



## **Respiratory Protection**

**Berea College  
Respiratory Protection Program**

**GENERAL**

The OSHA General Industry standard for respiratory protection 29 CFR 1910.134 requires that a respiratory protection program be established by an employer. The following procedures are based on the requirements as established by the Occupational Health and Safety Administration (see pg 5).

**GUIDELINES**

- The guidelines in this program are designed to help reduce employee exposures against occupational dusts, fumes, mists, radionuclide, gases, and vapors.
- The primary objective is to prevent excessive exposure to these contaminants.
- Where feasible, exposure to contaminants will be eliminated by engineering controls (example, general and local ventilation, enclosure or isolation, and substitution of a less hazardous process or material).
- When effective engineering controls are not feasible, use of personal respiratory protective equipment may be required to achieve this goal.

**RESPONSIBILITIES**

**Management**

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

**Management/Supervisory**

Supervisors, or group leaders of each area are responsible for insuring that all personnel under their control are completely knowledgeable of the respiratory protection requirements for the areas which they work. They are also responsible for insuring that their subordinates comply with all facets of this respiratory program, including respirator inspection and maintenance.

**Employees**

It is the responsibility of the employee to have an awareness of the respiratory protection requirements for their work areas (as explained by management). Employees are also responsible for wearing the appropriate respiratory equipment according to proper instructions and for maintaining the equipment in a clean and operable condition.

## **ADMINISTRATION**

The Department of Environmental Health and Safety is responsible for selection, issuance, training, and fit testing of all respirators used by College employees, including all record keeping

## **RECOMMENDED RESPIRATORY PROTECTION PROGRAM**

### **WORK AREA MONITORING**

To assure the adequacy of a respiratory protection program, monitoring should be conducted on a periodic basis to provide for a continuing healthful environment for employees. Personal sampling equipment may be used in accordance with accepted industrial hygiene standards to sample specific work areas. Results of these samples will pinpoint areas where respiratory protection is required. A "Job Description - Respirator Specification" Form will also document what type of equipment should be worn for specific hazards present.

### **EMPLOYEE MEDICAL MONITORING**

Periodic medical evaluations will be given to College employees in the respiratory protection program to assure their ability to safely wear a respirator.

### **RESPIRATOR SELECTION**

Respirators are selected and approved by the Department of Environmental Health and Safety. The selection is based upon the physical and chemical properties of the air contaminants that may be encountered in the work environment.

### **EMPLOYEE TRAINING**

Each employee, upon assignment to an area requiring respirators, must be instructed by his supervisor, or group leader relative to their responsibilities in the respiratory program. The Department of Environmental Health and Safety (EHS) will instruct the employee in the need, use, limitations, and care of their respirator(s). This training will be conducted annually for all employees in the respirator protection program.

### **EMPLOYEE FIT TESTING**

Employees required to wear a respirator must be fitted properly and tested for a face seal prior to use of the respirator in a contaminated area. Manufacturers provide fitting instructions and use limitations on the product packaging. Fit testing is conducted by the EHS Department on an annual basis. Employees with full beards will not be fit tested. It is assumed that facial hair will not allow a safe fit of the respirator and respirator use will not be approved.

Qualitative fit testing is acceptable for most hazards in the workplace. (Refer to OSHA standards for specific direction.)

## **RESPIRATOR INSPECTION AND MAINTENANCE**

**The following points should be considered for respirator inspection and maintenance:**

- 1. The wearer of a respirator will inspect it daily whenever it is in use.**
- 2. The supervisor, or group leader will periodically spot check respirators for fit, usage, and condition.**
- 3. Respirators not discarded after one shift use, will be cleaned on a daily basis, according to the manufacturer's instructions, by the assigned employee or other person designated by the respirator program coordinator.**
- 4. Respirators not discarded after one shift use will be stored in a suitable container away from areas of contamination.**
- 5. Whenever feasible, respirators not discarded after one shift use, will be marked or 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 between uses. It is recommended that respirators not be shared.**

## **VOLUNTARY USE OF RESPIRATORS**

**If Employees want to wear respirators on a voluntary basis when not required by OSHA or the College, limited provisions of the respirator protection program will apply. When a filtering face piece respirator (i.e. dust mask) is all that is used, the employee must be provided a copy of Appendix D as found in 29 CFR 1910.134. For all other voluntary users, they must follow the requirements in this written program covering medical fitness and proper maintenance.**

