



RESPIRATORY PROTECTION PROGRAM

University of Kentucky

(insert department and/or work area)

INTRODUCTION

The basic purpose of a respirator is to protect the user from inhalation of hazardous atmospheres. When it is determined that a hazardous atmosphere exists, the first line of defense is to eliminate the hazard using engineering controls (e.g., ventilation) or work practice controls (e.g. substitution of less harmful materials). However, if engineering controls are infeasible because of technical or financial constraints, then respirators must be used to protect workers. Additionally, respirators must be used when airborne contaminant sources cannot be controlled to a level below their occupational exposure limits (e.g., certain maintenance and repair operations, emergencies, or during periods when ventilation system controls are being installed).

There are many variables that affect the degree of protection provided by respirators, and the misuse of respirators can be hazardous to employee safety and health. Selection of the wrong equipment, one of the most frequent errors made in respiratory protection, can result in the employee being exposed to increased concentrations of the harmful contaminant. Respirators that are not maintained and inspected can be less effective at reducing exposure to harmful contaminants, and can place a greater physical burden on the respiratory system. Respirators that are not clean can cause skin irritation or dermatitis. This program establishes standard operating procedures to ensure that respirators are selected, used, and maintained properly, and the potential hazards associated with misuse are eliminated.

TABLE OF CONTENTS

SAMPLE RESPIRATORY PROTECTION PROGRAM

1.0	Purpose.....	1
2.0	Scope and Application.....	1
2.1	Mandatory Use of Respirators	
2.2	(Voluntary Use of Respirators)	
3.0	Responsibilities.....	2
3.1	Respirator Program Administrator	
3.2	Other Responsible Individuals	
4.0	Workplace Conditions and Worker Exposure Surveillance	2
4.1	Respiratory Hazard Evaluation	
5.0	Respirator Selection.....	3
5.1	Basis for Respirator Selection	
5.2	Workplace and User Factors	
6.0	Respirator Use.....	3-4
6.1	Facepiece Seal Protection	
6.2	Workplace Observations	
7.0	Change Schedule.....	5
7.1	Cartridges	
7.2	Filters	
8.0	Fit Testing.....	6
9.0	Medical Evaluation.....	7
9.1	Initial Medical Evaluation	
9.2	PLHCP's Written Recommendations	
9.3	Additional Medical Evaluations	

10.0 Maintenance and Care.....8-9
10.1 Cleaning and Disinfecting
10.2 Storage
10.3 Inspection
10.4 Repair

11.0 Breathing Air Quality.....10
11.1 Cylinders
11.2 Compressors

12.0 Training and Information.....11

13.0 Program Evaluation.....11

14.0 Recordkeeping.....12
14.1 Medical Records
14.2 Fit Test Records
14.3 Training Records

Appendix A: Important Information about Voluntary Use of Respirators

Appendix B: Training Outline forRespirator Use and Maintenance

Appendix C: Training Certification Form

RESPIRATORY PROTECTION PROGRAM

(insert department and/or work area)

1.0 Purpose

The potential for employee exposure to respiratory hazards exists during the performance of specific job duties within *(insert department and/or work area)*. The purpose of this program is to ensure that all employees are protected from exposure to respiratory hazards. Controls such as ventilation and substitution of less toxic materials are the first line of defense. However, these controls are not always feasible for some operations, or they will not always completely control identified hazards. In these situations, respirators and other protective equipment must be used. Respirators are also utilized for protection during foreseeable emergencies.

2.0 Scope and Application

2.1 Mandatory use of Respirators

This program applies to all employees who are required to wear respirators during normal work operations and during certain non-routine or emergency operations. The requirement to wear a respirator is determined based on the employee's potential exposure to respiratory hazards.

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with medical evaluations, training, and respiratory protection equipment will be borne by *(insert department and/or work area)*.

2.2 Voluntary use of Respirators

Employees who voluntarily choose to use a respirator when it is not required are subject to the cleaning, maintenance and storage elements of this program. These requirements can be met by following the respirator manufacturer's instructions for the selected respirator(s). Voluntary respirator users must also submit a respirator program request form and a medical questionnaire for approval by a health care professional within the department of Preventive Medicine (see section 9.0 Medical Evaluation).

