

## Title: Respiratory Protection Program

**Applies to:**

Indiana University, Bloomington

**Date Issued:**

12/15/97

**Date Revised:**

3/1/04

### Introduction

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The purpose of this Respiratory Protection Program is to:

- Protect IU personnel from identified inhalation exposure hazards; and,
  - Comply with Indiana University safety and health policy and applicable OSHA standards.
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### Regulatory Reference

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29CFR1910.134, OSHA's Respiratory Protection Standard

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### Definitions

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**Canister or cartridge:** a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

## Policy on Respirator Use

Respirators may not be required by IU departmental managers or used by IU personnel except under the guidelines of this Program.

Respirators may only be used when engineering controls are not feasible to install or not sufficient to keep exposures below applicable limits; or, potential exposures have been adequately characterized to ensure proper respirator selection before performing work.

Some limited voluntary use is permitted.

## Responsibilities

### DEPARTMENTAL MANAGERS:

- Ensure compliance with this Program.
- Take corrective action on all identified potential airborne contaminant exposures at IU facilities.
- Pay all costs of this Program, including costs of equipment, training, and medical evaluation.
- Schedule medical evaluations, initial fit testing, and annual fit testing.

### UOEHSM:

- Evaluate and monitor potential workplace airborne contaminant exposures.
- Select respirators and cartridges.
- Training and initial fit testing of IU personnel in the scope of this program. UOEHSM may authorize personnel in other departments to perform annual fit tests.
- Provide technical assistance per individual or department request.

### IU PERSONNEL:

- Comply with all provisions of this program.
- Use respirators when performing designated jobs/tasks.
- Properly use, **inspect**, and maintain respirators.

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- Report potential exposures or respirator problems to supervisors.

**PROMPT CARE:**

Respirator medical evaluation and approval for respirator use.

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## Respirator Selection Criteria

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- The type of respirator selected must be able to reduce the exposure levels to below the Permissible Exposure Limit (PEL). The correct cartridge will be selected based on the contaminant involved. The following factors must be evaluated:
  - The atmosphere must have normal oxygen content.
  - Warning properties of the contaminant, such as odor or irritating effects, must be detectable at concentrations below the PEL.
  - The physical and chemical properties, including adverse health effects, of the contaminant must be known.
  - Concentrations of the contaminant in the workplace must be below that which would be immediately dangerous to life or health.
  - Each task performed must be evaluated.
  - The physical configuration and location of work areas must be considered.
  - The nature and duration of the tasks performed must be known.

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## Fit Testing

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Fit testing will be performed before the issue of a respirator. Testing will occur prior to initial use of the respirator, whenever a different respirator facepiece is issued, and at least annually thereafter. Changes in the employee's physical condition that could affect respirator fit will require another fit test. Such conditions would include facial scarring, dental changes, surgery, or a major change in body weight.

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## Medical Evaluation

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Medical evaluation and approval is required prior to issuance of respirators. After a determination that a respirator is required for a job or task, the employee shall receive a medical evaluation from Promptcare. Promptcare will provide written approval to wear a specific respirator and will indicate any restrictions that might apply. Records of medical approvals will be kept by Promptcare and UOEHSM.

Each employee's department is responsible for timely scheduling of medical evaluations for respirator wearers. The "Employer Authorization for Testing", at the Risk Management website (<http://www.indiana.edu/~riskmgmt/Forms/OccHealthAuth.html>) must be completed for each employee, by his department, and sent electronically to Prompt Care before scheduling appointments.

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## Procedures for Respirator Use

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Employees shall not wear respirators with tight-fitting facepieces if there is facial hair or any other condition which interferes with respirator face seal. If an employee wears

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corrective glasses or goggles or other personal protective equipment, the department shall ensure that such equipment is compatible with proper seal of the facepiece.

