of a respirator that covers the wearer's nose and mouth (a full-facepiece also covers the eyes). The facepiece should make a gas-tight or dust-tight seal with the face. The facepiece is supported by headbands, and contains inhalation valves, exhalation valves and connectors for the air-purifying cartridges or filters.</td>
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<tr>
<td>Filtering Facepiece Respirator (FFR)</td>
<td>A P, R, or N95, P or N99, or P or N100 respirator.</td>
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<tr>
<td>Fit Test</td>
<td>The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.</td>
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<tr>
<td>Fumes</td>
<td>A solid, normally less than one micrometer in diameter, usually formed in air above molten metal by vaporization of the metal, oxidation of the vapor, and condensation of the oxide.</td>
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<tr>
<td>Gases</td>
<td>Substances that are similar to air in their ability to diffuse or spread freely through an area at normal workroom temperatures.</td>
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</table>
**Immediately Dangerous to Life or Health (IDLH)**
An atmosphere that poses an immediate threat to life, causes irreversible adverse health effects, or impairs an individual's ability to escape from a dangerous atmosphere.

**Mists**
Submicroscopic to visible droplets rendered airborne by bubbling, boiling, spraying, splashing or by condensation from air supersaturated with the vapor of a substance.

**OHP**
HealthPoint Occupational Health Program (UT Austin occupational health clinic)

**Qualitative Fit Test (QLFT)**
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)**
An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

**RPP**
Respiratory Protection Program

**Tight-fitting Respirator**
Respirator requiring a tight seal between the facepiece and the face and/or neck of the respirator user in order to work properly. FFRs and elastomeric respirators fall into this category.

**Vapors**
The gaseous state of substances that are liquid or solid at room temperature.

**RESPONSIBILITIES**

**Respirator Users/Wearers:**
- Adhering to all requirements, established by the manufacturer and this program, pertaining to proper use, maintenance, and storage of the respirator
- Informing supervisor of any symptoms or other indications that exposure to an inhalation hazard may be occurring (odors, tastes, irritation, etc.)
- Notifying supervisor of a change in health status (especially circulatory or respiratory health), weight gain or loss of 20 pounds or more, a change in dental situation or substantial scarring in the facial area that may alter the mask to face seal
- Reporting to the supervisor, any operation or job suspected of requiring the use of respiratory protective equipment
- Remaining clean-shaven where facial hair may prevent a mask to face seal while wearing a tight-fitting respirator
- Notifying supervisor need for voluntary use of a respirator

**Supervisor, Principal Investigator, Lab Manager:**

- Identifying potential respiratory hazards in employee’s work area
- Requesting assistance from DSR or EHS in evaluating operations that may present respiratory hazards
- Coordinating exposure assessments with EHS, DSR, and employees
- Implementing controls to eliminate or reduce exposure to respiratory hazards prior to permanent use of respiratory protection to prevent exposure.
- Purchasing and maintaining the respiratory protection required for employees in their department
- Notifying OHP or WorkLife Clinic (WorkLife) of participants in the respiratory protection program
- Ensuring participants are following the requirements for respirator use detailed in this program and in the manufacturer’s instruction manual
- Confirming participants have completed all required training
- Ensuring participants have completed necessary medical evaluations, fit testing, and training
- Informing EHS of any voluntary use of respirators

**DSRs and EHS:**

- Performing PPE risk assessments to determine individuals who are required to participate in the RPP
- Maintaining completed PPE risk assessments
- Recommending feasible controls (utilizing the hierarchy of controls) to eliminate or reduce exposure to respiratory hazards
- Determining the type of respirator required for each individual and appropriate cartridges/canisters, where applicable
- Developing and providing respiratory protection training
- Reviewing the Respiratory Protection Program annually
- Reviewing and approving any written emergency procedures involving respirator use
EHS
• Retaining employee exposure records used to determined level of respiratory protection
• Acting as the designated Respirator Protection Program Administrator/Coordinator

OHP & WorkLife:
• Maintaining and providing Medical Questionnaire
• Providing medical evaluations and fit testing for program participants
• Retaining medical evaluation, fit-test records, and signed voluntary use forms
• Reminding participants and departments when medical questionnaire and fit test refreshers are needed
• Coordinating medical evaluations with Physicians or Licensed Health Care Providers as needed.

