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California's Respiratory Protection Regulations For Pesticide Handlers

With annotations [in brackets] and links

[These regulations are effective as of January 2008. Click [here](#) for the complete Text of Final Regulations. Refer to DPR's Website at <http://www.cdpr.ca.gov/docs/legbills/regshome.htm> for the authoritative reference to DPR's regulations.]

Section 6000. Definitions. [New definitions added to section 6000]

"Air-purifying respirator" means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

"Atmosphere-supplying respirator" means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.

"Confidential reader" is a person chosen by an employee required to wear a respirator to read to him/her the [Medical Evaluation Questionnaire](#) required under section 6739 in a language primarily understood by the employee. This includes, but is not limited to, a coworker, family member, friend, or an independent translator provided by the employer. The employer or the employer's direct agent, such as a supervisor, manager, foreman, or secretary, are not included and are prohibited from being confidential readers.

"Filter or air purifying element" means a component used in respirators to remove solid or liquid aerosols from the inspired air.

"Filtering facepiece (dust mask)" means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

"Immediately dangerous to life or health (IDLH)" means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

"Physician or other licensed health care professional (PLHCP)" means an individual whose legally permitted scope of practice allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by these regulations. [Click [Here](#) for guidance documents identifying appropriate licensed health care professionals.]

"Qualitative fit test (QLFT)" means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

"Quantitative fit test (QNFT)" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

"Respirator program administrator" is a person who is qualified by appropriate training or experience that is commensurate with the complexity of the respiratory protection program, and demonstrates knowledge necessary to administer a respiratory protection program. Such training or experience includes, but is not limited to, reading and understanding either the American National Standard for Respiratory Protection

Publication (ANSI Z88.2), or the [U.S. Department of Labor's Small Entity Compliance Guide for the Revised Respiratory Protection Standard](#); or taken specific course work on developing a respiratory protection program from a college or a respirator manufacturer's authorized representative; or is an American Board of Industrial Hygiene Certified Industrial Hygienist.

Section 6739. Respiratory Protection.

[Note: the following is a list of the subsections. Click on the subsection title to go directly to that subsection]

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[\(q\) Medical Evaluation Questionnaire.](#)

[\(r\) Voluntary Respirator Provision Information.](#)

[\(s\) Medical Recommendation Form.](#)

(a) General Requirements.

(1) The employer shall assure that:

(A) Employees use approved respiratory equipment in compliance with this regulation when handling pesticides where respirators are required by label, restricted material permit condition, or regulation.

(2) In any workplace where respirators are required by label, restricted material permit condition, regulation, or employer, the employer shall establish a written respiratory protection program with work site-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions, as applicable:

(A) Procedures for selecting respirators for use in the workplace;

(B) Medical evaluations of employees required to use respirators;

(C) Fit testing procedures for tight-fitting respirators;

(D) Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;

(E) Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;

(F) Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;

(G) Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations, including Immediately Dangerous to Life or Health (IDLH) atmospheres, if appropriate;

(H) Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and

(I) Procedures for evaluating the effectiveness of the program pursuant to subsections **(n)(1) and (2)**.

1. The **respirator program administrator** shall administer the respiratory protection program in compliance with this section.

2. The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(b) Voluntary Respirator Provision.

(1) An employer may provide respirators at the request of employees or permit employees to use their own respirators for use on a voluntary basis, if the employer determines that such respirator use will not in itself create a hazard.

(2) If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in **subsection (r)** and display this information alongside the display of either the Hazard Communication Information for Employees Handling Pesticides in Agricultural Settings (**Pesticide Safety Information Series leaflet A-8**), or Hazard Communication Information for Employees Handling Pesticides in Noncrop Settings (**Pesticide Safety Information Series leaflet N-8**), at a central location in the workplace. [The complete Pesticide Safety Information Series (PSIS) is available online in English and other languages at <http://www.cdpr.ca.gov/docs/whs/psisenglish.htm>].

(3) Under the employer-supplied voluntary respirator provision, the employer shall establish and implement the provisions of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Employers are not required to include a written respiratory protection program for those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

(A) The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(c) Selection of Respirators.

The employer shall select and provide an appropriate respirator certified by the National Institute for Occupational Safety and Health (NIOSH) based on the respiratory hazard(s) and relevant workplace and user factors to which the worker is exposed; and the appropriate pesticide label, restricted materials permit condition, regulation, or employer requirements, whichever is most protective.

(1) The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

(2) Fumigant-confining structures shall be considered IDLH atmosphere unless proven not to be by appropriate measuring devices as to that chemical. The employer shall provide the following respirators for employee use in IDLH atmospheres:

(A) A full facepiece pressure demand self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes, or

(B) A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

(C) Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

(d) Medical Evaluation.

The employer shall ensure a medical evaluation is conducted to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

(1) Medical Evaluation Procedures.

(A) The employer shall identify a physician or other licensed health care professional (**PLHCP**) to perform medical evaluations using the medical questionnaire in subsection (q) or an equivalent form or an initial medical examination that obtains the same information as the medical questionnaire.

(B) The medical evaluation shall obtain the information requested by the questionnaire in subsection (q), sections 1 and 2.

(2) Follow-up Medical Examination.

(A) The employer shall ensure that a follow-up medical examination is provided when a PLHCP determines that there is a need for a follow-up medical examination.

(B) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

(3) Administration of the Medical Questionnaire and Examinations.

(A) The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

(B) The employer shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

(4) Supplemental Information for the PLHCP.

(A) The employer shall provide the following information to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

1. The type and weight of the respirator to be used by the employee;
2. The duration and frequency of respirator use (including use for rescue and escape);
3. The expected physical work effort;
4. Additional protective clothing and equipment to be worn; and
5. Temperature and humidity extremes that may be encountered.

(B) The employer shall not be required to provide any supplemental information provided previously to the PLHCP regarding an employee for a subsequent medical evaluation if the information and the PLHCP remain the same. When the employer replaces a PLHCP, the employer shall ensure that the new PLHCP obtains the information specified in (4)(A)1-5 by having the documents transferred from the former PLHCP to the new PLHCP. Employers are not required to have employees medically reevaluated solely because a new PLHCP has been selected.

(C) The employer shall provide the PLHCP with a copy of the written respiratory protection program and a copy of this section.

(5) Medical Determination.

(A) The employer shall obtain a written medical recommendation from the PLHCP regarding the employee's ability to use the respirator. The written medical recommendation shall be provided on the form in subsection (s) or provide substantially the same information as follows:

1. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
2. The need, if any, for follow-up medical evaluations; and

3. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written medical recommendation.

(B) If a negative pressure respirator is to be used and the PLHCP finds a medical condition that may place the employee's health at increased risk, the employer shall either provide a powered air purifying respirator (PAPR) provided the PLHCP's medical evaluation finds that the employee can use such a respirator or make changes in the workplace such that respiratory protection is not required. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer shall no longer be required to provide a PAPR.

(6) Additional Medical Evaluations. The employer shall provide additional medical evaluations that comply with the requirements of this section if:

- (A) An employee reports medical signs or symptoms that are related to their ability to use a respirator;
- (B) A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
- (C) Information from the respiratory protection program administrator, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- (D) A change occurs in workplace conditions including, but not limited to, physical work effort, protective clothing, or temperature, that may result in a substantial increase in the physiological burden placed on an employee.

(e) Fit Testing.

The employer shall assure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT).

- (1) The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.
- (2) The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or respirator program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
- (3) If after passing a QLFT or QNFT, the employee subsequently notifies the employer, PLHCP, supervisor, or respirator program administrator that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.
- (4) The fit test shall be administered using either the Cal/OSHA-accepted QLFT or QNFT protocols (Title 8, California Code of Regulations, section 5144, Appendix A), or as recommended by the manufacturer of the respirator, if such recommendations are in accordance with Title 8 CCR section 5144, [Appendix A](#), Part II. QLFT is acceptable for all negative pressure tight-fitting half or full facepiece respirators used in the application of pesticides. [Title 8 CCR section 5144 with Appendices viewable at <http://www.dir.ca.gov/title8/5144.html>]

(5) If the fit factor, as determined through a Cal/OSHA-accepted QNFT protocol (Title 8, California Code of Regulations, section 5144, Appendix A), is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

(6) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered airpurifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

(A) Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

(B) Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

(C) Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

(f) Facepiece Seal Protection.

A respirator that requires a tight face-to-facepiece seal shall not have any interference with the establishment of this seal. The employer shall ensure that:

(1) Employees shall not wear a respirator with a tight-fitting facepiece if:

(A) Facial hair comes between the sealing surface of the facepiece and the face or interferes with valve function; or

(B) Any physical or mental condition interferes with the face-to-facepiece seal or valve function.

(2) Corrective glasses or goggles or other personal protective equipment worn by an employee do not interfere with the face-to-facepiece seal.

(3) Employees perform a user seal check each time they put on the respirator using the Cal/OSHA procedures (Title 8, California Code of Regulations, section 5144, [Appendix B-1](#)) or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in the Cal/OSHA procedures when using tight-fitting respirators.>

(4) Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the employer shall reevaluate the continued effectiveness of the respirator.

(5) Employees shall leave the contaminated area:

(A) To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use;

- (B) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or
- (C) To replace or adjust the respirator or the filter, cartridge, or canister elements.

(6) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the employer shall replace or repair the respirator before allowing the employee to return to the work area.

(g) Procedures for Immediately Dangerous to Life or Health (IDLH) Atmospheres.

Fumigant confining structures shall be considered IDLH atmosphere unless proven not to be by appropriate measuring devices. For all IDLH atmospheres, the employer shall assure that:

- (1) One employee, or when needed pursuant to (2), more than one employee is located outside the IDLH atmosphere;
- (2) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;
- (3) The employee(s) located outside the IDLH atmosphere is trained and equipped to provide effective emergency rescue;
- (4) The employee(s) located outside the IDLH atmosphere notifies the employer or designee, and/or calls 9-1-1 before entering the IDLH atmosphere to provide emergency rescue. Once notified, the employer or designee authorized to do so by the employer, shall provide necessary assistance appropriate to the situation; and
- (5) Employee(s) located outside the IDLH atmospheres is equipped with:
 - (A) Pressure demand or other positive pressure self-contained breathing apparatus (SCBA), or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and if necessary,
 - (B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry.

(h) Cleaning and Disinfecting.

The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures recommended by the respirator manufacturer. If the manufacturer requires a cleaning agent that does not contain a disinfectant, the respirator components shall be disinfected with a registered disinfectant approved for such use. The employer shall assure that:

- (1) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- (2) Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(3) Respirators that are collected and reissued for use of any employee shall be cleaned and disinfected before reissued.

(4) Respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

(i) Storage of Emergency Respirators.

Emergency respirators shall be:

- (1) Stored immediately accessible to the work area.
- (2) Stored in compartments or in covers that are clearly marked as containing emergency respirators.
- (3) Stored in accordance with any applicable manufacturer instructions.
- (4) Stored in such a location as to be safely accessible for use if conditions develop requiring utilization of emergency respiratory protection.

(j) Inspection and Repair.

(1) The employer shall ensure that all respirators are inspected before each use and during cleaning, and that:

(A) Routine-use respirator inspections include the following:

1. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters;
2. A check of elastomeric parts for pliability and signs of deterioration; and
3. SCBA air cylinders are checked to ensure that they are recharged when the pressure falls to 80 percent of the manufacturer's recommended pressure level by the end of any workday.

(B) Emergency-use respirators are also inspected at least monthly according to the routine-use inspection criteria, and in accordance with the manufacturer's recommendations. For escape only respirators, also conduct inspection before being brought into the workplace for use. For both emergency use and escape-only respirators, inspections shall include the following:

1. A check for proper function before and after each use;
2. Certify by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and that this information is included on a tag or label that is attached to the storage compartment for the respirator or is kept with the respirator. This information shall be maintained until replaced following a subsequent certification;
3. A check for properly functioning SCBA regulator and warning devices; and

4. SCBA air cylinders are checked to ensure that they are maintained at 100 percent manufacturer's recommended capacity.

(2) The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective shall be removed from service, and discarded, repaired, or adjusted in accordance with the following procedures:

(A) Repairs or adjustments to respirators shall be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

(B) Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

(C) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

(k) Breathing Air Quality and Use.

The employer shall ensure:

(1) Compressed breathing air suppliers meet at least the requirements for Grade D breathing air described by the Compressed Gas Association (CGA) Commodity Specification for Air, G-7.1-1997 and certify such with a Certificate of Analysis (original or copy) from the supplier.

(2) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 Code of Federal Regulation part 173 and part 178). [[Link to Code of Federal Regulations \(CFR\) Webpage](#)]

(3) Compressors used to supply breathing air to respirators are constructed and situated so as to conform to Title 8, California Code of Regulations, section 5144.

(l) Identification of Filters, Cartridges, and Canisters.

The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color-coded with the NIOSH approval label. The label shall remain legible and not be removed.

(m) Training and Information.

In addition to the training requirements specified in section 6724, the employer shall ensure that:

(1) Each employee can demonstrate knowledge of at least the following:

(A) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

(B) What the limitations and capabilities of the respirator are;

(C) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

(D) How to inspect, put on and remove, use, and check the seals of the respirator;

(E) What the procedures are for maintenance and storage of the respirator;

(F) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

(G) The general requirements of this section.

(2) Training shall be conducted in a manner that is understandable to the employee.

(3) Training is provided prior to requiring the employee to use a respirator in the workplace.

(4) A new employee who has received training within the last 12 months that addresses the elements specified in subsection (m)(1)(A) through (G) is not required to repeat such training provided that, as required by subsection (m)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

(5) Retraining shall be administered annually, and when the following situations occur:

(A) Changes in the workplace or the type of respirator render previous training obsolete;

(B) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or

(C) Any other situation arises in which retraining appears necessary to ensure safe respirator use.

(6) The basic advisory information on respirators specified in (r) is provided in any written or oral format to employees who wear respirators when such use is not required by label, restricted materials permit condition, regulation, or by the employer.

(n) Program Evaluation.

(1) The employer shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective as required by this section.

(2) The employer shall annually consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

(A) Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

(B) Appropriate respirator selection for the pesticides to which the employee is exposed;

(C) Proper respirator use under the workplace conditions the employee encounters; and

(D) Proper respirator maintenance.

(3) A written record of these evaluations and consultations shall be documented and at least contain:

(A) Name of workers consulted.

(B) Date of evaluation/consultation.

(C) Description of any finding from the evaluation or consultation requiring modification of written respiratory protection program or a declaration of no findings.

