

Respiratory Protection Program
California State University Bakersfield
Rev: 01/00

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 CSUB Safety and Risk Manager, 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. Facilities Management- Grounds Division, pesticides and dust;
- b. Facilities Management - Trades Division, asbestos, paint aerosols, dust, welding fumes, and lead;
- c. Office of Safety and Risk Management (S&R)– Safety and Risk Manager - 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 CSUB 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 respiratory protection program administrator will deliver training and will 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 CSUB. 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. CSUB 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 a qualified consultant 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 S&R.

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. S&R staff 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)* unknown concentration	Full face piece supplied air respirators operated in pressure contact or 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.

CSUB RESPIRATORY PROTECTION PROGRAM
Irritant Smoke or Bitrex Fit Test Protocol

1. The test shall not be conducted if there is any hair growth between the skin and face piece sealing surface.
2. Make sure that the test area has adequate ventilation to avoid contamination from the stannic chloride smoke.
3. Review the test protocol with the individual being fit tested.
4. The individual shall be exposed to a weak concentration of the smoke to become familiar with the characteristic acrid odor and to ensure that he can detect this odor.
5. The individual shall wear the respirator for 10 minutes prior to the test. Evaluate fit in terms of:
 - a. proper placement of chin;
 - b. proper tension of respirator straps;
 - c. fit across the bridge of the nose;
 - d. distance from nose to chin; and
 - e. tendency to slip.
6. The individual shall perform the ANSI positive and negative pressure fit checks. If either of these tests are failed, select a different respirator.
7. Advise test subject to keep eyes closed in order to avoid irritation from the smoke.
8. Deliver 200 milliliters per minute of stannic chloride smoke or Bitrex to the face seal area of the individual wearing the respirator. Start 12" from the face seal and move in to within 1" moving around the perimeter of the entire mask.
9. The test subject shall perform the following exercises:
 - a. normal breathing without talking - 1 minute;
 - b. deep breathing - 1 minute (with pauses to avoid hyperventilation);
 - c. turn head from side to side holding at extremes for 5 seconds - 3 repetitions;
 - d. nod head up and down holding at extreme positions for 5 seconds - 3 repetitions;
 - e. repeat the rainbow passage;
“When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a person looks for something

beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.”

- f. grimace, smile, frown and contort face - 15 seconds;
 - g. bend over and touch toes - repeat during 30 second interval;
 - h. jog in place for 30 seconds; and
 - i. normal breathing without talking - 1 minute.
10. Powered air purifying and type C respirators with filter attachments must be tested with the air off to assure a protection factor of at least 10 for emergency escape.
11. If the irritant smoke is detected, stop the test and select another respirator mask.