PROCEDURES

Respiratory Hazard Control
The RPP has four approaches to achieving respiratory protection:

1. Either eliminate the hazardous materials or substitute with a less hazardous material.
2. Implement engineering controls to eliminate the hazard.
3. Use administrative controls that may include training and/or the possibility of job rotation to reduce the exposure of any one person to acceptable levels.
4. When the first three methods are not feasible, not yet in place, or cannot provide adequate protection, respiratory protection will be required.

Respirators are worn to reduce personal exposures to below occupational exposure limits. They can also be provided as an interim measure while other control measures are being sought or installed. Respirators provide adequate protection only if properly selected, fitted, and worn. Respirators will protect participants only from the specific hazard identified within the respirator’s protection factors.

Respirator Requirements

Respirators will be worn when the following conditions apply:

• DSR or EHS, with assistance from the participant’s supervisor, determines the need for respiratory protection based on quantitative exposure assessments or a reasonable estimate of
the employee’s exposure to respiratory hazard(s) given the contaminant’s chemical state and physical form.

- Individuals working in areas where airborne contaminant levels are unpredictable and potentially without warning properties, such as an emergency response to a spill of an unknown hazardous material. In these situations where exposures cannot be identified or reasonably estimated the use of air-supplied respirators along with specialized training is required.

- The Safety Data Sheet (SDS) or chemical label specifically requires the use of a respirator for the task being performed.

- Medical personnel performing procedures on patients, cadavers or in a laboratory that may generate an infectious biological contaminant or aerosol are required to wear at least an N95 respirator and to comply with the appropriate sections of this policy. A PPE risk assessment must be completed by EHS.

- Participants engaged in activities which require the use of respiratory protection and are addressed in other EHS policies such as asbestos, certain other chemical, biological, or radiological hazards, or for confined space entry.

- When sampling methods or objective data are not available to determine occupational exposure to a substance with known or unknown health implications.

Only respirators approved by the National Institute for Occupational Safety and Health (NIOSH), under the provisions of 30 CFR Part 11 and 42 CFR Part 84, shall be used. Since respirators are approved as a unit, parts from different manufacturers or models are not be interchangeable, and no modification of a respirator is permitted.

Each department is responsible for providing respirators, replacement parts, and cartridge/filters as necessary to participants who have been identified as needing respirators.

Individuals required to use a tight fitting respirator as part of their job description are required to comply with all aspects of the respiratory protection program.

For a more detailed explanation of the respirator selection process, contact EHS or the DSR.

Reusable respirators are UT Austin property and must be returned prior to an employee leaving the University. Respirators cannot be re-issued without thorough disinfection and cleaning.

**Request for Respirator Use**

Prior to beginning work with an airborne contaminant that has not been evaluated, contact EHS to perform exposure assessments to determine if respirator use is warranted and to verify that the appropriate respirator is selected based on the hazard. Use the [Respirator Request Process Flow Chart](#) located in Attachment Two.
**Voluntary Use of Respirators**

If EHS has determined that respiratory protection is not required but the employee wants to use a dust mask or FFR, no medical clearance is necessary, but the employee is required to take respirator training for the selected respirator. Employee’s supervisor must obtain a signed copy of Attachment One, *Voluntary Use of Respiratory Protection*, from the employee and send to OHP.

If EHS has determined that respiratory protection is not required but the employee wants to use an elastomeric respirator, medical clearance is necessary and the employee is required to take respirator training outlined in the training section of this document. Employee’s supervisor must obtain a signed copy of Attachment One, *Voluntary Use of Respiratory Protection*, from the employee and send to OHP.

**Medical Evaluations**

The use of a respirator places physiological stress on the wearer to the extent that participants entering this program must be evaluated by a physician or other licensed health care professional. Participants must complete the medical questionnaire (obtained from OHP) and submit it to OHP or WorkLife. The purpose of the questionnaire and evaluation is to screen employees for pre-existing conditions not conducive to respirator use, confirm the individual can handle the additional stress caused by the respirator and re-evaluate the wearer periodically for changes in health and abilities. Medical evaluations must be completed every 3 years.

**Fit Testing**

All tight fitting respirator users must be fit tested before initial use and annually thereafter. Fit testing is also required when a change in the user’s facial structure (dental work or changes in body weight) or a different make/model of respirator is to be used.