(4) Any findings from either the employer evaluation or the employee consultation that necessitate the modification to the written respiratory protection program shall be implemented within 30 days from the date of the evaluation/consultation.

(o) End-of-Service Life.

When air-purifying respirators are required for protection against pesticides, the employer shall ensure that air-purifying elements (or entire respirator, if disposable type) shall be replaced according to the following hierarchically arranged criteria:

(1) At the first indication of odor, taste, or irritation while in use, the respirator wearer leaves the contaminated area, adjusts the mask for fit and on returning still encounters odor, taste, or irritation. This criterion item supercedes any of the criteria listed in (2)-(6).

(2) When any End-of-Service-Life-Indicator (ESLI) indicates that the respirator has reached its end of service;

(3) All disposable filtering facepiece respirators shall be discarded at the end of the workday;

(4) According to pesticide-specific label directions/recommendations;

(5) According to pesticide-specific directions from the respirator manufacturer;

(6) Absent any pesticide-specific directions/recommendations, at the end of the day's work period;

(p) Recordkeeping.

The employer shall retain written information regarding medical recommendations, fit testing, and the respirator program.

(1) Records required by this section shall be maintained while the employee is required to use respiratory protection and for three years after the end of employment conditions requiring respiratory protection and shall be available for inspection by the employee, the Director, or commissioner.

(A) The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

1. The name or identification of the employee tested;
2. Type of fit test performed;
3. Specific make, model, style, and size of respirator tested;
4. Date of test; and
5. The pass/fail results for qualitative fit testing or the fit factor and strip chart recording or other recording of the test results for QNFTs.

(3) A written copy of the current respirator program shall be retained by the employer. Previous versions of the written respirator protection program shall be retained for three years.

(4) Written information required to be retained under this subsection shall be made available upon request to employees falling under the respiratory protection program and to the commissioner or persons designated by the Director for review and copying.

(q) Medical Evaluation Questionnaire.

The completion of this form, or a form that obtains the same information as the medical questionnaire to the DEPARTMENT OF PESTICIDE REGULATION, by each respirator wearing employee; and the review of the completed form by a physician or licensed health care provider, is mandatory for all employees whose work activities require the wearing of respiratory protection. The medical evaluation questionnaire shall be administered in a manner that ensures that the employee understands the document and its content. The person administering the questionnaire shall offer to read or explain any part of the questionnaire to the employee in a language and manner the employee understands. After giving the employee the questionnaire, the person administering the questionnaire shall ask the following question of the employee:

"Can you read and complete this questionnaire?"

If the answer is affirmative, the employee shall be allowed to confidentially complete the questionnaire. If the answer is negative, the employer must provide either a copy of the questionnaire in a language understood by the employee or a confidential reader, in the primarily understood language of the employee.

To the employee: Can you read (circle): Yes/No

(This question to be asked orally by employer. If yes, employee may continue with answering form. If no, employer must provide a confidential reader, in the primarily understood language of the employee.) 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.

Section 1. (Mandatory, no variance in this format allowed) Every employee who has been selected to use any type of respirator must provide the following information (please print):

1. Today's date: ____/____/____

2. Your name: _____

3. Your age: _____

4. Sex (circle one): Male/Female

5. Your height: _____ ft. _____ in.

6. Your weight: _____ lbs

7. Your job title: _____

8. How can you be reached by the health care professional who reviews this questionnaire?

9. If by phone, the best time to call is Morning/Afternoon/Evening/Night at: (include the area code): _____
____ - _____ - _____ - _____

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, noncartridge type only).

b. Half-face respirator (particulate or vapor filtering or both)

c. Full-face respirator (particulate or vapor filtering or both)

d. Powered air purifying respirator (PAPR)

e. Self contained breathing apparatus (SCBA)

f. Supplied air respirator (SAR)

g. Other

12. Have you worn a respirator (circle one): Yes/No If "yes," what type(s):

a. N, R, or P disposable respirator (filter-mask, noncartridge type only).

b. Half-face respirator (particulate or vapor filtering or both)

c. Full-face respirator (particulate or vapor filtering or both)

d. Powered air purifying respirator (PAPR)

e. Self contained breathing apparatus (SCBA)

f. Supplied air respirator (SAR)

g. Other

Section 2. (Mandatory) Every employee who has been selected to use any type of respirator must answer questions 1 through 8 below (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. Allergic reactions that interfere with your breathing: Yes/No

c. Claustrophobia (fear of closed-in places): Yes/No

d. Trouble smelling odors: Yes/No/Do not know

e. Diabetes (sugar disease): Yes/No/Do not know

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

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 (pain in chest): Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Irregular heart beat (an arrhythmia): Yes/No/Do Not Know.
- g. High blood pressure: Yes/No/Do not know
- h. Any other heart problem that you have 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?

- 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 have used a respirator, have you ever had any of the following problems? (If you have 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. Breathing difficulty: Yes/No

f. 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 10-15 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 and 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. Difficulty 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

At the discretion of the PLHCP, if further information is required to ascertain the employee's health status and suitability for wearing respiratory protection, the PLHCP may include and require the questionnaire found in Title 8, California Code of Regulations, section 5144, [**Appendix C, Part B, Questions 1-19.**](#)

(r) Voluntary Respirator Provision Information.

The employer shall ensure that the following information is provided to employees who voluntarily wear a respirator when not required to do so by label, restricted materials permit condition, regulation, or employer.

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Information for Employees Using Respirators When Not Required By Label or Restricted Material Permit Conditions or Regulation.

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use, even when exposures are below the exposure limit, may provide an additional level of comfort and perceived 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 or Department of Pesticide Regulation guidelines. 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 follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's 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.

5. Air filtering respirators DO NOT supply oxygen. Do not use in situations where the oxygen levels are questionable or unknown.

(s) Medical Recommendation Form.

A physician or other licensed health care professional's report of evaluation and approval for respirator use must be on file with the employer before work requiring respirator use is allowed. The following or substantially similar statement from a physician is acceptable:

On _____,

(Date)

I evaluated _____.

(Patient's Name)

At this time there (are)/(are not)

medical contraindications to the employee named above wearing a respirator while working in potential pesticide exposure environments.

The patient (does)/(does not)

require further medical evaluation at this time. Any restrictions to wearing a respirator or to the type of respiratory protection are given below.

I have provided the above-named patient with a copy of this form.

Physician Date

INFORMATIONAL NOTE for section 6739: Employers requiring employees to enter oxygen-deficient atmospheres shall conform to respiratory protection requirements in Title 8, California Code of Regulations,

section 5144. Oxygen-deficient atmospheres contain less than 19.5 percent oxygen by volume. NOTE: Authority cited: Sections 11456 and 12981, Food and Agricultural Code.

TEXT OF FINAL REGULATIONS

Current wording is indicated by regular type.
Originally proposed deletions are indicated by ~~strikeout~~.
Originally proposed additions are indicated by underline.

TITLE 3. CALIFORNIA CODE OF REGULATIONS
DIVISION 6. PESTICIDES AND PEST CONTROL OPERATIONS
CHAPTER 1. PESTICIDE REGULATORY PROGRAM
SUBCHAPTER 1. DEFINITION OF TERMS
ARTICLE 1. DEFINITIONS FOR DIVISION 6

Amend section 6000 to add the following definitions in alphabetical order:

6000. Definitions.

...

"Air-purifying respirator" means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

"Atmosphere-supplying respirator" means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.

"Confidential reader" is a person chosen by an employee required to wear a respirator to read to him/her the Medical Evaluation Questionnaire required under section 6739 in a language primarily understood by the employee. This includes, but is not limited to, a coworker, family member, friend, or an independent translator provided by the employer. The employer or the employer's direct agent, such as a supervisor, manager, foreman, or secretary, are not included and are prohibited from being confidential readers.

"Filter or air purifying element" means a component used in respirators to remove solid or liquid aerosols from the inspired air.

"Filtering facepiece (dust mask)" means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

"Immediately dangerous to life or health (IDLH)" means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

"Physician or other licensed health care professional (PLHCP)" means an individual whose legally permitted scope of practice allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by these regulations.

"Qualitative fit test (QLFT)" means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

"Quantitative fit test (QNFT)" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

"Respirator program administrator" is a person who is qualified by appropriate training or experience that is commensurate with the complexity of the respiratory protection program, and demonstrates knowledge necessary to administer a respiratory protection program. Such training or experience includes, but is not limited to, reading and understanding either the American National Standard for Respiratory Protection Publication (ANSI Z88.2), or the U.S. Department of Labor's "Small Entity Compliance Guide for the Revised Respiratory Protection Standard"; or taken specific course work on developing a respiratory protection program from a college or a respirator manufacturer's authorized representative; or is an American Board of Industrial Hygiene Certified Industrial Hygienist.

...

NOTE: Authority cited: Sections 11456, 11502, 12111, 12781, 12976, 12981, and 14005, Food and Agricultural Code. Reference: Sections 11408, 11410, 11501, 11701, 11702(b), 11704, 11708(a), 12042(f), 12103, 12971, 12972, 12973, 12980, 12981, 13145, 13146, and 14006, Food and Agricultural Code.

CHAPTER 3. PEST CONTROL OPERATIONS
SUBCHAPTER 3. PESTICIDE WORKER SAFETY
ARTICLE 2. GENERAL SAFETY REQUIREMENTS

Amend section 6720 to read:

6720. Safety of Employed Persons.

(a) The requirements of this article shall be complied with by the employer for the safety of employees handling pesticides.

(b) When only vertebrate pest control baits, solid fumigants (including aluminum phosphide, magnesium phosphide, and smoke cartridges), insect monitoring traps or non-insecticidal lures are handled, the employer is exempt from the requirements of ~~§~~sections 6730 (Working Alone), 6732 (Change Area), and 6736 (Coveralls).

(c) When antimicrobial agents, used only as sanitizers, disinfectants, or medical sterilants, or pool and spa chemicals are handled, the employer is exempt from complying with the provisions of ~~this subchapter Title 3, California Code of Regulations~~ sections specified below, provided the employer instead complies with any applicable requirements in the following corresponding provisions of Title 8, California Code of Regulations. ~~Where the word "None" appears in the Title 8 column, the employer does not have to comply with the corresponding regulations specified in the Title 3 column.~~

| Title 3, CCR | Title 8, CCR |
|----------------------|--|
| 6700 | 3200 and 3202 |
| 6702 | 3200 and 3203 |
| 6704 | None |
| 6706 | None |
| 6710 | None |
| 6720 | As indicated in this Subsection |
| 6723 | 3203, 3204, and 5194 |
| 6724 | 3203 and 5194 |
| 6726 | 3400 |
| 6728 | None |
| 6730 | None |
| 6732 | 3367 |
| 6734 | 3363 and 3366 |
| 6736 | 3383 |
| 6738 | 3380 through 3385, and 5144 |
| <u>6739</u> | <u>5144</u> |
| 6740 | 3317 |
| 6742 | 5141 |
| 6744 | 3203 and 5194 |
| 6746 | None |
| Article 3 | None |
| Article 4 | None |
| Article 5 | None |
| Article 6 | None |

(d) The provisions of sections 6734 and 6768 (Decontamination), 6726 and 6766 (Emergency Medical Care), 6736 (Coveralls), 6738(b)- ~~(f)(h)~~ (Personal Protective Equipment), ~~6739 (Respiratory Protection)~~, and 6770 (Field Reentry) do not apply to licensed agricultural pest control advisers and registered professional foresters, or employees under their direct supervision, while performing, after the application is completed, crop adviser tasks, including field-checking or scouting, making observations of the well-being of the plants, or taking samples provided:

- (1) They have been trained equivalent to the requirements of section 6724 (licensed agricultural pest control advisers are considered trained for the purposes of this exception); and
- (2) The licensed agricultural pest control adviser or registered professional forester responsible for the direct supervision has:
 - (A) Made specific determinations regarding appropriate personal protective equipment, needed decontamination facilities, and how to safely conduct crop adviser tasks;
 - (B) Informed each employee under his or her direct supervision of the pesticide product and active ingredient(s) applied, method and time of application, the restricted entry interval, and determinations made pursuant to (A) above; and
 - (C) Instructed each employee under his or her direct supervision regarding which tasks to perform and how to contact him or her if the need arises.

(e) The provisions of this ~~S~~ubchapter do not apply to employees handling consumer products packaged for distribution to, and use by, the general public, provided that employee use of the product is not significantly greater than the typical consumer use of the product.

NOTE: Authority cited: Section 12981, Food and Agricultural Code.

Reference: Sections 11501, 12973, 12980 and 12981, Food and Agricultural Code.

Amend section 6738 to read:

6738. Personal Protective Equipment.

...

(g) The employer shall assure that:

(1) When pesticide product labeling or regulations specify a chemical resistant suit, waterproof or impervious pants and coat or a rain suit, a chemical resistant suit that covers the torso, head, arms, and legs is worn.

(2) If the ambient temperature exceeds 80°F during daylight hours or 85°F during nighttime hours (sunset to sunrise), pesticides requiring a chemical resistant suit are not handled by employees unless they are handled pursuant to exceptions and substitutions permitted in ~~(4)(h)~~ or employees use cooled chemical resistant suits or other control methods to maintain an effective working environment at or below 80°F during daylight hours or 85°F during nighttime hours (sunset to sunrise).