## **OSHA's REQUIREMENTS FOR A MINIMAL RESPIRATOR PROGRAM**

- 1. Written standard operating procedures (S.O.P), governing the selection and use of respirators shall be established.**
- 2. Respirators shall be selected on the basis of hazards to which the worker is exposed.**
- 3. The user shall be instructed and trained in the proper use of respirators and their limitations.**
- 4. Where practicable, the respirators should be assigned to individual workers for their exclusive use.**
- 5. Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.**
- 6. Respirators shall be stored in a convenient, clean, and sanitary location.**

- 7. Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use, such as self-contained breathing devices, shall be thoroughly inspected at least once a month and after each use.**
- 8. Appropriate surveillance of work area conditions and degrees of employee exposure or stress shall be maintained.**
- 9. There shall be regular inspections and evaluations to determine the continued effectiveness of the program.**
- 10. Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. A college physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed annually.**
- 11. Only approved or accepted respirators shall be used.**

JOB DESCRIPTION - RESPIRATOR SPECIFICATION FORM

Job Description: \_\_\_\_\_

Contaminant: \_\_\_\_\_ Concentration Level: ppm \_\_\_\_\_ mg/m3 \_\_\_\_\_

**Recommended Respiratory Protection:**

First Choice: \_\_\_\_\_ Second Choice: \_\_\_\_\_

NIOSH Approval Numbers: \_\_\_\_\_

OSHA Standard for Contaminant: \_\_\_\_\_

RESPIRATOR ISSUANCE AND TRAINING

Date:

Employee name:

Employee number:

Title:

RESPIRATOR:

Self-Contained	Supplied Air	Chemical Cartridge with pre-filter
Powered Air	Chemical Cartridge	Dust/Mist Filter
Dust/Fume/Mist Filter	HEPA Filter	

Model:

Application:

NIOSH Approval Number:

LIMITATIONS:

Beard                      Denture                      Glasses                      Other    None

Explain limitations:

FITTING:

Satisfactory Positive Pressure Test  
Satisfactory Negative Pressure Test  
Satisfactory Isoamyl Acetate Test  
Satisfactory Sweetener Test

MAINTENANCE:

CLEANING	Daily	Weekly	Other	_____
DISPOSAL	Daily	Weekly	Other	_____
	Individual	Plant	Other	

INDICATOR:

EMPLOYEE SIGNATURE:

DATE:

APPROVED:

DATE:

**Appendix C to Sec. 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)**

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: \_\_\_\_\_

2. Your name: \_\_\_\_\_

3. Your age (to nearest year): \_\_\_\_\_

4. Sex (circle one): Male/Female

5. Your height: \_\_\_\_\_ ft. \_\_\_\_\_ in.

6. Your weight: \_\_\_\_\_ lbs.

7. Your job title: \_\_\_\_\_

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): \_\_\_\_\_

9. The best time to phone you at this number: \_\_\_\_\_

10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No

11. Check the type of respirator you will use (you can check more than one category):

a. \_\_\_\_\_ N, R, or P disposable respirator (filter-mask, non- cartridge type only).

b. \_\_\_\_\_ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s): \_\_\_\_\_

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you **currently** smoke tobacco, or have you smoked tobacco in the last month: Yes/No

2. Have you **ever had** any of the following conditions?

- a. Seizures (fits): Yes/No
  - b. Diabetes (sugar disease): Yes/No
  - c. Allergic reactions that interfere with your breathing: Yes/No
  - d. Claustrophobia (fear of closed-in places): Yes/No
  - e. Trouble smelling odors: Yes/No
3. Have you **ever had** any of the following pulmonary or lung problems?
- a. Asbestosis: Yes/No
  - b. Asthma: Yes/No
  - c. Chronic bronchitis: Yes/No
  - d. Emphysema: Yes/No
  - e. Pneumonia: Yes/No
  - f. Tuberculosis: Yes/No
  - g. Silicosis: Yes/No
  - h. Pneumothorax (collapsed lung): Yes/No
  - i. Lung cancer: Yes/No
  - j. Broken ribs: Yes/No
  - k. Any chest injuries or surgeries: Yes/No
  - l. Any other lung problem that you've been told about: Yes/No
4. Do you **currently** have any of the following symptoms of pulmonary or lung illness?
- a. Shortness of breath: Yes/No
  - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
  - c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
  - d. Have to stop for breath when walking at your own pace on level ground: Yes/No
  - e. Shortness of breath when washing or dressing yourself: Yes/No
  - f. Shortness of breath that interferes with your job: Yes/No
  - g. Coughing that produces phlegm (thick sputum): Yes/No
  - h. Coughing that wakes you early in the morning: Yes/No
  - i. Coughing that occurs mostly when you are lying down: Yes/No
  - j. Coughing up blood in the last month: Yes/No
  - k. Wheezing: Yes/No
  - l. Wheezing that interferes with your job: Yes/No



- m. Chest pain when you breathe deeply: Yes/No
- n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you **ever had** any of the following cardiovascular or heart problems?

