



**HUMBOLDT STATE UNIVERSITY**

## Injury & Illness Prevention Program

### Respiratory Protection Program

Environmental Health & Safety

7/14/2010

Humboldt State University

Respiratory Protection Program

## **INTRODUCTION**

This program specifies the procedures used to comply with CAL OSHA respiratory protection requirements (8 CCR 1529, 1531 and 5144). Control of atmospheric contamination should be achieved by use of adequate ventilation and engineering controls whenever possible.

Implementation of the respiratory protection program will limit employee exposures to harmful chemical or physical agents to concentrations less than the permissible levels when engineering controls are not practical or have limited application. The HSU Environmental Health & Safety Coordinator is the respiratory protection program administrator. Departmental supervisors are responsible for implementation at job sites.

When respiratory protection is required, an appropriate respirator shall be provided at no cost to the employee. Respirators may be required in the following work areas for the types of exposures listed:

- a. Plant Operations – Grounds Division, pesticides and dust;
- b. Plant Operations – Trades Division, asbestos, paint aerosols, dust, welding fumes, and lead;
- c. Office of Environmental Health & Safety – chemical exposure; and
- d. Instructional Support Technicians - dust and chemical exposure.

## **MEDICAL MONITORING**

No employee will be assigned tasks requiring the use of a respirator until a physician determines that the employee will be able to maintain normal physical function while wearing a respirator.

The respirator medical examination protocol and medical record keeping procedures are included in the HSU Medical Monitoring Program.

## **TRAINING**

Employees designated to wear respirators will receive initial and annual refresher training including the need for respiratory protection; selection fitting, use and care of respirators; use of respirators in emergency situations; user seal check procedures; respirator cleaning procedures, equipment limitations and medical monitoring requirements. The Northern California Safety Consortium will perform fit testing, deliver training and provide a copy of this written program to each trainee.

## **SELECTION OF RESPIRATORS**

Respirator selection will be based on chemical type, hazard classification, the protection factor required and the guidance issued in ANSI Standard Z88.21 - 1980. Only respirators tested and certified by NIOSH may be used. Single use, disposable respirators are not approved for any asbestos related work. A powered, air purifying respirator shall be provided upon the request of an employee required to

conduct asbestos related work [8 CCR 1529(i)(2)(C) 1]. Air monitoring will be conducted to determine asbestos and chemical exposure levels. Air monitoring data will guide the selection of respiratory protective equipment. Table 1 specifies selection guidelines for respirators used for protection from asbestos. Supervisors will forward product information to the respiratory protection program administrator prior to ordering respirators or cartridges to assure that appropriate equipment has been selected.

Air purifying and powered air purifying respirators are the only types of respiratory protection used at HSU. This program does not address the use of supplied air respirators. Air purifying respirators will not provide adequate protection in oxygen deficient (<19.5%) environments or when chemical contamination exceeds concentrations that are considered immediately dangerous to life and health (IDLH). Never enter an environment in which the hazards are unknown or the adequacy of oxygen is questionable. If the exposure level cannot be identified or reasonably estimated, it must be assumed to be IDLH. Suspected IDLH conditions must be reported immediately to the area supervisor and the respiratory protection program administrator.

### **EMERGENCY USE OF RESPIRATORS**

Respirators may only be used for emergency response if the exposure level to chemicals of concern can be established as less than IDLH and verified to be within the particular air purifying respirator's protective capacity. Entry into unknown levels of chemical contamination may only be performed by qualified Fire Department, contract or CSU mutual aid emergency response staff using supplied air respirators. HSU staff will make the request for assistance and then isolate and deny entry into the area until the level of hazard can be identified.

### **ASSIGNMENT AND FIT TESTING**

Employees will be allowed to try on several different models and sizes to find the respirator that allows the best facial fit. Each individual will be assigned a respirator for his/her exclusive use.

Respirators will be marked to indicate to whom it is assigned. The adequacy of respirator fit will be determined at the time the equipment is issued to an employee.

Fit testing will be conducted for all respirator users annually. Qualitative fit testing of powered air purifying respirators will be accomplished by temporarily converting the face piece into a negative pressure respirator with appropriate filters. Quantitative fit testing will be conducted by the Northern California Safety Consortium if a fit factor of 100 or more is required. Quantitative and qualitative fit testing will be conducted according to the procedures prescribed in 8 CCR 5144 Appendix A and 8 CCR 1529 Appendix C.

Employees are required to complete the positive and negative pressure fit check each time they use a respirator. Tight fitting respirator face pieces may not be worn if facial hair comes between the sealing surface of the face piece or interferes with valve function. Corrective glasses, safety goggles or other personal protective equipment shall be worn in a manner that does not interfere with respirator fit.

## **INSPECTION MAINTENANCE AND SANITATION**

All respirators should be inspected by the wearer prior to each use. Respiratory equipment must be repaired or replaced as necessary due to wear and deterioration. Clogged filters, jammed valves, loss of strap elasticity, detection of an odor or taste, eye or throat irritation, employee discomfort, puncture or tears or a loss of facial seal indicate the need for respirator repair or replacement. Air purifying cartridges will be replaced according product label directions, positive end of service life indicators, or at the first indication of odor, taste or irritation. Employees may change air purifying cartridges whenever they detect an increase in breathing resistance.

Employees will be permitted to leave the work area to wash their faces and respirator face pieces whenever necessary to prevent skin irritation associated with respirator use. Respirators are issued for exclusive use of each employee and must be cleaned and disinfected as often as necessary to maintain a sanitary condition. If respirators are shared, they must be cleaned by the wearer at the end of each work day with a commercially available disinfectant that is approved by the manufacturer for use with their product. After cleaning, thoroughly rinse the respirator in warm water to remove traces of cleaning solution and hang to dry. Respirators shall be cleaned and sanitized before they are reassigned to another individual. Store respiratory protective equipment in plastic bags to protect against dust, sunlight, extreme temperatures, excessive moisture or damaging chemicals.

## **RECORD KEEPING**

Records will be kept to document the following: employee training medical monitoring, personal exposure levels derived from air monitoring and any problems encountered during the use of respiratory equipment. Fit test and training records will be maintained for at least 3 years in the respective department.

## **PROGRAM EVALUATION**

Supervisors will conduct periodic inspections to ensure that the written respiratory protection program is being implemented and that respiratory protective equipment is appropriate to the hazards encountered in the work area. Employees will be consulted to obtain input regarding the program's effectiveness. EH&S will seek similar employee consultations during respiratory protection training sessions and work area visits.

TABLE 1

**RESPIRATORY PROTECTION FOR ASBESTOS**

Not in excess of 1 f/cc, (10 X PEL)	Reusable air purifying, half mask w/ HEPA filters.
Not in excess of 5 f/cc, (50 X PEL)*	Full face piece air-purifying respirator equipped with HEPA filters.
Not in excess of 10 f/cc, (100 X PEL)*	Any powered air purifying respirator equipped with HEPA filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc, (1000 X PEL)*	Full face piece respirator operated in pressure demand mode.
In excess of 100 f/cc, (1000 X PEL)*	Full face piece supplied air respirators operated in pressure contact or unknown concentration demand mode, equipped with an auxiliary positive pressure SCBA.

Note: Respirators assigned for high environmental concentrations may be used at lower concentrations, or when required respirator use is independent of concentration. A high efficiency filter (HEPA) means a filter that is at least 99.97% effective against particles 0.3 microns in diameter or larger.