Before donning the respirator ensure that the proper cartridges have been selected and the cartridges are secured in place. Inspect the inhalation valves and the exhalation valve. Adjust the respirator on the face and tighten straps. Conduct both positive pressure and negative pressure fit checks (this must be done each time the respirator is used).

During use of the respirator if an odor is detected leave the work area, readjust the straps, ensure the cartridges are tight, and complete both fit check procedures. If the odor persists after reentering the work area, leave the work area and replace the cartridges.

To clean the respirator remove the cartridges, wash the inside of the mask with soap and water or clean with a wipe and store in a zip lock bag. Wipe off the cartridges with a damp paper towel and store in a separate ziplock bag.

Inspect respirators thoroughly prior to use and during cleaning. Respirators maintained for emergency use must be inspected monthly and before and after each use.

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**Minimum Requirements for Selected Tasks**

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UOEHSM has established minimum respiratory protection requirements for certain tasks. These requirements apply where there is no effective local exhaust ventilation unless otherwise noted. All are subject to re-evaluation when process, equipment or materials change. The table below contains the tasks, the required respirator and cartridge and guidelines or other comments on the respirator's use.

Task	Respirator	Comments
Indoor or confined space Welding/cutting/arc gouging:		

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Task	Respirator	Comments
Carbon steel	Half-face APR	if general mechanical ventilation used; no APR with effective local exhaust ventilation*
Stainless Steel	Full-face APR	half-face APR with effective local exhaust ventilation.
Surfaces with leaded coatings	➔	contact UOEHSM
Abrasive blasting	Positive pressure PAPR with hood	if surface has leaded paint or coating, contact UOEHSM.
Applying materials containing organic solvents in confined spaces	Half-face APR	
Pesticide application	Full-face APR	GMC-A, GMA-H or GMP type cartridge
Central Heating Plant (CHP) - cleaning electrostatic precipitator	PAPR**	contact UOEHSM
CHP - Cleaning, maintenance on hoppers, boilers	Half-face APR	HEPA-filtered cartridge
CHP- coal handling	Half-face APR	HEPA-filtered cartridge, contact UOEHSM
CHP- pre-inspection maintenance	Half-face APR	HEPA-filtered cartridge, contact UOEHSM
Power-operated woodworking tools	Half-face APR	HEPA-filtered cartridge, Type H, GME-H or GMA-H
Power-operated woodworking tools	Full-face APR	GME-H or GMA-H
Asbestos abatement- negative air enclosure - glove bag	PAPR, Half-face APR	HEPA-filtered cartridge, Type H, GME-H or GMA-H

Notes:

\* Local exhaust ventilation must be applied directly to the welding plume; use a suction air duct inside confined space.

\*\*PAPR = powered air-purifying respirator

HEPA = high-efficiency particulate air (filter)

Contact UOEHSM for explanations of other abbreviated terms

See UOEHSM Confined Space Entry Program for additional guidance on confined space welding

(treated wood, press, particle or plywood or Western Red Cedar)

**Additional tasks potentially requiring respirators include:**

- Use of power equipment to heat, cut, grind, pulverize or shape wood, wood products, metals, plastics, stone, masonry, thermal insulation (non-asbestos-containing) or other materials, which when so treated may generate dust, vapors or gases.
- Application of chemical compounds or mixtures such as paints, surface coatings, finishes, water-sealants, adhesives, biocides, pesticides, herbicides, fertilizers, lubricants, cutting oils which may release airborne vapors, gases or particulates into the worker breathing zone, which are not adequately controlled by engineering controls.
- HVAC maintenance and demolition involving removal of molds, when a mold stain is visibly evident; call EHS for guidance
- Any of the above categories of task, when performed inside a confined space, such as a tank, if entry is necessary to perform the task.