~~(h) The employer shall assure that:~~

~~(1) Employees use approved respiratory protective equipment when pesticide product labeling or regulations require respiratory protection or when respiratory protection is needed to maintain employee exposure below an applicable exposure standard found in Title 8, California Code of Regulations, Section 5155.~~

~~(2) Respiratory protection required by these regulations or labeling is currently approved by the National Institute for Occupational Safety and Health (NIOSH) and/or the Mine Safety and Health Administration (MSHA) for the specific chemical and exposure condition. Proper selection of respirators shall be made following pesticide product labeling, or absent specific instruction, according to the guidance of National Standard Practices for Respiratory Protection: Z88.2-1980, or the American National Standard Practices of Respiratory Protection During Fumigation: Z88.3-1983.~~

~~(3) Written operating procedures for selecting, fitting, cleaning and sanitizing, inspecting and maintaining respiratory protective equipment are adopted.~~

~~(4) Employees with facial hair that prevents an adequate seal are not assigned work requiring them to wear a respirator unless they are provided a respirator that does not rely on a face-to-face piece seal for proper operation.~~

~~(5) Respirators maintained for stand by or emergency use are inspected monthly or before use if occasions for possible use are more than one month apart. A record of the most recent inspection shall be maintained on the respirator or its storage container.~~

~~(6)(A) Employees are informed, prior to beginning work, that certain medical conditions may interfere with wearing a respirator while engaged in potential pesticide exposure situations. A~~

~~statement in substantially the following form shall be on file for each employee assigned to work that requires wearing a respirator.~~

~~To the best of my knowledge, I have _____, have no _____ medical conditions which would interfere with wearing a respirator while engaged in potential pesticide exposure situations. I understand that heart disease, high blood pressure, lung disease or presence of a perforated ear drum are examples of conditions that require specific medical evaluation by a physician before safe use of a respirator can be determined.~~

Name _____ Date _____

~~(B) If an employee checks that he or she has such a condition, a physician's report of evaluation and approval for respirator use is on file before work requiring respirator use is allowed. The following or substantially similar statement from a physician is acceptable.~~

~~On _____, I examined _____.~~

~~Date _____ Patient name _____~~
At this time there is no medical contraindication to the employee named above wearing a respirator to allow working in potential pesticide exposure environments. (Other comments)

Physician _____ Date _____

~~(7) Compressed air used in Self Contained Breathing Apparatus (SCBA) or for air line type respirators meets or exceeds the requirements for Grade D breathing air as described in the Compressed Gas Association Commodity Specification G 7.1 (ANSI Z86.1-1973).~~

~~(8) When air purifying type respirators are required for protection against pesticides, the air purifying elements or entire respirator, if disposable, are replaced according to pesticide product labeling directions or respiratory equipment manufacturer recommendations, whichever provides for the most frequent replacement, or, absent any other instructions on service life, at the end of each day's work period. At the first indication of odor, taste, or irritation, the wearer leaves the area and checks the respirator for fit or function concerns or air purifying element replacement.~~

~~(f h) The following exceptions and substitutions to personal protective equipment required by pesticide product labeling or regulations are permitted:~~

~~(1) Persons using a closed system to handle pesticide products with the signal word "DANGER" or "WARNING" may substitute coveralls, chemical resistant gloves, and a chemical resistant apron for personal protective equipment required by pesticide product labeling;~~

~~(2) Persons using a closed system to handle pesticide products with the signal word "CAUTION" may substitute work clothing for personal protective equipment required by pesticide product labeling;~~

~~(3) Persons using a closed system that operates under positive pressure shall wear protective eyewear in addition to the personal protective equipment listed in (1) or (2). Persons using any closed system shall have all personal protective equipment required by pesticide product labeling immediately available for use in an emergency;~~

~~(4) Persons properly mixing pesticides packaged in water soluble packets are considered to be using a closed (mixing) system for the purposes of this subsection;~~

(5) Persons occupying an enclosed cab (including cockpit) may substitute work clothing for personal protective equipment required by pesticide product labeling. If respiratory protection is required it must be worn, except in an enclosed cockpit;

(6) Persons occupying an enclosed cab acceptable for respiratory protection may substitute work clothing for personal protective equipment required by pesticide product labeling;

(7) Persons working in an enclosed cab, as specified in (5) and (6), other than an aircraft, shall have all personal protective equipment required by pesticide product labeling immediately available and stored in a chemical resistant container, such as a plastic bag. Labeling-required personal protective equipment shall be worn if it is necessary to work outside the cab and contact pesticide treated surfaces in the treated area. Once personal protective equipment is worn in the treated area, it shall be removed and stored in a chemical resistant container, such as a plastic bag, before reentering the cab;

(8) A chemical resistant suit may be substituted for coveralls and/or a chemical resistant apron; and

(9) Pest control aircraft pilots are not required to wear gloves during operation but gloves shall be worn by any person entering or exiting an aircraft contaminated with pesticide residues. While in the cockpit, gloves shall be carried in a chemical resistant container, such as a plastic bag.

~~INFORMATIONAL NOTE FOR Section 6738(e): ANSI Z86.1 specifies in summary: Oxygen 19.5 to 23.5%, Hydrocarbons less than 5 mg/m³ at normal temperature and pressure, Carbon Monoxide less than 20 ppm, no pronounced odor, Carbon Dioxide less than 1000 ppm.~~

NOTE: Authority cited: Sections 11456 and 12981, Food and Agricultural Code. Reference: Sections 12980 and 12981, Food and Agricultural Code.

Adopt section 6739 to read:

6739. Respiratory Protection.

(a) General Requirements.

(1) The employer shall assure that:

(A) Employees use approved respiratory equipment in compliance with this regulation when handling pesticides where respirators are required by label, restricted material permit condition, or regulation.

(2) In any workplace where respirators are required by label, restricted material permit condition, regulation, or employer, the employer shall establish a written respiratory protection program with work site-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions, as applicable:

(A) Procedures for selecting respirators for use in the workplace;

(B) Medical evaluations of employees required to use respirators;

(C) Fit testing procedures for tight-fitting respirators;

(D) Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;

(E) Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;

(F) Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;

(G) Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations, including Immediately Dangerous to Life or Health (IDLH) atmospheres, if appropriate;

(H) Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and

(I) Procedures for evaluating the effectiveness of the program pursuant to subsections (n)(1) and (2).

1. The respirator program administrator shall administer the respiratory protection program in compliance with this section.

2. The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(b) Voluntary Respirator Provision.

(1) An employer may provide respirators at the request of employees or permit employees to use their own respirators for use on a voluntary basis, if the employer determines that such respirator use will not in itself create a hazard.

(2) If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in subsection (r) and display this information alongside the display of either the Hazard Communication Information for Employees Handling Pesticides in Agricultural Settings (Pesticide Safety Information Series leaflet A-8), or Hazard Communication Information for Employees Handling Pesticides in Noncrop Settings (Pesticide Safety Information Series leaflet N-8), at a central location in the workplace.

(3) Under the employer-supplied voluntary respirator provision, the employer shall establish and implement the provisions of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Employers are not required to include a written respiratory protection program for those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

(A) The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(c) Selection of Respirators. The employer shall select and provide an appropriate respirator certified by the National Institute for Occupational Safety and Health (NIOSH) based on the respiratory hazard(s) and relevant workplace and user factors to which the worker is exposed; and the appropriate pesticide label, restricted materials permit condition, regulation, or employer requirements, whichever is most protective.

(1) The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

(2) Fumigant-confining structures shall be considered IDLH atmosphere unless proven not to be by appropriate measuring devices as to that chemical. The employer shall provide the following respirators for employee use in IDLH atmospheres:

(A) A full facepiece pressure demand self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes, or

(B) A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

(C) Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

(d) Medical Evaluation. The employer shall ensure a medical evaluation is conducted to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

(1) Medical Evaluation Procedures.

(A) The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using the medical questionnaire in subsection (q) or an equivalent form or an initial medical examination that obtains the same information as the medical questionnaire.

(B) The medical evaluation shall obtain the information requested by the questionnaire in subsection (q), sections 1 and 2.

(2) Follow-up Medical Examination.

(A) The employer shall ensure that a follow-up medical examination is provided when a PLHCP determines that there is a need for a follow-up medical examination.

(B) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

(3) Administration of the Medical Questionnaire and Examinations.

(A) The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

(B) The employer shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

(4) Supplemental Information for the PLHCP.

(A) The employer shall provide the following information to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

1. The type and weight of the respirator to be used by the employee;
2. The duration and frequency of respirator use (including use for rescue and escape);
3. The expected physical work effort;
4. Additional protective clothing and equipment to be worn; and
5. Temperature and humidity extremes that may be encountered.

(B) The employer shall not be required to provide any supplemental information provided previously to the PLHCP regarding an employee for a subsequent medical evaluation if the information and the PLHCP remain the same. When the employer replaces a PLHCP, the employer shall ensure that the new PLHCP obtains the information specified in (4)(A)1-5 by having the documents transferred from the former PLHCP to the new PLHCP. Employers are not required to have employees medically reevaluated solely because a new PLHCP has been selected.

(C) The employer shall provide the PLHCP with a copy of the written respiratory protection program and a copy of this section.

(5) Medical Determination.

(A) The employer shall obtain a written medical recommendation from the PLHCP regarding the employee's ability to use the respirator. The written medical recommendation shall be provided on the form in subsection (s) or provide substantially the same information as follows:

1. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
2. The need, if any, for follow-up medical evaluations; and
3. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written medical recommendation.

(B) If a negative pressure respirator is to be used and the PLHCP finds a medical condition that may place the employee's health at increased risk, the employer shall either provide a powered air purifying respirator (PAPR) provided the PLHCP's medical evaluation finds that the employee can use such a respirator or make changes in the workplace such that respiratory protection is not required. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer shall no longer be required to provide a PAPR.

(6) Additional Medical Evaluations. The employer shall provide additional medical evaluations that comply with the requirements of this section if:

- (A) An employee reports medical signs or symptoms that are related to their ability to use a respirator;
- (B) A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
- (C) Information from the respiratory protection program administrator, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- (D) A change occurs in workplace conditions including, but not limited to, physical work effort, protective clothing, or temperature, that may result in a substantial increase in the physiological burden placed on an employee.

(e) Fit Testing. The employer shall assure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT).

(1) The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

(2) The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or respirator program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

(3) If after passing a QLFT or QNFT, the employee subsequently notifies the employer, PLHCP, supervisor, or respirator program administrator that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.

(4) The fit test shall be administered using either the Cal/OSHA-accepted QLFT or QNFT protocols (Title 8, California Code of Regulations, section 5144, Appendix A), or as recommended by the manufacturer of the respirator, if such recommendations are in accordance with Title 8 CCR section 5144, Appendix A, Part II. QLFT is acceptable for all negative-pressure tight-fitting half or full facepiece respirators used in the application of pesticides.

(5) If the fit factor, as determined through a Cal/OSHA-accepted QNFT protocol (Title 8, California Code of Regulations, section 5144, Appendix A), is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

(6) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

(A) Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

(B) Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

(C) Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

(f) Facepiece Seal Protection. A respirator that requires a tight face-to-facepiece seal shall not have any interference with the establishment of this seal. The employer shall ensure that:

(1) Employees shall not wear a respirator with a tight-fitting facepiece if:

(A) Facial hair comes between the sealing surface of the facepiece and the face or interferes with valve function; or

(B) Any physical or mental condition interferes with the face-to-facepiece seal or valve function.

(2) Corrective glasses or goggles or other personal protective equipment worn by an employee do not interfere with the face-to-facepiece seal.

(3) Employees perform a user seal check each time they put on the respirator using the Cal/OSHA procedures (Title 8, California Code of Regulations, section 5144, Appendix B-1) or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in the Cal/OSHA procedures when using tight-fitting respirators.

(4) Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the employer shall reevaluate the continued effectiveness of the respirator.

(5) Employees shall leave the contaminated area:

(A) To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use;

(B) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or

(C) To replace or adjust the respirator or the filter, cartridge, or canister elements.

(6) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the employer shall replace or repair the respirator before allowing the employee to return to the work area.

(g) Procedures for Immediately Dangerous to Life or Health (IDLH) Atmospheres. Fumigant-confining structures shall be considered IDLH atmosphere unless proven not to be by appropriate measuring devices. For all IDLH atmospheres, the employer shall assure that:

(1) One employee, or when needed pursuant to (2), more than one employee is located outside the IDLH atmosphere;

(2) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;

(3) The employee(s) located outside the IDLH atmosphere is trained and equipped to provide effective emergency rescue;

(4) The employee(s) located outside the IDLH atmosphere notifies the employer or designee, and/or calls 9-1-1 before entering the IDLH atmosphere to provide emergency rescue. Once notified, the employer or designee authorized to do so by the employer, shall provide necessary assistance appropriate to the situation; and

(5) Employee(s) located outside the IDLH atmospheres is equipped with:

(A) Pressure demand or other positive pressure self-contained breathing apparatus (SCBA), or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and if necessary,

(B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry.

(h) Cleaning and Disinfecting. The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures recommended by the respirator manufacturer. If the manufacturer requires a cleaning agent that does not contain a disinfectant, the respirator components shall be disinfected with a registered disinfectant approved for such use. The employer shall assure that:

(1) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

(2) Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(3) Respirators that are collected and reissued for use of any employee shall be cleaned and disinfected before reissued.

(4) Respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

(i) Storage of Emergency Respirators. Emergency respirators shall be:

(1) Stored immediately accessible to the work area.

(2) Stored in compartments or in covers that are clearly marked as containing emergency respirators.

(3) Stored in accordance with any applicable manufacturer instructions.

(4) Stored in such a location as to be safely accessible for use if conditions develop requiring utilization of emergency respiratory protection.

(j) Inspection and Repair.

(1) The employer shall ensure that all respirators are inspected before each use and during cleaning, and that:

(A) Routine-use respirator inspections include the following:

1. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters;

2. A check of elastomeric parts for pliability and signs of deterioration; and

3. SCBA air cylinders are checked to ensure that they are recharged when the pressure falls to 80 percent of the manufacturer's recommended pressure level by the end of any workday.

(B) Emergency-use respirators are also inspected at least monthly according to the routine-use inspection criteria, and in accordance with the manufacturer's recommendations. For escape-only respirators, also conduct inspection before being brought into the workplace for use. For both emergency use and escape-only respirators, inspections shall include the following:

1. A check for proper function before and after each use;

2. Certify by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and that this information is included on a tag or label that is attached to the storage compartment for the respirator or is kept with the respirator. This information shall be maintained until replaced following a subsequent certification;

3. A check for properly functioning SCBA regulator and warning devices; and

4. SCBA air cylinders are checked to ensure that they are maintained at 100 percent manufacturer's recommended capacity.

(2) The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective shall be removed from service, and discarded, repaired, or adjusted in accordance with the following procedures:

(A) Repairs or adjustments to respirators shall be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

(B) Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

(C) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

(k) Breathing Air Quality and Use. The employer shall ensure:

(1) Compressed breathing air suppliers meet at least the requirements for Grade D breathing air described by the Compressed Gas Association (CGA) Commodity Specification for Air, G-7.1-1997 and certify such with a Certificate of Analysis (original or copy) from the supplier.

(2) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 Code of Federal Regulation part 173 and part 178).

(3) Compressors used to supply breathing air to respirators are constructed and situated so as to conform to Title 8, California Code of Regulations, section 5144.

(l) Identification of Filters, Cartridges, and Canisters. The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color-coded with the NIOSH approval label. The label shall remain legible and not be removed.