- a. Heart attack: Yes/No
- b. Stroke: Yes/No
- c. Angina: Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Heart arrhythmia (heart beating irregularly): Yes/No
- g. High blood pressure: Yes/No
- h. Any other heart problem that you've been told about: Yes/No

6. Have you **ever had** any of the following cardiovascular or heart symptoms?

- a. Frequent pain or tightness in your chest: Yes/No
- b. Pain or tightness in your chest during physical activity: Yes/No
- c. Pain or tightness in your chest that interferes with your job: Yes/No
- d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
- e. Heartburn or indigestion that is not related to eating: Yes/ No
- f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you **currently** take medication for any of the following problems, please include doseage of the medication.

- a. Breathing or lung problems: Yes/No
- b. Heart trouble: Yes/No
- c. Blood pressure: Yes/No
- d. Seizures (fits): Yes/No

8. If you've used a respirator, have you **ever had** any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)

- a. Eye irritation: Yes/No
- b. Skin allergies or rashes: Yes/No
- c. Anxiety: Yes/No
- d. General weakness or fatigue: Yes/No
- e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you **ever lost** vision in either eye (temporarily or permanently): Yes/No

11. Do you **currently** have any of the following vision problems?

- a. Wear contact lenses: Yes/No
- b. Wear glasses: Yes/No
- c. Color blind: Yes/No
- d. Any other eye or vision problem: Yes/No

12. Have you **ever had** an injury to your ears, including a broken ear drum: Yes/No

13. Do you **currently** have any of the following hearing problems?

- a. Difficulty hearing: Yes/No
- b. Wear a hearing aid: Yes/No
- c. Any other hearing or ear problem: Yes/No

14. Have you **ever had** a back injury: Yes/No

15. Do you **currently** have any of the following musculoskeletal problems?

- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
- b. Back pain: Yes/No
- c. Difficulty fully moving your arms and legs: Yes/No
- d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
- e. Difficulty fully moving your head up or down: Yes/No
- f. Difficulty fully moving your head side to side: Yes/No
- g. Difficulty bending at your knees: Yes/No
- h. Difficulty squatting to the ground: Yes/No
- i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
- j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them: \_\_\_\_\_

\_\_\_\_\_

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

- a. Asbestos: Yes/No
- b. Silica (**e.g.**, in sandblasting): Yes/No
- c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
- d. Beryllium: Yes/No
- e. Aluminum: Yes/No
- f. Coal (for example, mining): Yes/No
- g. Iron: Yes/No
- h. Tin: Yes/No
- i. Dusty environments: Yes/No
- j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: \_\_\_\_\_

\_\_\_\_\_

4. List any second jobs or side businesses you have: \_\_\_\_\_

\_\_\_\_\_

5. List your previous occupations: \_\_\_\_\_

\_\_\_\_\_

6. List your current and previous hobbies: \_\_\_\_\_

\_\_\_\_\_

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: \_\_\_\_\_

10. Will you be using any of the following items with your respirator(s)?

- a. HEPA Filters: Yes/No
- b. Canisters (for example, gas masks): Yes/No
- c. Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

- a. Escape only (no rescue): Yes/No
- b. Emergency rescue only: Yes/No
- c. Less than 5 hours **per week**: Yes/No
- d. Less than 2 hours **per day**: Yes/No
- e. 2 to 4 hours per day: Yes/No
- f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

- a. **Light** (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of a light work effort are **sitting** while writing, typing, drafting, or performing light assembly work; or **standing** while operating a drill press (1-3 lbs.) or controlling machines.

- b. **Moderate** (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of moderate work effort are **sitting** while nailing or filing; **driving** a truck or bus in urban traffic; **standing** while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; **walking** on a level surface about 2 mph or down a 5-degree grade about 3 mph; or **pushing** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

- c. **Heavy** (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of heavy work are **lifting** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; **shoveling**; **standing** while bricklaying or chipping castings; **walking** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: \_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s):

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the second toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the third toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

The name of any other toxic substances that you'll be exposed to while using your respirator:

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

**Employee Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Reviewed by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Approve / Disapprove for Respirator use**      **PFT Required: YES / NO**