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## **Voluntary Respirator Usage**

Employees may be permitted to voluntarily wear filtering face piece respirators (dust masks), when the following conditions have been met:

- Exposure to airborne contaminants is below OSHA Permissible Exposure Limits (PELs). UOEHSM personnel must evaluate potential exposures to ensure that voluntary usage is applicable.
- The employee must sign a voluntary usage form; his/her supervisor must approve the voluntary usage and indicate this by signing the same form. A “Request for Voluntary Respirator Usage” form is attached.
- UOEHSM will indicate specific tasks and conditions applicable to the voluntary use on the final form.

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## **Notification and Training**

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- Departmental Managers will notify any affected employee as soon as possible after a need for respirator use has been identified.
- A copy of the federal OSHA Respiratory Protection Standard, 29 CFR 1910.134, is available to any and all IU personnel by request from UOEHSM at (812) 855-6311.

A copy of this IU Respiratory Protection Program is available to any IU personnel by request from UOEHSM or on the web at <http://www.ehs.indiana.edu/>.

**Departmental Managers will work with UOEHSM to:**

- Schedule all affected personnel for initial training as soon as possible after working conditions requiring respirator use have been identified.
- Provide all required training either by UOEHSM staff or training contractors approved by UOEHSM.

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**Recordkeeping**

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<b>Record</b>	<b>Kept By</b>	<b>For</b>
Training	Training and Development Office for Physical Plant personnel and UOEHSM. Departmental Management and UOEHSM for all other departments.	Term of employment
Exposure Records	UOEHSM	Term of employment plus 30 years
Respirator Fit-Test Form and Voluntary Usage Form	UOEHSM	Term of employment

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Medical Evaluation and Approval	Promptcare	Term of employment plus 30 years
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## Respirator Fit-Test Form

Initial Fit \_\_\_\_\_ Annual Recheck \_\_\_\_\_ Issue Card \_\_\_\_\_ No Card \_\_\_\_\_ Medical on file \_\_\_\_\_

Account Name: \_\_\_\_\_ Account Number \_\_\_\_\_ Charge \$ \_\_\_\_\_

### Employee Information

Employee Name	_____ phone _____
Department	_____ phone _____
Job Title	_____
Exposure	_____
Date Fit-test completed	_____ month _____ day _____ year

### Respirator Information

Fit-test method	1. Irritant Smoke tubes 2. Iso-Amyl Acetate 3. Bitrex
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### Respirator #1

Manufacturer	_____	Cartridge Type:
Model	_____	Size (circle one): <b>S</b> <b>M</b> <b>L</b>

IU-EHS Signature \_\_\_\_\_

I have completed respirator medical surveillance and have received medical approval to wear this respirator.

No change has occurred since my last medical surveillance which will affect my ability to wear the respirator.

I will report to my supervisor : (1)any new medical signs or symptoms that relate to my ability to wear a respirator.(2)any change in workplace conditions (e.g., increased physical work effort required, additional protective clothing, temperature) that results in a substantial increase in physical stress.

Employee Signature \_\_\_\_\_

## Request for Voluntary Respirator Usage

### Employee certification:

I, \_\_\_\_\_ (printed name) do hereby certify that I am voluntarily using a respirator to reduce my exposure to \_\_\_\_\_ (give name or type of air contaminant). I have been given a copy of 29CFR1910.134 Appendix D regarding the proper respirator use and I have read and understand it.

Signed \_\_\_\_\_ Date \_\_\_\_\_

### UOEHSM certification:

I have determined that this voluntary use of a respirator will not create a hazard in the workplace and approve this voluntary usage of respiratory protection for this employee.

The respirator is a NIOSH-approved, filtering facepiece (dust mask) respirator and no further action is required.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_ Title \_\_\_\_\_

### Employer certification:

I approve this voluntary usage of respiratory protection for this employee.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_ Title \_\_\_\_\_

*Please return this form to UOEHSM, 2735 E. 10<sup>th</sup> Street, Bloomington, IN 47408.*

### **Appendix D to Sec. 1910.134 (Mandatory)**

#### Information for Employees Using Respirators When Not Required Under the Standard

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.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