Qualitative or quantitative fit tests are used to determine if the respirator mask provides an acceptable fit to the wearer. Qualitative fit test procedures rely on a subjective sensation (taste, irritation, smell) of the respirator wearer to a particular test agent while a quantitative fit test uses measuring instruments to measure face-seal leakage.

Fit testing is provided through OHP or WorkLife. A record of the fit test is kept by OHP and WorkLife and retained until the next fit test is administered.

**Training**

Training is required for all respirator users prior to initial use with refresher training every three years.

Every respirator user is required to take *OH 507: Respiratory Protection* in addition to the training listed below for the respirator(s) issued.

- **OH 508: Respiratory Protection - Dust Masks**
- **OH 509: Respiratory Protection - Full Face**
- **OH 510: Respiratory Protection - Half Face**
- **OH 511: Respiratory Protection - N95**
• **OH 512: Respiratory Protection - PAPR**

Retraining may be required more than every three years if workplace conditions change, new types of respirators are used, or if there are inadequacies in the participant’s knowledge or use.

A record of the training will be kept by each department.

**User Seal Checks**

Each time a respirator is placed in position on the face (donned), the wearer shall conduct a negative and positive pressure seal check to ensure a proper fit. This ensures the respirator is adjusted properly and sealed against the face. The advantages are that the wearer can do this alone in the field and the check can be repeated any time the seal is in question.

A negative pressure check is accomplished when the wearer closes off the respirator inlet and inhales. A vacuum and partial inward collapse of the mask should result. If a vacuum cannot be maintained, readjust the facepiece until a seal is accomplished.

A positive pressure check is accomplished when the wearer closes off the exhalation valve and breathes out gently. An outward expansion of the respirator should result. Air will escape through any gaps in the seal. If this should happen, readjust the facepiece until a seal is accomplished.

**Inspection and Maintenance**

Each person issued a respirator will inspect the respirator prior to each use to ensure that it is in good condition. This inspection includes a check of the tightness of the connections and the condition of the facepiece, headbands, valves, and cartridges. The mask itself is inspected for signs of deterioration. No components should be replaced or repairs made beyond those recommended by the manufacturer. If the repair cannot be made immediately, a replacement respirator of the same model and size will be provided until the repair can be made.

**Cleaning and Disinfecting**

Respirators are to be issued and used by a single individual. This individual is responsible for cleaning and disinfecting the respirator after each use. This shall be done in accordance with the manufacturer’s recommendations.

**Storage**

When not in use, respirators shall be placed in individual sealable containers to protect them from contamination. Respirators shall be stored in designated storage areas in such a manner that the respirator will not be contaminated, distorted, or damaged. Storage areas to avoid include workbenches, tool boxes, chemical storage cabinets, or hanging from hooks out in the open workroom.

**Cartridge/Filter Change-out**
Cartridges and filters should be dated when opened and replaced based on the manufacturer’s recommendations or end of service life indicator, whichever comes first. If the manufacturer has no recommendations, a change-out schedule should be developed based on OSHA’s methods of estimating service: Rule-of-thumb, mathematical models, or by experimental testing.

If no data exists for the timely replacement of chemical cartridge respirators, respirators will be disposed after 8-hours of use, or for filtering cartridges when the breathing resistance becomes noticeable. For further assistance in making these determinations please contact the DSR or EHS.

**Program Evaluation**

A yearly evaluation of the program shall be performed by EHS with feedback requested from the DSRs. Comments related to this program can be made by contacting EHS at 512.471.3511.

**FORMS AND TOOLS**

Attachment One: Voluntary Use of Respiratory Protection
Attachment Two: Respirator Request Process Flow Chart

**RELATED INFORMATION**

OSHA Standard for Respiratory Protection 1910.134
OSHA Standard for Toxic and Hazardous Substances Subpart Z

**REVISION HISTORY**

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Material Changed</th>
<th>Changed by:</th>
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<tr>
<td>07.30.2020</td>
<td>Document created</td>
<td>Suzanne Kilpatrick, Mark Zumbach, Kent Williams, Daniel Stine, Andrea McNair</td>
</tr>
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</table>
Voluntary Use of Respiratory Protection

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 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.

I have read and understand the requirements for voluntary use of respiratory protection.

Printed Name

Signature

Date