(m) Training and Information. In addition to the training requirements specified in section 6724, the employer shall ensure that:

- (1) Each employee can demonstrate knowledge of at least the following:
 - (A) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
 - (B) What the limitations and capabilities of the respirator are;
 - (C) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
 - (D) How to inspect, put on and remove, use, and check the seals of the respirator;
 - (E) What the procedures are for maintenance and storage of the respirator;
 - (F) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
 - (G) The general requirements of this section.
- (2) Training shall be conducted in a manner that is understandable to the employee.
- (3) Training is provided prior to requiring the employee to use a respirator in the workplace.
- (4) A new employee who has received training within the last 12 months that addresses the elements specified in subsection (m)(1)(A) through (G) is not required to repeat such training provided that, as required by subsection (m)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.
- (5) Retraining shall be administered annually, and when the following situations occur:
 - (A) Changes in the workplace or the type of respirator render previous training obsolete;
 - (B) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
 - (C) Any other situation arises in which retraining appears necessary to ensure safe respirator use.
- (6) The basic advisory information on respirators specified in (r) is provided in any written or oral format to employees who wear respirators when such use is not required by label, restricted materials permit condition, regulation, or by the employer.

(n) Program Evaluation.

- (1) The employer shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective as required by this section.
- (2) The employer shall annually consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:
 - (A) Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
 - (B) Appropriate respirator selection for the pesticides to which the employee is exposed;
 - (C) Proper respirator use under the workplace conditions the employee encounters; and
 - (D) Proper respirator maintenance.
- (3) A written record of these evaluations and consultations shall be documented and at least contain:
 - (A) Name of workers consulted.
 - (B) Date of evaluation/consultation.

(C) Description of any finding from the evaluation or consultation requiring modification of written respiratory protection program or a declaration of no findings.

(4) Any findings from either the employer evaluation or the employee consultation that necessitate the modification to the written respiratory protection program shall be implemented within 30 days from the date of the evaluation/consultation.

(o) End-of-Service Life. When air-purifying respirators are required for protection against pesticides, the employer shall ensure that air-purifying elements (or entire respirator, if disposable type) shall be replaced according to the following hierarchically arranged criteria:

(1) At the first indication of odor, taste, or irritation while in use, the respirator wearer leaves the contaminated area, adjusts the mask for fit and on returning still encounters odor, taste, or irritation. This criterion item supercedes any of the criteria listed in (2)-(6).

(2) When any End-of-Service-Life-Indicator (ESLI) indicates that the respirator has reached its end of service;

(3) All disposable filtering facepiece respirators shall be discarded at the end of the workday;

(4) According to pesticide-specific label directions/recommendations;

(5) According to pesticide-specific directions from the respirator manufacturer;

(6) Absent any pesticide-specific directions/recommendations, at the end of the day's work period;

(p) Recordkeeping. The employer shall retain written information regarding medical recommendations, fit testing, and the respirator program.

(1) Records required by this section shall be maintained while the employee is required to use respiratory protection and for three years after the end of employment conditions requiring respiratory protection and shall be available for inspection by the employee, the Director, or commissioner.

(2) Fit testing.

(A) The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

1. The name or identification of the employee tested;

2. Type of fit test performed;

3. Specific make, model, style, and size of respirator tested;

4. Date of test; and

5. The pass/fail results for qualitative fit testing or the fit factor and strip chart recording or other recording of the test results for QNFTs.

(3) A written copy of the current respirator program shall be retained by the employer.

Previous versions of the written respirator protection program shall be retained for three years.

(4) Written information required to be retained under this subsection shall be made available upon request to employees falling under the respiratory protection program and to the commissioner or persons designated by the Director for review and copying.

(q) Medical Evaluation Questionnaire. The completion of this form, or a form that obtains the same information as the medical questionnaire to the DEPARTMENT OF PESTICIDE REGULATION, by each respirator wearing employee; and the review of the completed form by a physician or licensed health care provider, is mandatory for all employees whose work activities require the wearing of respiratory protection.

The medical evaluation questionnaire shall be administered in a manner that ensures that the employee understands the document and its content. The person administering the questionnaire

shall offer to read or explain any part of the questionnaire to the employee in a language and manner the employee understands. After giving the employee the questionnaire, the person administering the questionnaire shall ask the following question of the employee: "Can you read and complete this questionnaire?" If the answer is affirmative, the employee shall be allowed to confidentially complete the questionnaire. If the answer is negative, the employer must provide either a copy of the questionnaire in a language understood by the employee or a confidential reader, in the primarily understood language of the employee.

To the employee:

Can you read (circle): Yes/No (This question to be asked orally by employer. If yes, employee may continue with answering form. If no, employer must provide a confidential reader, in the primarily understood language of the employee.)

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.

Section 1. (Mandatory, no variance in this format allowed) Every employee who has been selected to use any type of respirator must provide the following information (please print):¹

1. Today's date: _____/_____/_____

2. Your name: _____

3. Your age: _____

4. Sex (circle one): Male/Female

5. Your height: _____ ft. _____ in.

6. Your weight: _____ lbs.

7. Your job title: _____

8. How can you be reached by the health care professional who reviews this questionnaire?

9. If by phone, the best time to call is Morning/Afternoon/Evening/Night at:
(include the area code): _____ - _____ - _____

¹ Subsection (q) [Section 1. (1-9)] contains "blank underlines" as part of the questionnaire. These should be underlined to indicate proposed additions; however, for easier reading it has been omitted.

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, noncartridge type only).
- b. Half-face respirator (particulate or vapor filtering or both)
- c. Full-face respirator (particulate or vapor filtering or both)
- d. Powered air purifying respirator (PAPR)
- e. Self contained breathing apparatus (SCBA)
- f. Supplied air respirator (SAR)
- g. Other

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

If "yes," what type(s):

- a. N, R, or P disposable respirator (filter-mask, noncartridge type only).
- b. Half-face respirator (particulate or vapor filtering or both)
- c. Full-face respirator (particulate or vapor filtering or both)
- d. Powered air purifying respirator (PAPR)
- e. Self contained breathing apparatus (SCBA)
- f. Supplied air respirator (SAR)
- g. Other

Section 2. (Mandatory) Every employee who has been selected to use any type of respirator must answer questions 1 through 8 below (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. Allergic reactions that interfere with your breathing: Yes/No
- c. Claustrophobia (fear of closed-in places): Yes/No
- d. Trouble smelling odors: Yes/No/Do not know
- e. Diabetes (sugar disease): Yes/No/Do not know

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 have 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 (pain in chest): Yes/No
 - d. Heart failure: Yes/No
 - e. Swelling in your legs or feet (not caused by walking): Yes/No
 - f. Irregular heart beat (an arrhythmia): Yes/No/Do not know
 - g. High blood pressure: Yes/No/Do not know
 - h. Any other heart problem that you have 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?
 - 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 have used a respirator, have you ever had any of the following problems?

(If you have 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. Breathing difficulty: Yes/No
- f. 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 10-15 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 and 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. Difficulty 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

At the discretion of the PLHCP, if further information is required to ascertain the employee's health status and suitability for wearing respiratory protection, the PLHPC may include and require the questionnaire found in Title 8, California Code of Regulations, section 5144, Appendix C, Part B, Questions 1-19.

(r) Voluntary Respirator Provision Information. The employer shall ensure that the following information is provided to employees who voluntarily wear a respirator when not required to do so by label, restricted materials permit condition, regulation, or employer.

Information for Employees Using Respirators When Not Required By Label or Restricted Material Permit Conditions or Regulation.

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use, even when exposures are below the exposure limit, may provide an additional level of comfort and perceived 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 or Department of Pesticide Regulation guidelines. 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 follow 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.
5. Air filtering respirators DO NOT supply oxygen. Do not use in situations where the oxygen levels are questionable or unknown.

(s) Medical Recommendation Form. A physician or other licensed health care professional's report of evaluation and approval for respirator use must be on file with the employer before work requiring respirator use is allowed. The following or substantially similar statement from a physician is acceptable:²

On _____, I evaluated _____.
Date _____ Patient's name _____

At this time there (are)/(are not) medical contraindications to the employee named above wearing a respirator while working in potential pesticide exposure environments. The patient (does)/(does not) require further medical evaluation at this time. Any restrictions to wearing a respirator or to the type of respiratory protection are given below.

I have provided the above-named patient with a copy of this form.

Physician

Date

INFORMATIONAL NOTE for section 6739: Employers requiring employees to enter oxygen-deficient atmospheres shall conform to respiratory protection requirements in Title 8, California Code of Regulations, section 5144. Oxygen-deficient atmospheres contain less than 19.5 percent oxygen by volume.

NOTE: Authority cited: Sections 11456 and 12981, Food and Agricultural Code. Reference: Sections 12980 and 12981, Food and Agricultural Code.

² Subsection (s) contains "blank underlines" as part of the form. These should be underlined to indicate proposed additions; however, for easier reading it has been omitted.

ARTICLE 5. MINIMAL EXPOSURE PESTICIDES

Amend section 6793 to read:

6793. Minimal Exposure Pesticide Safety Use Requirements.

...

(e) The employer shall provide and require employees to wear full-body, chemical-resistant protective clothing, as specified in subsections 6738(d) (g), when handling minimal exposure pesticides. Employees working in the following situations are not required by this subsection to wear chemical-resistant, full-body protective clothing, but this clothing shall be present at the work site:

- (1) employees using a closed system, or sealed water soluble packets, while mixing, loading, or transferring these pesticides. These employees shall wear a chemical-resistant apron, chemical-resistant gloves, and chemical-resistant boots;
- (2) employees working as applicators in enclosed cabs;
- (3) employees working as flaggers in enclosed vehicles;
- (4) applicators using vehicle-mounted or towed equipment to inject or incorporate these pesticides into the soil; and
- (5) applicators using equipment with vehicle-mounted spray nozzles directed downward and located below the level of the employee.

(f) The employer shall provide and require employees to wear respiratory protection, as specified in section 6738(e)-6739, when engaged in:

- (1) Hand application or ground application of minimal exposure pesticides, except:
 - (A) (Reserved);
 - (B) Applicators using vehicle-mounted or towed equipment to inject or incorporate these pesticides into the soil; and
 - (C) Applicators using equipment with vehicle-mounted spray nozzles directed downward and located below the level of the employee;
- (2) Flagging during an application of a minimal exposure pesticide, except flaggers in enclosed vehicles; and
- (3) Mixing or loading dry formulations of minimal exposure pesticides, except mixers or loaders using sealed water-soluble packets.

(g) All protective clothing and equipment shall be cleaned inside and out or discarded at the end of the day's use.

NOTE: Authority cited: Sections 11456 and 12981, Food and Agricultural Code. Reference: Sections 12980 and 12981, Food and Agricultural Code.

Documentation of the Meaning and Scope Of PLHCP

Following documents are guidance documents as to the meaning of “Physician and other Licensed Heath Care Provider”. All documentation is from Fed/OSHA unless otherwise stated.

August 3, 1998

MEMORANDUM TO: ALL REGIONAL ADMINISTRATORS
FROM: JOHN B.MILES JR., DIRECTOR
SUBJECT: QUESTIONS AND ANSWERS ON THE RESPIRATORY
PROTECTION STANDARD

The purpose of this memorandum is to provide the Regional Offices with a copy of the Question and Answers on the Respiratory Protection Standard (Q and A document.) It is intended to provide guidance to the field on topics relating to the Respiratory Protection Standard, 29 CFR 1910.134. This document will be useful to assist the staff in the Area Offices to answer most of most frequently asked questions.

The Q and A provides a series of questions and answers on each paragraph of the revised standard. The document includes four “attachments” that the compliance staff can use for outreach to employers. The attachments include a Spanish translation of Appendix D, a respirator-use flowchart, addresses and phone numbers of State Licensing Boards, and a “usable” copy of the Medical Questionnaire, both in English and Spanish.

The National Office will issue a Compliance Directive on the Respirator standard. The Directive will include inspection and citation guidance to ensure uniform enforcement of the respiratory standard as well as interpretations of the standard.

QUESTIONS AND ANSWERS ON THE RESPIRATORY PROTECTION STANDARD

Note: The page numbers referenced at the end of some of the Questions refer to specific pages in the January 8, 1998, Federal Register, Volume 63, No. 5.

(Revised August 17, 1998)

Paragraph (b): Definitions

Physician or Other Licensed Health Care Professional (PLHCP)

Q. Is a licensed vocational or practical nurse, (LVN or LPN) and/or Registered Nurse, (RN) considered a PLHCP and qualified to review the employee medical evaluation questionnaire? (FR p.1186)

A. The OSHA standard requires the Health Care Professional to be legally permitted to provide the healthcare services required by paragraph (e). It is state law that determines the legal scope of practice. Licensing rules vary from state to state.

Paragraph (e): Medical Evaluations

(e)(2)(i)

Q. Are physicians the only medical professionals allowed to perform medical evaluations for respirator use? (FR p.1211)

A. No. A variety of health care professionals may do this depending on the scope of practice permitted by the state's licensing, registration, or certification agencies. Each employer must check with the state-licensing agency to see if other health care professionals under their state law can independently perform this evaluation, or must do so under the direction of a licensed physician. Attached to this document is a phone listing of all the State Licensing Boards in the United States, to assist in determining compliance with this provision.

Q. Can a nurse who does not meet the qualifications of a PLHCP assess a questionnaire? (FR p. 1212)

A. A nurse not otherwise qualified to be the PLHCP can perform some tasks, such as distributing the questionnaire, respond to some questions such as providing advice to employees on where they can obtain assistance in understanding or reading the questions, and gathering the completed forms in preparation for delivery to the PLHCP. If the nurse is working under the direction of a physician (or other PLHCP consistent with state law) who will perform the final review of the assessment, then this arrangement is acceptable.

(e)(3)(i)

Q. Who determines the scope and form of the medical evaluation if an employee gives a positive response to questions 1 through 8 in Section 2, Part A of the questionnaire? (FR 1214)

A. The PLHCP makes this determination. The PLHCP is also expected to refer the employee to a physician if warranted.

Q. If there is a single positive response on the questionnaire, does that automatically require a face-to-face visit with the PLHCP? (FR p. 1214)

A. No, the scope of the medical evaluation is left to the discretion and professional judgment of the PLHCP. There may be occasions where all that is needed is clarification of an issue by telephone.

(e)(3)(ii)

Q. If a PLHCPs scope of practice is limited to questionnaire evaluation or a basic physical exam, can that PLHCP still be used even though further testing and decision making may be necessary? (FR p.1214)

A. Yes. In some cases where medical issues arise that are beyond the scope of the PLHCP's license, the remainder of the evaluation will need to involve a physician or other authorized health care professional (for example, conducted under the direction of a physician).