In addition, the information specified in Appendix A: "Important Information about Voluntary Use of Respirators" will be provided to all voluntary users of respirators.

Employees who voluntarily use filtering facepiece respirators (i.e., dust masks) are excluded from all requirements of this program except that they must be provided with the information outlined within Appendix A.

3.0 Responsibilities

3.1 Respirator Program Administrator

The Respirator Program Administrator is responsible for overseeing the respiratory protection program and ensuring that all requirements are fully implemented. The designated Program Administrator is *(insert name and/or job title)*.

3.2 Other Responsible Individuals

The Program Administrator has the authority to assign responsibility and accountability to employees or supervisors for each phase of this program.

4.0 Workplace Conditions and Worker Exposure Surveillance:

4.1 Respiratory Hazard Evaluation

A respiratory hazard evaluation for each operation, process, or work area has been conducted, including employee exposure monitoring. *(insert area supervisor name or job title)* must report changes in work processes that may result in increased employee exposure. Such conditions may include the use of new chemicals; a change in the way chemicals are processed, handled, or manipulated; or a change in environmental controls such as local or general ventilation systems. The following hazard evaluation table summarizes the potential for employee exposure *(be sure to include foreseeable emergencies if applicable)*:

Task / Job	Work Area / Location	Potential Respiratory Hazards	*Employee Overexposure to Hazardous Chemicals?

** Insert "Yes" in this column if employee exposure monitoring has been conducted, and the results of monitoring indicate that employee exposure exceeded applicable standards or guidelines.*

Employees who believe that respiratory protection is needed during a particular activity should contact *(insert area supervisor name or job title)*. This information will be conveyed to the Program Administrator, who will ensure that the potential hazard is assessed, and the results of the assessment are communicated to the affected employees. If it is determined that respiratory protection is necessary, the hazard evaluation table will be updated accordingly.

5.0 Respirator Selection

5.1 Basis for Respirator Selection

Respirators have been selected on the basis of the hazards to which the employees are exposed. Guidance for respirator selection was obtained by reviewing the OSHA Technical Manual, Section VIII, Chapter 2.V. “Respirator Selection”.

http://www.osha.gov/dts/osta/otm/otm_viii/otm_viii_2.html#5 All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. All filters, cartridges, and canisters must be labeled with the appropriate NIOSH certification number. The label must not be removed or defaced while it is in use. The NIOSH certification applies to the respirator as a unit, and is invalidated if a respirator is used with replacement parts that are not from the same manufacturer or are “shop” made.

5.2 Workplace and User Factors

Potential workplace and user factors that could influence the selection of respirator types must also be considered. Workplace and user factors include, but are not limited to, the equipment or tools that will be used; excessive temperature or relative humidity; or any motion or travel required which can interfere with the type of respirator to be selected. The following table summarizes the selected respirator types, the jobs or tasks that necessitate the use of the respirator, the locations in which the respirators will be used; and specific workplace and user factors:

Type of Respirator	Jobs / Tasks Requiring Respirator Usage	Work Area / Location	Workplace and User Factors

6.0 Respirator Use

6.1 Facepiece Seal Protection

The use of respirators under conditions that would compromise the facepiece-to-face seal will not be permitted. Examples of these conditions include facial hair that interferes with the facepiece seal or valve function, absence of normally worn dentures, facial deformities (e.g., scars, deep skin creases, prominent cheekbones), or the use of jewelry or headgear that projects under the facepiece seal. Fit testing cannot be conducted if any of these conditions

exists. Additionally, corrective glasses or goggles, or other personal protective equipment, must be worn in such a way that they do not interfere with the seal of the facepiece to the face.

6.2 Workplace Observations

The daily supervision and oversight of the proper use of respirators is the responsibility of (*insert area supervisor name and/or job title*), who will ensure that employees wear respirators when required, and that respirators are used correctly.