Q. Does the medical questionnaire have to be administered by a PLHCP? (FR 1214-1215)

A. While the employee must be able to discuss the results of the questionnaire with the PLHCP, the standard does not specify the qualifications of the individual who administers the medical questionnaire.

California Board of Registered Nursing

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SMALL ENTITY COMPLIANCE GUIDE

For the Revised Respiratory Protection Standard
Prepared for the Department of Labor
Directorate of Health Standards Programs
Occupational Safety and Health Administration
Sept 30, 1998

(e)(2) MEDICAL EVALUATION PROCEDURES

This portion of the standard specifies that the medical evaluation can be performed by using a medical questionnaire or by an initial medical examination that obtains the same information as the medical questionnaire.

Identification of a Medical Professional

Employers must identify a physician or another licensed health care professional (PLHCP) to perform the medical evaluations.

Who can perform a medical evaluation?

Physicians are not the only health care professionals allowed to perform medical evaluations for respirator use. The Respiratory Protection standard allows any PLHCP to administer the medical questionnaire (described below) or to conduct the medical examination if doing so is within the scope of the PLHCP's license. You must check with PLHCPs in your local area to see if performing the medical evaluation is within the scope of their professional license. Or you may check with your state licensing board. Appendix IV, Questions and Answers on the Respiratory Protection standard, lists state Small Entity Compliance Guide licensing boards.

Can a nurse perform a medical evaluation?

Any health care professional, including a nurse, who qualifies as a PLHCP can perform a medical evaluation. If a nurse does not qualify as a PLHCP, he or she may still be able to perform a medical evaluation if he or she is doing so under the supervision of a physician, and the physician performs the final review of the assessment.

The Occupational Health Professional's Services and Qualifications: Questions and Answers

USDOL

OSHA

OSHA Doc #3160 (Revised 1999)

(PAGE 5)

WHO ARE QUALIFIED OCCUPATIONAL HEALTH CARE PROFESSIONALS?

Physicians, physician assistants, and registered nurses, including nurse practitioners, receive standardized educations with core curricula (individualized to their profession) necessary to pass national or state boards and to be licensed in a particular state. Physicians and registered nurses are then eligible to become certified in a specialty practice, such as occupational medicine (physicians and physician assistants) or occupational health nursing (registered nurses and nurse practitioners), through a combination of additional specific education and experience. The additional educational training in occupational health typically includes course work in epidemiology, toxicology, industrial hygiene, recognition and management of occupational illnesses and injuries, research, and general management of a comprehensive occupational health program.

Physicians

Medical Doctors (MDs) have completed study at the college level and training at an accredited school. Licensed MDs have passed the National Medical Board Exam or equivalent examinations and have a license to practice within a given state(s).

Doctors of Osteopathy (DOs) graduate from college and an osteopathic school approved by the American Osteopathic Association. They must pass a state board examination to qualify for a license to practice within a given state(s).

Occupational Medicine Physicians are medical doctors or doctors of osteopathy who have completed additional occupational medicine training or acquired on-site experience. Completion of additional residency training and further practice in occupational medicine enables physicians to pursue certification in occupational medicine after meeting rigorous qualifying standards and successfully completing an examination in occupational medicine given by the American Board of Preventive Medicine (ABPM).

Registered Nurses

Registered Nurses (RNs) receive training and education at the college level and graduate from a state-approved school of nursing. They pass a state board examination and are granted a license to practice within a given state(s).

Nurse Practitioners (NPs) are registered nurses who are licensed in their state and have completed formal advanced education, usually at the master's level. NPs practice under their state *Nurse Practice Act*. Some NPs are certified in occupational health as a specialty area. NPs independently perform many health evaluation and care activities—including physical exams, common diagnostic and laboratory tests—and diagnose and treat employees who are ill or injured. They also can prescribe medications in most states. Additionally, NPs work collaboratively with physicians.

Occupational Health Nurses (OHNs) are registered nurses and nurse practitioners with experience and additional education in occupational health. Certified occupational health nurses (COHN or COHN-S) obtain certification from the American Board for Occupational Health Nurses after meeting rigorous qualifying educational and experience standards and successfully passing an occupational health nursing examination.

Physician Assistants

Physician Assistants (PAs) provide services with the supervision of a doctor of medicine or osteopathy. PAs may perform physical examinations, diagnose and treat illnesses, order and interpret tests, prescribe medications in most states, and plan and implement therapeutic interventions. PAs must graduate from an accredited physician assistant's program, pass a national certification exam, and be licensed by the state. Some PAs specialize in occupational medicine.

Other Health Care Providers

Other health care providers include licensed practical or vocational nurses and emergency medical technicians. Traditionally, these individuals are **not** licensed to practice independently. They have specific training and are usually certified or licensed by the educational institution where they received the training. Sometimes the state licenses or certifies these providers and usually the state's scope of practice outlines the specific work restrictions for these individuals. For example, usually these providers are required to work under the supervision of, or implement orders given by, licensed health care professionals such as MDs, DOs, RNs, PAs, and NPs, except when delivering first aid.

Licensed Practical/Vocational Nurses (LPN/LVNs) graduate from a program of practical nursing and must pass the state board examination. They are licensed by the state to perform certain specific health care activities, under the direct supervision of a physician or registered nurse.

Emergency Medical Technicians/Paramedics (EMTs) are prehospital providers trained to provide specific and limited emergency care. Some EMTs receive advanced training to become paramedics, which allows them to perform more advanced emergency procedures. EMTs are authorized to perform their duties by standing orders or protocols from physicians. They respond primarily to injuries and acute illnesses on a temporary basis and are **not** independently licensed to provide other medical care.

In Summary

Can independently provide evaluation of Medical Questionnaire/Physical Examination for ability of worker to wear respiratory protection:

Physician

- Medical Doctors
- Doctors of Osteopathy
- Occupational Medicine Physicians

Registered Nurses

- Registered Nurses
- Nurse Practitioners
- Occupational Health Nurses

Cannot independently provide evaluation of Medical Questionnaire/Physical Examination for ability of worker to wear respiratory protection:

- Physician Assistants
- Licensed Practical Nurses
- Licensed Vocational Nurses
- Emergency Medical Technicians

Paramedics



***SMALL ENTITY COMPLIANCE GUIDE
FOR THE
REVISED RESPIRATORY PROTECTION STANDARD***

PREPARED FOR:
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Small Entity Compliance Guide

INTRODUCTION

This guide is intended to help small businesses comply with the Respiratory Protection standard. It provides guidance only, and does not alter or determine compliance responsibilities, which are set forth in Occupational Safety and Health Administration (OSHA) standards and the Occupational Safety and Health Act. The guide does not replace the official Respiratory Protection standard (29 CFR 1910.134), which is contained in Appendix I of this document. The reader must refer to the standard to ensure compliance. Moreover, because interpretations and enforcement policy may change over time, for additional guidance on OSHA compliance requirements, the reader should consult current administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the courts.

The Respiratory Protection standard will protect an estimated 5 million respirator wearers working in 1.3 million workplaces. OSHA estimates that compliance with the standard will prevent hundreds of deaths and thousands of illnesses in U.S. workplaces each year.

The Respiratory Protection standard specifies only the minimum requirements for an effective respiratory protection program. You are encouraged to exceed these minimum criteria if doing so enhances the safety and health of your employees.

In 21 states and two territories, occupational respiratory requirements are enforced by the state agency responsible for the OSHA-approved state plan. These states are: Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington and Wyoming. New York and Connecticut also operate OSHA-approved state plans limited in scope to state and local government employees.

State plans are required to adopt and enforce respiratory protection standards that are either identical to or at least as effective as the federal standard. These states are also required to extend the coverage of their respiratory protection standard to state and local government employees, including paid, and in some states, volunteer, firefighters, who are otherwise not covered by the federal standard. The information in this guide should be equally applicable to you if you are located in a state plan state, although you should check to see if there are any unique or additional requirements that may apply. (A list of phone numbers and addresses for the state programs is included in Appendix II.)

Who should read this guide?

You should read this guide if it is likely that you will need to establish and implement a respiratory protection program for your business. Under the Respiratory Protection standard, OSHA may require you to establish a respiratory protection program when exposure to an airborne contaminant or to low oxygen levels can cause illness or injury to

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a worker's health, and when these health effects can be prevented by the appropriate selection and use of a respirator.

How do I use this guide?

The guide is divided into chapters that correspond to the major provisions, or paragraphs, of the Respiratory Protection standard (e.g. respirator selection—paragraph (d), fit testing—paragraph (f)). Each chapter follows the same organization as the corresponding paragraph of the standard, providing more detail than the standard itself to help you better understand the requirements. Standard citations (e.g. (d)(3)(ii)) are provided in the margins to enable you to refer from the explanations provided in this guide to the original standard, which is included in Appendix I. Checklists are provided at the end of each chapter.

In addition, Appendix III of this document contains *Questions and Answers on the Respiratory Protection standard (Q&A)*. If you do not find the answers to your particular questions in this document, check the *Q&A*.

Appendix IV of this guide contains a sample respiratory protection program. This sample program was written for a hypothetical company to provide an example of how the requirements of the Respiratory Protection standard may be appropriately implemented. Keep in mind that there is often more than one way to implement certain requirements of the standard in a particular workplace setting.

What is a respirator?

Respirators are devices that protect workers from inhaling harmful substances. These substances can be in the form of airborne vapors, gases, dust, fogs, fumes, mists, smokes, or sprays. Some respirators also ensure that workers do not breathe air that contains dangerously low levels of oxygen.

There are two major types of respirators:

1. Air-purifying respirators, which remove contaminants from the air.
2. Atmosphere-supplying respirators, which provide clean air from an uncontaminated source.

Respirators provide protection from respiratory hazards only when they are used properly.

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Atmosphere supplying respirator



Air-purifying respirator

What is a respiratory protection program?

A respiratory protection program is a cohesive collection of worksite-specific procedures and policies that addresses all respiratory protection elements required by the standard. For example, a respiratory protection program must contain specific procedures describing how respirators will be selected, fitted, used, maintained and inspected in a particular workplace. Chapter (c) of this guide contains more information on respiratory protection programs.

When am I required to establish a respiratory protection program?

Generally, whenever you or OSHA requires your employees to wear respirators. For example, you may need to establish a respiratory protection program:

- If your employees work in situations where the level of oxygen is insufficient, or potentially insufficient.
- If your employees are potentially exposed to harmful levels of hazardous gases or vapors.
- If your employees are exposed to other potential respiratory hazards, such as dust, mists, fumes, sprays, and other airborne particles.

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You need to supply workers with respirators when all preferred methods of protecting them from breathing contaminated air have been determined to be insufficient to reduce the contamination to nonhazardous levels. You must consider the potential for emergencies when making this determination. These preferred methods include:

- Engineering controls, such as ventilation.
- Substituting non-hazardous materials for the materials that pose respiratory hazards.
- Administrative controls, such as scheduling major maintenance for weekends or times when few workers are present.

If you have any questions about when to supply your employees with respirators, refer to the standard in Appendix I.

What is OSHA's Respiratory Protection standard?

The Respiratory Protection standard requires employers to establish and maintain a respiratory protection program to protect their respirator-wearing workers. OSHA has issued a revised standard, which became effective on October 5, 1998. It updates and replaces a standard that OSHA adopted in 1971. (The complete text of the revised standard is included in Appendix I.)

The revised standard incorporates new scientific principles and technologies that have emerged since 1971. Because of advances in technology, many areas covered by the previous standard had become outdated.

The new standard is intended to:

- Enhance the protection of worker health.
- Promote more effective use of respirators.
- Make it easier for you to comply with its provisions.
- Make it easier to understand the policy and procedures you must follow when implementing a respiratory protection program.

How does the new standard differ from the old standard that it replaces?

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The new standard:

- Contains new provisions that recognize the needs of small businesses.
- Requires written respiratory protection programs to include work-site specific procedures. (*See Section (c) of this guide.*)
- Requires that a qualified "program administrator" oversee the respiratory protection program. (*See page c-5 of this guide.*)
- Provides:
 - Definitions that will eliminate confusion about terminology and how these terms apply to respirators and their use. (*See Section (b) of the standard in Appendix I.*)
 - Criteria for selecting respirators. (*See Section (d) of this guide.*)
 - Clear language on the requirement for medical examinations of workers and the use of medical questionnaires. (*See Section (e) of this guide.*)
- Requires employers to perform a hazard determination to identify respiratory hazards and work conditions. (*See pages d-1 through d-4 of this guide.*)
- Requires annual fit testing for all tight-fitting respirators, and it includes protocols for fit testing. (*See Section (f) of this guide and Appendix B of the standard in Appendix I of this guide.*)
- Addresses the use of respirators in situations that OSHA characterizes as Immediately Dangerous to Life or Health (IDLH). (*See page g-6 of this guide.*)

How does the new Respiratory Protection standard recognize the needs of small businesses?

Among other things, the revised Respiratory Protection standard:

- Allows the use of a medical questionnaire to screen for employee health conditions which could affect most workers ability to use a respirator. The questionnaire must be administered by a physician or other licensed health care professional. (*See page e-2 of this guide.*)

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- Allows medical evaluations to be conducted either by a physician or by another licensed health care professional. (*See page e-2 of this guide.*)
- Requires medical evaluations after the initial evaluation to be conducted only when specific conditions indicate a need for a reevaluation. (*See page e-3 of this guide.*)
- Minimizes the amount of paperwork required in connection with medical evaluations. (*See pages e-5 through e-7 of this guide.*)
- Establishes flexible requirements for cleaning and disinfecting respirators issued to individual employees "as necessary to be maintained in a sanitary condition." (*See page h-1 of this guide.*)
- Allows tags be used to document respirator inspections rather than written records. (*See page h-3 of this guide.*)
- Allows you to obtain a certificate of breathing gas analysis from the supplier instead of requiring you to conduct your own gas analysis. (*See page i-2 of this guide.*)

Whom can I contact if I have additional questions about the Respiratory Protection standard that are not answered in the Small Entity Compliance Guide?

For additional assistance in establishing and implementing a respiratory protection program, contact the OSHA Area Office nearest you. If you are unable to contact your local OSHA Area Office, you can contact the appropriate OSHA Regional Office for information or assistance. A list of OSHA Area and Regional Offices is included as Appendix II.

The OSHA Consultation Service is an excellent resource for additional assistance. This free program helps employers find out about potential hazards and improve their occupational safety and health management systems. It is separate from the OSHA inspection effort. State OSHA Consultation programs are listed in Appendix II.