7.0 Change Schedule for Cartridges

7.1 Cartridges

A cartridge replacement schedule is followed based on manufacturer breakthrough test data. The following table outlines the change schedule for cartridges used at (*insert department and/or work area*). The change schedules listed in the following table were established using the cartridge manufacturer's recommendations:

Cartridge Manufacturer	Cartridge Model Number	Maximum Employee Exposure	Maximum Allowable Service Life (Hours)

Additional technical support regarding the cartridge replacement schedule can be obtained by opening the following website and choosing from the "useful links" menu:

| <http://ehs.uky.edu/ohs/respgate.php>

7.2 Filters

For respirators worn exclusively for protection against particles, filters will be changed according to the manufacturer's specification and whenever the wearer detects an increase in breathing resistance. It is the responsibility of (*insert name of program administrator or area supervisor or job title*) to ensure that the change schedule is complete and updated as necessary.

8.0 Fit Testing

Fit testing will be required for all employees who are required to wear respirators with a tight-fitting facepiece. Fit testing will be performed:

- After an employee has completed their medical evaluation and prior to being allowed to wear any respirator with a tight fitting facepiece in the work environment.
- Whenever a different respirator facepiece is used.
- At least annually thereafter.
- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.)

Employees will be provided with several models and sizes of respirators so that they may find the optimal fit.

Employees who voluntarily choose to use respirators in the absence of any atmospheric hazards are not required to be fit tested. The University of Kentucky Occupational Health and Safety Department will conduct employee fit testing.

9.0 Medical Evaluation

9.1 Initial Medical Evaluation

Employees who use respirators must be able to tolerate the physical and psychological stress imposed by respirator use. Employees will not be allowed to wear respirators until a physician or other licensed health care professional (PLHCP) has determined that they are medically able to do so. Any employee refusing the medical evaluation cannot work in an area requiring respirator use. The Department of Preventive Medicine and Environmental Health will provide initial and any follow-up medical evaluations. Complete instructions for medical qualification and fit testing are available at:

<http://ehs.uky.edu/ohs/respgate.php>.

A powered air-purifying respirator (PAPR) will be provided to any employee if information from the PLHCP indicates that the employee can use a PAPR but not a negative pressure respirator. If, subsequent to this evaluation, the PLHCP determines that the employee is able to wear a negative pressure respirator, (*insert area supervisor name and/or job title*) will no longer be required to provide a PAPR to that employee.

9.2 PLHCP's Written Recommendations

The employee will receive a copy of the PLHCP's written recommendations from the Department of Preventive Medicine and Environmental Health. Information concerning diagnosis, test results, or other confidential medical information will not be disclosed to (*insert department and/or work area*) by the PLHCP.

9.3 Additional Medical Evaluations

Additional medical evaluation or medical re-evaluation for any employee when:

- The employee reports medical signs or symptoms that are related to the employee's ability to use a respirator.
- The PLHCP, supervisor, or the respirator program administrator observes that the employee is having a medical problem during fit testing or workplace respirator use.
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation.
- A change occurs in workplace conditions (e.g., physical work effort, type of respirator used, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

The content of such additional medical evaluations will be determined by the PLHCP.

10.0 Maintenance and Care

10.1 Cleaning and Disinfection

Respirators will be cleaned and disinfected by (*insert name of responsible person/s or job title/s*) using the manufacturer's recommendations for each respirator.

The frequency of cleaning and disinfecting as follows:

- Respirators that are issued for the exclusive use of an employee will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition. Employees will be responsible to clean and disinfect respirators issued for their exclusive use.
- Respirators used by more than one employee will be cleaned and disinfected prior to being used by a different individual.

Respirators maintained for emergency use will be cleaned and disinfected after each use.

10.2 Storage

Respirators will be stored so that they are protected against damage, contamination, dust, sunlight, temperature extremes, excessive moisture, and damaging chemicals. Respirators are stored as follows:

Respirator Type	Storage Location	Storage Instructions

The Program Administrator is responsible to ensure that respirators intended for emergency use will be kept accessible to the work area. Emergency use respirators will not be kept in any area that might itself be involved in the emergency because such an area may become contaminated or inaccessible. Emergency use respirators will be stored in compartments or covers that are clearly marked to indicate that they contain emergency respirators and stored according to any applicable manufacturer instructions.