If you are located in a state that operates an OSHA-approved State Plan, you should contact the responsible state agency listed in Appendix II for information and assistance.

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Section (a): PERMISSIBLE PRACTICE

(a)(1) ENGINEERING CONTROLS

To prevent illness or diseases caused by breathing hazardous air in the workplace, you must use engineering controls to the extent feasible to prevent contamination of the workplace atmosphere. When engineering controls are not feasible, or while engineering controls are being put in place, appropriate respirators must be used.

How do I know if the atmosphere in my workplace is hazardous?

An atmosphere is hazardous if it does not contain sufficient oxygen, or if it contains chemical, biological, or radiological contaminants in sufficient quantity to harm the health of employees. Section (d) of this guide contains information on how to identify and evaluate respiratory hazards in your workplace.

What are engineering controls?

Engineering controls physically change the work environment to reduce employee exposure to air contaminants. Such controls may include:

- Change of the work process
- Substitution of less hazardous substances for harmful materials
- Isolation or enclosure of the work process or of employees
- Local exhaust or general dilution ventilation

Where can I find guidance on the type of engineering controls I may need to put in place?

Potential sources for this type of information include:

- Trade associations.
- Manufacturers or suppliers of materials or equipment associated with the creation of air contaminants.

Small Entity Compliance Guide

- Your insurance carrier.
- Government agencies (see Appendix II of this guide for a list of OSHA offices in your area).
- OSHA Consultation Program (see Appendix II of this guide for the list of States with consultation programs).
- Industrial hygiene consultants.

(a)(2) PROVIDING YOUR EMPLOYEES WITH RESPIRATORS

You must provide respirators when such equipment is necessary to protect the health of employees. The respirator provided must be suitable for its intended purpose. When you are required to provide respirators, you must establish and maintain a respiratory protection program. The requirements for a respiratory protection program are described in Section (c) of this guide.

How do I know if the engineering controls I install are sufficient to protect employee health?

The vendor who supplies your engineering controls may be able to help you determine whether the controls will adequately protect your employees from respiratory hazards. You can also evaluate the level of contamination in your workplace after the engineering controls are installed, as explained in Section (d) of this document.

How do I know what type of respirator is suitable for protecting the health of my employees?

Section (d) of this guide will answer your questions about selecting a suitable respirator.

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Is worker rotation acceptable as an interim control while engineering control measures are being developed and implemented?

Rotation is an acceptable practice for less-toxic contaminants. It is never permitted for protection against cancer-causing substances. In addition, many of OSHA's substance-specific health standards contain ceiling limits that do not allow the use of worker rotation. If respirators are also necessary to protect the health of the employee while engineering controls are being developed, they must be provided.

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Section (b): DEFINITIONS

This section of the Respiratory Protection standard contains definitions of important terms used in the text of the standard. The definitions are intended to clarify the requirements of the standard. They are contained in Paragraph (b) of the standard, which is included as Appendix I of this guide.

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Section (c): RESPIRATORY PROTECTION PROGRAM

Whenever respirator use is required by you or by OSHA, this section of the Respiratory Protection standard dictates that you:

- Develop a written respiratory protection program with procedures that are specific to your worksite.
- Implement the program and update it as necessary.
- Assign a qualified program administrator to run and evaluate the program.

Additionally, you are required to ensure that certain aspects of the respiratory protection program are followed by employees who wear a respirator voluntarily (that is, they wear respirators even though respirator use is not required by either you or OSHA).

(c)(1) PROGRAM DEVELOPMENT AND IMPLEMENTATION

You are required to develop and implement a written respiratory protection program and to update it as necessary.

Program Development

You must develop a written respiratory protection program that includes procedures for the use of respirators in any work areas where protection from respiratory hazards is required. The procedures in your program must be specific to your particular workplace.

All required elements of the respiratory protection program must be in writing unless a particular element does not apply to your workplace. For example, if you do not use atmosphere-supplying respirators, then you do not need to develop procedures for that type of respirator.

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Why a written program?

A written program is needed because health and safety programs can be more effectively implemented and evaluated if the procedures are available in a written form for study and review.

Also, a written respiratory protection program is the best way to ensure that the unique characteristics of the worksite are taken into account. Developing the written program encourages you to thoroughly assess and document information pertaining to respiratory hazards posed to your employees—both during normal operating conditions and during reasonably foreseeable emergencies.

Program Content

You are required to include the following elements (as applicable) in your respiratory protection program:

- Procedures for
 - Selecting appropriate respirators for use in the workplace.
 - Fit testing tight-fitting respirators.
 - Using respirators properly in routine situations as well as in reasonably foreseeable emergencies.
 - Cleaning, disinfecting, storing, inspecting, repairing, removing from service or discarding, and otherwise maintaining respirators. Also, you must establish schedules for these elements.
 - Ensuring adequate air supply, quantity, and flow of breathing air for atmosphere-supplying respirators.
 - Regularly evaluating the effectiveness of the program.
- Provisions for medical evaluation of employees who must use respirators.
- Training employees in the proper use of respirators (including putting them on and removing them), the limitations on their use, and their maintenance.

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Appendix III, Sample Respiratory Protection Program, provides additional guidance on the required content of the respiratory protection program.

Program Implementation and Updating

Once you have established a written program covering all the required elements that apply to your workplace, you then must ensure that the program is appropriately implemented.

Implementation of the program must be administered and overseen by your program administrator (see section (c)(3)).

Once your program has been implemented you must ensure that it is updated *as necessary* to reflect relevant changes in the workplace. That is, you need to revise only the elements of the program that have been affected by changes that relate to respiratory hazards in work areas. For example, you would need to revise the appropriate sections of your written program if new processes or new chemicals were introduced into the workplace that will impact respirator usage. In addition, if you make any changes in the types of respirators used or in any of the other elements of the respiratory protection program, you must make appropriate revisions to the written program.

(c)(2) VOLUNTARY RESPIRATOR USE

You are required to ensure that all employees who use a respirator voluntarily are provided with certain basic information on proper use. Additionally, you must ensure that certain of these workers are included in your program's provisions for medical evaluations, and for cleaning, storage, and maintenance of respirators.

What is meant by "voluntary" use of respirator equipment?

Voluntary use is when an employee chooses to wear a respirator, even though the use of a respirator is not required by either you or by any OSHA standard.

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Providing Basic Information to Voluntary Respirator Users

You may allow an employee to use a respirator voluntarily, if you determine that the respirator itself will not present a hazard to the employee due to misuse, other hazards or conditions in the workplace, or employee medical conditions. In such cases, you may provide employees with respirators or allow them to use their own respiratory protection.

If you allow such use of a respirator, you must provide the voluntary respirator user with the advisory information in Appendix D of the standard (see Appendix I in this document). This appendix provides basic information on the proper use of respirators for employees who are voluntary users of the equipment and thus are not required to undergo training. These precautions can be presented to the employee either verbally or in a written form. (See also Section (k) of this guide on Training and Information.)

Applicable Components of the Respiratory Protection Program

You must ensure that certain aspects of your respiratory protection program are implemented for voluntary respirator users. This requirement, however, does not apply for employees who voluntarily wear dust masks (filtering facepieces).



Filtering facepieces

Elements of the program that apply to voluntary users (except those using filtering facepieces (dust masks) voluntarily) involve:

- Provisions for medical evaluation of employees who use elastomeric respirators.
- Procedures for cleaning, disinfecting, storing, inspecting, repairing, removing from service or discarding, and otherwise maintaining respirators. Also, you must establish schedules for these program elements.

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Implementing these aspects of the program for a voluntary respirator user will ensure that the respirator is used properly and does not create a hazard to the user. If these provisions are not implemented, potential hazards or problems could result:

- A respirator wearer's health could be jeopardized due to an undetected medical condition (e.g., asthma, heart condition).
- A dirty respirator could cause dermatitis.
- A dirty or poorly disinfected respirator could cause an ingestion hazard.

What types of respirators do the voluntary use requirements apply to?

This requirement applies primarily to tight-fitting negative pressure APRs, and it would also apply to powered APRs if an employee elected to voluntarily use this type of respirator. It does not apply to dust masks (filtering facepieces).

Do I need to have a written respiratory protection program if only voluntary users wear respirators at my facility?

No, if the only respirators being worn voluntarily are filtering facepieces (dust masks). Yes, if APRs or powered APRs are being used voluntarily. But when this is the case, your written program needs to include only the elements that pertain to voluntary users: a section on medical evaluations, and one on inspection, care, and maintenance.

(c)(3)

PROGRAM ADMINISTRATOR

You must designate a program administrator to run the program and evaluate its effectiveness. An individual is qualified to be a program administrator if he or she has appropriate training or experience in accord with the program's level of complexity.

This training or experience is appropriate if it enables the program administrator to fulfill the minimum standard requirements of recognizing, evaluating, and controlling the hazards in your workplace. For example, if your program requires air-supplying respirators for use in immediately dangerous to life or health (IDLH) environments, your program administrator must

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have training and experience pertaining to the use of this type of equipment. Similarly, if you don't use air-supplying respirators and don't have significant respiratory hazards at your workplace, someone with less sophisticated experience or training might be able to effectively serve in this position.

Ultimately, the appropriate qualifications for your program administrator must be determined based on the particular respiratory hazards that exist, or that are reasonably anticipated, at your workplace.

How do I, or a designated employee, become a qualified program administrator?

If your workers are exposed only to nuisance dusts and relatively low-toxicity materials, and they use only a few types of relatively simple respirators, knowledge of this guide and materials supplied by the manufacturer may be sufficient for you, or a designated employee, to serve as the program administrator.

If more dangerous chemicals are present, if the potential for high exposures exists, or if sophisticated respirators are used, the program administrator must have more extensive experience and/or training. In these circumstances, you may need to seek out the expertise needed or obtain appropriate training.

Is there a list of approved training courses I can send my program administrator to?

No. OSHA does not provide a training course specifically to train respiratory protection program administrators, nor does OSHA require program administrators to attend a specified course. OSHA only requires the program administrator to have an adequate level of training or experience to deal with the complexity of the respiratory protection program at the worksite.

You may want to check with trade associations or adult education programs run by universities or technical and vocational schools in your area. The OSHA Consultation Program can help you identify appropriate training courses, or, if you hire a consultant to help you with aspects of your respiratory protection program, he or she may be able to help you with this.

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How will OSHA determine that a person is experienced and/or trained to be a respiratory protection program administrator?

Usually, the OSHA compliance officer will review the written program and interview the respiratory protection program administrator. Questions asked during the interview are likely to focus on determining how familiar the program administrator is with the OSHA Respiratory Protection standard and the use and application of the respirators at the particular workplace. Significant deficiencies in the written program also could indicate a lack of training and understanding of the standard.

Only one person can fulfill the primary responsibilities of running the program, unless your company has more than one worksite. Under that circumstance, you may have a program administrator for each site. Ordinarily, however, you cannot divide the responsibilities among several employees. Requiring an administrator with sole responsibility helps ensure the integrity of the program by maintaining continuous oversight from one person. Nonetheless, the administrator may rely on other employees to help run parts of the respiratory protection program (e.g., fit testing, medical evaluations).

One of the program administrator's primary responsibilities is to evaluate the program. Although OSHA recognizes the value of an objective assessment, the Agency did not want to burden small businesses with the cost of arranging for an outside party to conduct the evaluations, and the standard therefore allows program administrators to perform the program evaluations required under the standard.

(c)(4) EMPLOYER-PROVIDED RESPIRATORS

You must provide respirators, training, and medical evaluations at no cost to employees who are required to wear a respirator for protection from respiratory hazards at your workplace. This requirement reflects the philosophy that employers are obligated to provide and pay for necessary personal protective equipment (such as respirators) used by employees on the job.

Do I also have to pay for respirators for voluntary users?

No. You do not have to pay for respirators for voluntary respirator users. In such cases, you still must pay for required medical evaluations for voluntary users and provide voluntary users with appropriate facilities and time to clean, disinfect, maintain, and store respirators.

CHECKLIST FOR RESPIRATORY PROTECTION PROGRAMS

Check to ensure that your facility has:

- A written respiratory protection program that is specific to your workplace and covers the following:
 - Procedures for selecting respirators.
 - Medical evaluations of employees required to wear respirators.
 - Fit testing procedures.
 - Routine use procedures and emergency respirator use procedures.
 - Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and maintaining respirators.
 - Procedures for ensuring adequate air quality for supplied air respirators.
 - Training in respiratory hazards.
 - Training in proper use and maintenance of respirators.
 - Program evaluation procedures.
 - Procedures for ensuring that workers who voluntarily wear respirators (excluding filtering facepieces) comply with the medical evaluation, and cleaning, storing and maintenance requirements of the standard.
- A designated program administrator who is qualified to administer the program.
- Updated the written program as necessary to account for changes in the workplace affecting respirator use.
- Provided equipment, training, and medical evaluations at no cost to employees.

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Section (d): RESPIRATOR SELECTION

(d)(1) GENERAL GUIDELINES FOR SELECTION

You must base selections of respirators on the hazards to which your employees are exposed and must consider how workplace and user factors affect respirator performance and reliability.

What are workplace and user factors?

Some examples include the following:

- The size and configuration of the workspace—Are workers equipped with air supplied respirators able to fit into any tight space in your workplace?
- Ease of worker communication—Are your employees wearing respirators able to communicate with one another and warn one another of hazards?
- Ease or difficulty of the work or rate of activity—Are your employees doing heavy lifting that may deplete the air supply of a self-contained breathing apparatus (SCBA)? Would a fast work pace lead to discomfort, causing the employee to move the respirator and, thus, affect the fit?
- Workplace conditions such as temperature and humidity or the location and movement of other personnel and equipment—Would the temperature and humidity affect the effectiveness of filters, cartridges, and other respirator parts as well as the comfort of the wearer? Would the mobility of your employees or the presence of moving machinery entangle the airlines of atmosphere-supplying respirators?

(d)(1)(iii) You need to Identify and Evaluate Worksite Hazards

- Identify the chemicals to which your employees are exposed and evaluate the hazards of those chemicals.
- Determine the state and physical form of the chemical. Are they solids, liquids, or gases? Do the liquids and solids give off vapors or do they form dusts or mists?
- Estimate or measure employee exposures to the hazards.

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Respiratory hazards may be present in the workplace in the following physical forms:

Dusts and fibers are solid particles that are formed or generated from solid materials through mechanical processes such as crushing, grinding, drilling, abrading or blasting. Examples are lead, silica, and asbestos.