Emergency respirators will be readily available for use in (List Location(s)) and will be stored in compartments labeled "FOR EMERGENCY USE ONLY."

10.3 Inspection

Respirators used in routine situations will be inspected before each use and during cleaning. Respirator inspections will be conducted in accordance to the manufacturer's recommendations.

Respirators designated for use in an emergency situation will be inspected at least monthly and in accordance with the manufacturer's instructions and checked for proper function before and after each use. Emergency escape-only respirators must be inspected before being

carried into the workplace. Self-contained breathing apparatus (SCBA) will be inspected monthly and after each use. Respirators that are maintained for use in emergencies will be certified by documenting the date that the inspection was performed, the name or signature of the inspector, the findings of the inspection, any required remedial action, and a serial number or other means of identifying the inspected respirator. This information will be provided on the tag/label that is attached to the storage compartment for the respirator.

Inspection information for emergency respirators will be maintained in *(insert location)* until it is replaced following subsequent certification.

10.4 Repair

(insert area supervisor name and/or job title) will ensure that respirators which fail to pass inspection or are otherwise found to be defective will be removed from service and repaired or adjusted properly. If a respirator cannot be repaired or adjusted it will be discarded.

Repairs or adjustments to respirators will be done by *(insert name of person/s or job titles/s who will conduct or ensure repairs)*. Only NIOSH-approved manufacturer's replacement parts designed for that respirator will be used. Replacement parts from different respirator types, or using shop-made materials, invalidate the NIOSH approval for the respirator unit. Repairs will be made in accordance with the manufacturer's recommendations and specifications regarding the type and extent of repairs to be performed.

11.0 Breathing Air Quality (*omit section if atmosphere-supplying respirators are not used*)

The Program Administrator will ensure that breathing air for atmosphere-supplying respirators will be of high purity, meets quality levels for content, and does not exceed certain contaminant levels and moisture requirements.

11.1 Cylinders

For supplied-air respirators (SARs), only Grade D breathing air shall be used in cylinders. The Program Administrator or designee will coordinate deliveries of compressed air with (Insert vendor's name) and require certification that the air in the cylinders meets the specifications of Grade D breathing air. Moisture content in the cylinders will not exceed a dew point of -50°F (-45.6°C) at 1 atmosphere pressure. Note: This requirement will prevent respirator valves from freezing, which can occur when excess moisture accumulates on the valves. All breathing gas containers must be marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

The Program Administrator will maintain a minimum air supply of one fully charged replacement cylinder for each SAR unit.

11.2 Compressors

Compressors used for supplying breathing air must be constructed and situated so contaminated air cannot enter the air-supply system. The location of the air intake will be in an uncontaminated area where exhaust gases from nearby vehicles, the internal combustion engine that is powering the compressor itself (*if applicable*), or other exhaust contaminants being ventilated will not be picked up by the compressor air intake.

Compressors will be equipped with suitable in-line, air-purifying sorbent beds and filters to further ensure breathing air quality and to minimize moisture content so that the dew point at 1 atmosphere pressure is 10°F (5.56°C) below the ambient temperature. Sorbent beds and filters will be maintained and replaced or refurbished periodically according to the manufacturer's recommendations. An inspection tag will be kept at the compressor indicating the most recent change date and the signature of the Program Administrator or designee authorized to perform the maintenance.

Only non-oil-lubricated compressors will be used at (*insert project/site*).

The Program Administrator will ensure that the compressor intake will not allow the introduction of carbon monoxide greater than 10 parts per million (ppm) into the system. Note: This could be from sources other than the compressor such as forklifts/vehicles or other gas powered equipment

Breathing air couplings must be incompatible with outlets for non-respirable plant air or other gas systems to prevent accidental servicing of airline respirators with non-respirable gases or oxygen. No asphyxiating substance (e.g., nitrogen) will be allowed in the breathing airlines.

12.0 Training and Information

The Department of Occupational Health and Safety will provide general orientation training to respirator users before the fit testing session. The content of the general training program is outlined in Appendix B: “Training Outline for Respirator Use and Maintenance”

In addition to the general training session, site specific training will be conducted by (*insert name or title of trainer*). This training focuses on the specific practices and policies of (*insert department and/or work area*), including the contents of the written respiratory protection program and the employees’ responsibilities under it.

Employees who voluntarily use filtering facepiece (dust mask) respirators are exempt from the training requirements. Employees who voluntarily use elastomeric air-purifying respirators will receive limited training regarding cleaning and storage.

The information specified in “Appendix A, Important Information about Voluntary Use of Respirators” will be provided all voluntary users of respirators

13.0 Program Evaluation

The Program Administrator is responsible to conduct evaluations of the workplace, as necessary. Periodic program evaluation is required to ensure that the provisions of the respiratory protection program are being implemented for all employees using respirators. In addition, evaluations will be conducted to ensure the continued effectiveness of the program. Evaluations of the workplace will determine whether the correct respirators are being used and worn properly and will also serve to determine whether the training program is effective.

(*insert name / title of program administrator and/or area supervisor*) is responsible to periodically monitor employee use of respirators to ensure that they are being used and worn properly.

(*insert name or title of program administrator and/or area supervisor*) will regularly consult with employees wearing respirators to ascertain the employees' views on program effectiveness and to identify any problems so that corrective action can be taken.

The following factors will be evaluated to determine program effectiveness:

- Respirators are properly fitted and if employees are able to wear respirators without interfering with effective workplace performance.
- Respirators are correctly selected for the hazards encountered.
- Respirators are used properly depending on the workplace conditions encountered.
- Respirators are being maintained and stored properly.

The Program Administrator will be responsible to correct any problems associated with wearing a respirator that are identified by employees or that are revealed during any other part of this evaluation.

14.0 Recordkeeping

14.1 Medical Records

The Program Administrator will retain a copy of the PLHCP's written recommendation for each employee subject to medical evaluation. Each employee's completed medical questionnaire, results of relevant medical tests, examinations, and diagnosis, etc., will be maintained by the PHLCP for a period of 30 years. Records of medical evaluations will be made available as specified in 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records", which can be accessed at the following website link: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10027.

14.2 Fit Test Records

The Program Administrator will retain fit test records for respirator users until the next fit test is administered. These records consist of:

- Name or identification of the employee tested
- Make, model, and size of the respirator fitted;
- Date of the fit test;
- Fit factor and other records of the test .

Additionally, each employee will retain fit testing results on a printout provided by the Department of Occupational Health & Safety.

14.3 Training Records

The Program Administrator will retain employee training records that include the names of employees trained and the dates when training was conducted.

The Program Administrator will keep a current copy of (*insert department and/or work area*) written respiratory protection program in (*insert location*). All written materials required to be maintained under the recordkeeping requirements will be made available, upon request, to the employee who is subject of the records.

Appendix A:

Important Information about Voluntary Use of Respirators



University of Kentucky

Appendix D to Sec. 1910.134 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.

Employee Name (Printed)

Respirator Type

Employee Signature

Work Tasks:

Appendix B:

Training Outline for Respirator Use and Maintenance

Topics

- **Intended Use of Respirator**
- **Specific types of contaminants**
- **Oxygen deficient atmospheres**
- **IDLH atmospheres**
- **Unknown / not yet quantified atmospheres**
- **Determining breakthrough.**
- **Fit Testing**
- **Fit Factor**
- **Facial Hair**
- **Donning the Respirator**
- **Positive Pressure Check**
- **Negative Pressure Check**
- **Inspection**
- **Cleaning and Sanitizing**
- **Storage**

Appendix C:

Training Certification Form

Employee Name (printed)

I certify that I have been trained in the use of the following respirator(s):

This training included the inspection procedures, fitting, maintenance and limitations of the above respirator(s). I understand how the respirator operates and provides protection. I further certify that I have heard the explanation of the unit(s) as described above and I understand the instructions relevant to use, cleaning, disinfecting and the limitations of the unit(s).

Employee Signature

Instructor Signature

Date