Fumes are solid particles that are formed when a metal or other solid vaporizes and the molecules condense (or solidify) in cool air. Examples are metal fumes from smelting or welding. Fumes also may be formed from processes such as plastic injection or extrusion molding.

Mists are tiny droplets of liquid suspended in the air. Examples are oil mist produced from lubricants used in metal cutting operations, acid mists from electroplating, and paint spray mist from spraying operations.

Gases are materials that exist as individual molecules in the air at room temperature. Examples are welding gases, such as acetylene and nitrogen, and carbon monoxide produced from internal combustion engines.

Vapors are the gaseous form of substances that are normally in the solid or liquid state at room temperature and pressure. They are formed by evaporation. Most solvents produce vapors. Examples include toluene and methylene chloride.

Biological hazards include bacteria, viruses, fungi, and other living organisms that can cause acute and chronic infections if breathed in. Examples include Legionnaire's Disease, flour, and animal products (dander, excreta).

Some Suggestions for Measuring or Making "Reasonable" Estimates of Worker Exposures

- Personal monitoring is the most accurate way of obtaining worker exposure information. Sampling equipment and analytical methods are available for the vast majority of substances regulated by OSHA's Air Contaminants standard (29 CFR 1910.1000 and 29 CFR 1926.55). OSHA has specific monitoring requirements for its substance-specific standards (i.e., benzene or asbestos). See Subpart Z of *Title 29 Code of Federal Regulations*, parts 1910 and 1926, for OSHA's substance-specific standards.

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- You can also estimate exposures by monitoring fixed locations or by sampling for short time durations. If you do this, you should measure under worst case conditions to be sure you are providing adequate protection for your employees. For example, if you select a respirator based on a reading obtained from a fixed sample collected close to the source of emission, the respirator may provide adequate worker protection because workers generally move about and do not spend their workshift near the source of emissions. Similarly, a respirator selected on the basis of the reading obtained from a spot sample taken when the process is operating at peak conditions may provide adequate protection because process emissions under non-peak conditions are less than at peak conditions.
- Data may be available to you from previous exposure measurements. For example, studies may have been conducted in your industry. Your trade association may have data, or, manufacturers of products or materials used in your workplace may have conducted laboratory tests that provide worker exposure data. To generalize from data obtained from these sources or an industry-wide survey, however, you must show that the conditions that existed in the survey, such as the processes, types of materials, control methods, work practices, and environmental conditions, are similar to those in your own workplace.
- You should be aware that exposures can be quite variable from day to day and from worker to worker. It is therefore important always to err on the side of over- rather than underprotection.
- You may wish to consult with health and safety professionals in evaluating exposures. However, consultation is not mandatory. The respiratory protection program administrator should have the necessary qualifications. You can probably obtain consultants through the organizations listed in the sources of help at the end of this chapter. The OSHA Consultation Program (see Appendix II for a list of programs by state) and your insurance carrier are other potential sources of assistance.

What if I am unable to determine my employees' exposure?

You must consider the worksite atmosphere IDLH, Immediately Dangerous to Life or Health and select respirators on that basis. IDLH means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere (29 CFR 1910.134 paragraph (b)). However, you may be able to demonstrate, through information on processes and reasonable assumptions about potential maximum concentrations, that IDLH conditions would not occur.

(d)(1)(ii) You Must Select a Respirator Certified by the National Institute for Occupational Safety

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and Health (NIOSH). The respirator must be used in compliance with the conditions of its certification. See the sources of help at the end of this chapter for addresses and telephone numbers of NIOSH.

(d)(2) RESPIRATORS FOR IDLH ATMOSPHERES

(d)(2)(i) Types of respirators

IDLH environments require the highest level of respiratory protection and reliability. You must provide either of the following for use in IDLH environments:

- Full-facepiece pressure-demand SCBAs that are certified by NIOSH for a minimum service life of 30 minutes.



Full facepiece SCBA

- Combination full-facepiece pressure-demand supplied-air respirators with auxiliary self-contained air supply.

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(d)(2)(ii) Respirators for escape from IDLH atmospheres **must be NIOSH certified for escape from the atmosphere in which they will be used.** For example, for formaldehyde exposures, escape respirators may be a full facepiece with chin style, front, or back-mounted industrial canister approved against formaldehyde (29 CFR 1910.1048).



Emergency escape breathing apparatus

(d)(2)(iii) **You must consider all oxygen-deficient atmospheres to be IDLH.** Atmosphere-supplying respirators must be used in oxygen-deficient atmospheres (where oxygen is less than 19.5%). You may use any atmosphere-supplying respirator if you can demonstrate that, under all reasonable foreseeable conditions, the oxygen concentration in the work area can be maintained within the ranges specified in the following table (Table II of 29 CFR 1910.134). Otherwise, you must provide employees with full facepiece pressure demand SCBAs or combination full facepiece pressure demand supplied-air respirators with auxiliary self-contained air supply.

TABLE 1

| Altitude | Oxygen deficient atmospheres (% O₂) for which the employer may rely on any atmosphere supplying respirator. |
|---------------------|---|
| Less than 3001..... | 16.0-19.5 |
| 3001-4000..... | 16.4-19.5 |
| 4001-5000..... | 17.1-19.5 |
| 5001-6000..... | 17.8-19.5 |
| 6001-7000..... | 18.5-19.5 |
| 7001-8000..... | 19.3-19.5 |

Above 8000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

Table 1 specifies, by altitude, the oxygen concentrations in which any type of atmosphere-

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supplying respirators may be used. For example, if your workplace is located at sea level and you can demonstrate that the oxygen content in the oxygen deficient environment will be maintained between 17 and 19%, then you may use any atmosphere-supplying respirator.

Work operations being conducted in well-controlled atmospheres where oxygen levels are deficient (below 19.5 percent) are typically permit-required confined spaces (see OSHA's Permit-Required Confined Space standard, 29 CFR 1910.146).

(d)(3) RESPIRATORS FOR NON-IDLH ATMOSPHERES

(d)(3)(i) You must provide respirators that are adequate to protect employee health and ensure compliance with all other OSHA requirements under routine and reasonably foreseeable emergency situations. Other OSHA regulations include the Air Contaminants standard, 29 CFR 1910.1000, the substance-specific standards, appropriate safety regulations such as the Hazardous Waste Operations and Emergency Response standard, 29 CFR 1910.120 paragraph (g)(2), and many construction and maritime standards.

Also, the General Duty Clause of the Occupational Safety and Health Act requires you to protect your employees from substances not regulated by OSHA, but which are known to be hazardous at levels encountered in the workplace. Consult the Material Safety Data Sheet (MSDS) sent by your chemical supplier if you have questions about the toxicity of a particular substance. For further assistance in ascertaining whether substances used in your workplace that are not regulated by OSHA are hazardous, see the sources of help (at the end of this chapter) and the list of OSHA Area Offices (Appendix II).

(d)(3)(ii) You must select respirators that are appropriate for the chemical state and physical form of the contaminant. See the section discussing the identification of worksite hazards. You need different types of filters, cartridges, and canisters depending on whether dusts, fumes, mists, vapors, and gases are present in your workplace and depending on the kinds and concentrations of substances present. Refer to NIOSH and the other sources of help listed at the end of this chapter.

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(d)(3)(iii) Respiratory protection for gases and vapors

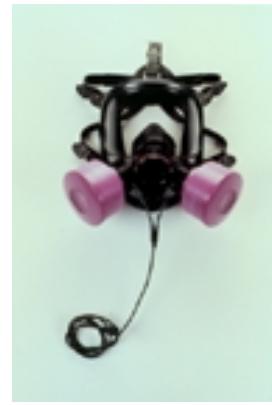
For protection against gases and vapors, you can select either atmosphere-supplying respirators or air-purifying respirators.



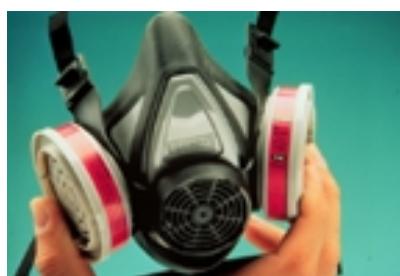
Half-facepiece SAR



Full-facepiece SCBA



Full facepiece PAPR



Half-facepiece APR

You must meet the following conditions if your employees use air-purifying respirators.

- The respirator must be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or
- If there is no appropriate ESLI, you must implement a change schedule for canisters and cartridges based on objective information that will ensure that canisters and cartridges are changed before the end of their service life.

You do not want to have situations where the canisters or cartridges become saturated and the gases or vapors break through the canisters or cartridges, allowing the contaminants to get inside the mask and into your employees' breathing zones.

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Why not just rely on the employee's ability to detect the odor of the substance when the gas or vapor breaks through?

You may not rely on the detection of odor as protection against respiratory hazards posed by gases and vapors because:

- Most toxic substances do not have appropriate sensory (odor or irritant) warning properties.
- Some chemicals have odors that are only detectable above their established exposure limits, meaning the employees will smell the chemical only after they have already been exposed to unsafe levels of the contaminant.
- Individuals' abilities to perceive particular odors may differ quite markedly from the population average due to any of a variety of innate, chronic, or acute physiological conditions. For example, about 10 percent of people have a markedly impaired sense of smell.
- There is no good screening mechanism to identify persons with sensory receptor problems.
- Continuing exposure to the odor usually results in diminution or even disappearance of the smell sensation. This phenomenon is known as olfactory fatigue. When this happens, the worker unknowingly gets used to the contaminant breaking through the cartridge/canister and loses the ability to detect its smell.

What is an end of service life indicator (ESLI)?

An ESLI is a mechanism for warning the user that a respirator is approaching the end of its ability to provide protection. The warning appears on the cartridge itself. For example, after a period of use, an indicator on a cartridge with sorbent material will signal that protection against organic vapors is approaching saturation or is no longer effective.

So far, NIOSH has approved ESLIs for only four cartridges or canisters (mercury vapor, carbon monoxide, ethylene oxide and hydrogen sulfide). Thus, you most likely will have to establish change schedules to ensure that cartridges and canisters are changed before their end-of-service-life.

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What must be considered when developing change schedules?

You must develop cartridge change schedules based on available data or information that can be relied upon to ensure that cartridges are changed before the end of their useful service life.

You need to consider the following factors in determining change schedules:

- The contaminants the respirator is to protect against.
- The concentrations of contaminants in the work area.
- Frequency of use—(e.g., is the respirator used continuously or intermittently throughout the shift?)
- Temperature, humidity and air flow through the cartridge or canister.
- Employees' work rates.
- The presence of other potentially interfering chemicals.

You should assume worst case conditions to avoid breakthrough earlier than anticipated. You should document the information relied upon and the basis for the change schedules you use in your written respiratory protection program.

Where can I get help on developing change schedules?

You must consult with your respirator supplier or manufacturer for guidance on developing change schedules specific to your work conditions. Some suppliers have prepared materials that may assist you with developing change schedules for your worksite. Other possible sources of help include your trade association, and/or the resources listed at the end of this chapter.

Further information to help you develop change schedules is forthcoming. Several trade associations are currently gathering published information, such as breakthrough test data (i.e., how long it takes a substance to break through the cartridge or canister and get into the facepiece), and plan to produce a guidance document to help employers develop change schedules. OSHA is also developing instructional materials on change schedules, which will be a useful tool for employers.

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(d)(3)(iv) Respiratory protection for particulates

What are my options for protection against particulates?

You have three options:

- Atmosphere-supplying respirators.
- Air-purifying respirators (including filtering facepieces) with filters certified by NIOSH under 30 CFR part 11 as high efficiency particulate (HEPA) filters, or filters certified by NIOSH under 42 part 84.
- Air-purifying respirators with any filter certified for particulates by NIOSH for protection against contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least two micrometers.



Particulate APR, N95

See the sources of help section at the end of this chapter for advice and information in determining whether or not contaminants in your workplace consist primarily of particles of two micrometers or more.

What types of particulate filters are available for air-purifying respirators (APRs)?

Particulate-removing cartridges contain filters that reduce inhaled concentrations of toxic dusts and fiber, such as lead and asbestos, fumes, mists, and radioactive and biological materials (such as grain dusts). Powered and non-powered APRs require different particulate filters. Only HEPA filters are appropriate for protection against particulates for powered APRs.

The nine filter types for use with non-powered APRs are based on three levels of filter

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efficiency and three levels of resistance to degradation by oil. The three levels of filter efficiency are 95, 99, and 99.97 percent. These are referred to as 95, 99 and 100 filters, respectively. The three levels of oil resistance are N (non oil resistant), R (oil resistant) and P (oil proof). The most common commercially available cartridges are the "N95"(not oil resistant and 95 percent efficient) and "P100" (oil proof and 99.97 percent efficient). The P100 is comparable to the HEPA filter that is used with PAPRs.

Do I need to use particulate filters with ESLI?

ESLIs are not needed with particulate-removing filters. The employee should be trained to change the filter when he or she has difficulty breathing due to a lack of air being drawn through the filter. This is an indication that the filter has become loaded with particulate.

Where can I go for help?

Sources of help include:

- *NIOSH Respirator Decision Logic.* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. Request DHHS (NIOSH) Publication No. 87-108. NIOSH also has a help line. The telephone number is 1-800-35 NIOSH.
- American National Standard for Respiratory Protection (ANSI Z88.2). American National Standards Institute, 11 West 42nd Street, New York, New York, 10036.
- Respirator manufacturers provide advice through product literature, sales staff, and telephone help lines. The Industrial Safety Equipment Association (ISEA) has contact information. ISEA can be reached at: 1901 N. Moore Street, Suite 808, Arlington VA. 22209, or (703) 525-1695, or www.safetycentral.org/isea.
- Chemical manufacturers may provide information on the nature and properties of substances to which your employees may be exposed. You should be able to obtain information from the Material Safety Data Sheets (MSDSs) provided by the supplier of the chemical.
- You can contact the American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Ave., Bldg. D-7, Cincinnati, Ohio, 45211-4438 for advice and information on exposure measurement and estimation and other related industrial hygiene subjects. ACGIH has published the ACGIH Ventilation

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Manual, which contains calculations applied to certain situations to estimate worker exposures.

- You can also contact the American Industrial Hygiene Association (AIHA), 2700 Prosperity Ave., Suite 250, Fairfax, Virginia, 22031 for advice and information on exposure measurement and estimation. Members of AIHA's Exposure Assessment Strategy's Committee are knowledgeable in worker exposure measurement and estimation.
- The National Library of Medicine provides free online help about chemical hazards. Through TOXNET, located at <http://toxnet.nlm.nih.gov/servlets/simple-search>, you can search a number of databases on toxicology, hazardous chemicals and other related subjects for information on respiratory hazards.

CHECKLIST FOR RESPIRATOR SELECTION

Check that at your facility:

- Respiratory hazards in your workplace have been identified and evaluated.
- Employee exposures that have not been, or cannot be, evaluated are considered IDLH.
- Respirators are NIOSH certified, and used under the conditions of certification.
- Respirators are selected based on the workplace hazards evaluated and workplace and user factors affecting respirator performance and reliability.
- A sufficient number of respirator sizes and models are provided to be acceptable and correctly fit the users.
- For IDLH atmospheres:
 - Full facepiece pressure demand SARs with auxiliary SCBA unit or full facepiece pressure demand SCBAs, with a minimum service life of 30 minutes, are provided.
 - Respirators used for escape only are NIOSH certified for the atmosphere in which they will be used.
 - Oxygen deficient atmospheres are considered IDLH.
- For Non-IDLH atmospheres:
 - Respirators selected are appropriate for the chemical state and physical form of the contaminant.
 - Air-purifying respirators used for protection against gases and vapors are equipped with ESLIs or a change schedule has been implemented.
 - Air-purifying respirators used for protection against particulates are equipped with NIOSH-certified HEPA filters or other filters certified by NIOSH for particulates under 42 CFR part 84.

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Section (e): MEDICAL EVALUATION

This section of the Respiratory Protection standard requires employers to implement medical evaluations to determine a worker's ability to use a respirator.

This requirement is necessary because using a respirator may place a burden on a worker's health. This burden varies according to a number of factors, such as the weight and breathing resistance of the respirator and the workplace conditions under which the respirator is worn. Specific medical conditions that may place an employee at increased risk of illness, injury, or death include:

- Cardiovascular and respiratory disease, such as high blood pressure, angina, asthma, chronic bronchitis, or emphysema.
- Cardiovascular damage caused by heart attack or stroke.
- Reduced lung function caused by factors such as smoking or prior exposure to respiratory hazards.
- Neurological disorders, such as epilepsy.
- Musculoskeletal disorders, such as lower back pain.
- Psychological conditions, such as claustrophobia and severe anxiety.

(e)(1) EMPLOYER-PROVIDED MEDICAL EVALUATIONS

You must provide an employee with a medical evaluation to determine his or her ability to use a respirator. If a worker refuses to be medically evaluated for the use of a respirator, he or she cannot perform a job that requires a respirator.

When do I need to provide an employee with a medical evaluation?

The medical evaluation must be provided **before** the employee is fit tested and uses the respirator in your workplace for the first time.

You may stop providing a worker with medical evaluations when the worker is no longer required to use a respirator.

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Are medical evaluations required for all types of respirators?

Medical evaluations are required for both positive pressure and negative pressure respirators (except for filtering facepieces (dust masks) used on a voluntary basis).

When elastomeric or supplied-air respirators are worn voluntarily by workers (not required by you or OSHA), you must ensure that the workers are medically able to wear the respirators and that they are provided with the information in Appendix D to the standard. The procedures for making this medical determination must be part of a written respiratory protection program. When your employees wear dust masks (filtering facepiece respirators), however, no written medical-determination procedures are required.

Do I need to provide medical evaluations for seasonal and temporary workers?

You must provide seasonal and temporary workers with medical evaluations. The frequency or length of a worker's term of employment does not affect the requirement for medical evaluations.

(e)(2) MEDICAL EVALUATION PROCEDURES

This portion of the standard specifies that the medical evaluation can be performed by using a medical questionnaire or by an initial medical examination that obtains the same information as the medical questionnaire.

Identification of a Medical Professional

Employers must identify a physician or another licensed health care professional (PLHCP) to perform the medical evaluations.

Who can perform a medical evaluation?

Physicians are not the only health care professionals allowed to perform medical evaluations for respirator use. The Respiratory Protection standard allows any PLHCP to administer the medical questionnaire (described below) or to conduct the medical examination if doing so is within the scope of the PLHCP's license. You must check with PLHCPs in your local area to see if performing the medical evaluation is within the scope of their professional license. Or you may check with your state licensing board. Appendix IV, Questions and Answers on the Respiratory Protection standard, lists state

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licensing boards.

Can a nurse perform a medical evaluation?

Any health care professional, including a nurse, who qualifies as a PLHCP can perform a medical evaluation. If a nurse does not qualify as a PLHCP, he or she may still be able to perform a medical evaluation if he or she is doing so under the supervision of a physician, and the physician performs the final review of the assessment.

Can an employee request to see his or her own physician for a medical evaluation?

Yes, but you may find this arrangement difficult to administer. If employees select their own physicians, you will need to maintain contact with each physician, and you will need to send each physician the supplemental information described in paragraph (e)(5) of the standard. You must allow the employee to be evaluated during the employee's normal working hours or at a time that is convenient to the employee, and you also are responsible for paying for this service (even if the employee has coverage under an insurance plan).

The Medical Questionnaire: The medical questionnaire is designed to identify general medical conditions that place employees who use respirators at risk of serious medical consequences.

If you choose to use the medical questionnaire to conduct the medical evaluation, you must use the questionnaire contained in the Respiratory Protection standard (Appendix C of the standard, Sections 1 and 2). The language in Appendix C of the standard is mandatory and cannot be altered. The PLHCP determines whether or not Part B of the questionnaire needs to be administered, and the PLHCP can alter the questions in Part B in any manner he or she thinks is appropriate.

You may choose to use medical examinations in place of the questionnaire, but you are not required to do so. Although the questionnaire does not have to be administered during the medical examination, the PLHCP must obtain the same information from the worker that is contained in the questionnaire.

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(e)(3) FOLLOW-UP MEDICAL EXAMINATIONS

You must provide follow-up examinations for employees who give positive answers to any of the questions numbered 1 through 8 in Section 2, Part A. You must also provide follow-up exams to employees who will be using SCBAs or full-face respirators who respond positively to questions 10 through 15. See Appendix C of the standard (Appendix I of this document). Also, you must provide a follow-up examination if the questionnaire or initial medical examination indicates that one is necessary.

As part of the follow-up examination, the PLHCP may include any tests, consultations, or diagnostic procedures that are needed to make a final determination about an employee's ability to use a respirator. In some cases, all that might be needed is a phone call to the employee from the PLHCP to clarify an issue from the questionnaire.

A PLHCP may investigate a medical condition that is not addressed in the questionnaire if the PLHCP has reason to believe that the condition could affect the employee's ability to wear a respirator.

If the PLHCP is not a physician, some medical issues may arise during the follow-up examination that may be outside the scope of the PLHCP's license. In such cases, a physician must be involved.

(e)(4) ADMINISTRATION OF QUESTIONNAIRES AND EXAMINATIONS

Procedures for Administering the Medical Evaluation: When you provide a medical evaluation program:

- You must protect the confidentiality of the employee who is being evaluated.
- The questionnaire or medical examination must be given during an employee's normal work hours or at a time and place convenient to the employee.
- The employee must understand the questions on the medical questionnaire.

Who pays for the medical evaluation?

You must pay for the medical evaluation and any related expenses—including travel costs—incurred by your employee during the evaluation.

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How can I ensure that an employee's medical evaluation remains confidential?

You must provide your employees with instructions on how to deliver or send the completed questionnaire to the PLHCP who will review it. This can be done, for example, by supplying them with stamped, pre-addressed envelopes for mailing their completed questionnaires to the PLHCP.

If an employee does not speak English or cannot read, how can I make sure that he or she understands the questions on the medical questionnaire?

You can send the employee directly to a PLHCP who is able to help the employee fill out the questionnaire. For non-English speakers, you may want to consider supplying an interpreter to help the PLHCP interpret the questionnaire for your employee. The standard does not require you to hire a professional interpreter; instead, you may use an English-speaking family member or friend of the employee, or another employee who speaks both English and the employee's language, who can help the employee fill out the questionnaire.

Employee's Right to Contact the PLHCP

The standard requires you to inform employees that a PLHCP is available to discuss the medical questionnaire with them, and to allow employees to discuss the results of their questionnaire with the PLHCP. This discussion will enable employees and PLHCPs to clarify questions that were asked on the questionnaire, and for employees to explain answers that they provided.

How can I notify employees about how to contact the PLHCP?

You could post the PLHCP's name and telephone number in a location that is easily accessible to all workers (such as a lunch room or break area). You could also include the information in a separate sheet with the medical questionnaire.

(e)(5)

SUPPLEMENTAL INFORMATION FOR THE PLHCP

This portion of the Respiratory Protection standard requires you to provide the PLHCP with specific information to be used to make the determination about an employee's ability to use a respirator. This information includes:

- The type and weight of the respirator to be worn by the employee.

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- The duration and frequency of respirator use (including use for rescue and escape).
- The level of physical effort that the employee would be expending while wearing a respirator.
- Additional personal protective clothing and equipment that the employee would wear.
- The temperature and humidity extremes that may be encountered in the work environment where respirator use is required.

In addition, you must provide the PLHCP with the following:

- A copy of your written respiratory protection program.
- A copy of the Respiratory Protection standard.

Why do I need to provide the PLHCP with a copy of the written respiratory protection program and the Respiratory Protection standard?

This requirement helps ensure that PLHCPs have a thorough understanding of their duties and responsibilities in the medical evaluation process. Your written respiratory protection program will provide the PLHCP with critical information about the working conditions that could increase the burden placed on the employee's health during respirator use.

Does the PLHCP need to visit the worksite to perform a medical evaluation?

No, the supplemental information required in this portion of the standard is sufficient for the PLHCP to make a valid recommendation on the employee's ability to wear a respirator. OSHA, however, encourages PLHCPs to visit the worksite if they believe the information obtained there would be useful to them.

If I select a new PLHCP, do I need to have my employees reevaluated?

No, but you must make sure that the new PLHCP has the information required in this section. You must either provide the information directly to the new PLHCP, or you must make sure that the information is transferred from the former PLHCP to the new PLHCP.

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How often do I need to provide the PLHCP with supplemental information?

You need to supply the information to the PLHCP only when the conditions of respirator usage change.

(e)(6) MEDICAL DETERMINATION

This portion of the standard requires you to obtain a recommendation from the PLHCP about the employee's ability to use a respirator. The PLHCP's recommendation must be in writing, and it must include the following information:

- A determination of whether or not the employee is medically able to use a respirator.
- Any limitations on respirator use related to the medical condition of the employee or to the workplace conditions in which the respirator will be used.
- The need, if any, for follow-up medical evaluations.
- A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

Note that you are required to have the PLHCP provide a copy of the written recommendation to each employee.

Who is responsible for making the final decision about an employee's ability to wear a respirator?

You are responsible for making the final determination. The PLHCP's opinion is an important factor that you must consider in making this determination.

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Is the information from the medical evaluation confidential, or can the PLHCP share this information with me?

The PLHCP must keep strictly confidential any information revealed during the medical evaluation; your access is limited to the information contained in the PLHCP's written recommendation.

Can I receive a copy of the employee's completed medical questionnaire?

No, you must only maintain a copy of the PLHCP's written recommendation in a confidential file.

Negative Pressure Respirators: If the PLHCP determines that an employee is unable to wear a negative pressure respirator, perhaps because of a breathing problem such as asthma or bronchitis, but would be able to wear a powered air-purifying respirator (PAPR), you must provide the employee with a PAPR. If, however, the PLHCP determines in a subsequent medical evaluation that the worker can wear a negative pressure respirator, you no longer need to provide the worker with a PAPR.



PAPR

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(e)(7) ADDITIONAL MEDICAL EVALUATIONS

This portion of the standard requires you to provide an employee with additional medical evaluations whenever the following events occur:

- The employee reports symptoms related to his or her ability to use a respirator.
- The PLHCP, respiratory protection program administrator, or supervisor determines that a medical reevaluation is necessary.
- Information from the respiratory protection program suggests a need for reevaluation.
- Workplace conditions (such as protective clothing, temperature, or level of work effort) have changed so that an increased burden is placed on the employee's health.

Do I need to provide my employees with a medical reevaluation annually or according to some other fixed schedule?

Yes, you must provide medical reevaluations in accordance with the PLHCP's recommendation.

Do I need to provide an employee who is unable to use a respirator with an alternative job at no loss of pay and other benefits?

Although the standard does not require that employees receive such benefits, other OSHA substance-specific standards may contain this requirement.

CHECKLIST FOR MEDICAL EVALUATION

Check that at your facility:

- All employees have been evaluated to determine their ability to wear a respirator prior to being fit tested for or wearing a respirator for the first time in your workplace.
- A physician or other licensed health care professional (PLHCP) has been identified to perform the medical evaluations.
- The medical evaluations obtain the information requested in Sections 1 and 2, Part A of Appendix C of the standard, 29 CFR 1910.134.
- Employees are provided follow-up medical exams if they answer positively to any of questions 1 through 8 in Section 2, Part A of Appendix C, or if their initial medical evaluation reveals that a follow-up exam is needed.
- Medical evaluations are administered confidentially during normal work hours, and in a manner that is understandable to employees.
- Employees are provided the opportunity to discuss the medical evaluation results with the PLHCP.
- The following supplemental information is provided to the PLHCP before he or she makes a decision about respirator use:
 - Type and weight of the respirator.
 - Duration and frequency of respirator use.
 - Expected physical work effort.
 - Additional protective clothing to be worn.
 - Potential temperature and humidity extremes.
 - Written copies of the respiratory protection program and the Respiratory Protection standard.

CHECKLIST FOR MEDICAL EVALUATION (cont.)

- Written recommendations are obtained from the PLHCP regarding each employee's ability to wear a respirator, and that the PLHCP has given the employee a copy of these recommendations.
- Employees who are medically unable to wear a negative pressure respirator are provided with a powered air-purifying respirator (PAPR) if they are found by the PLHCP to be medically able to use a PAPR.
- Employees are given additional medical evaluations when:
 - The employee reports symptoms related to his or her ability to use a respirator.
 - The PLHCP, respiratory protection program administrator, or supervisor determines that a medical reevaluation is necessary.
 - Information from the respiratory protection program suggests a need for reevaluation.
 - Workplace conditions have changed in a way that could potentially place an increased burden on the employee's health.

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Section (f): FIT TESTING

This section of the Respiratory Protection standard requires you to conduct fit testing on all employees who are required to wear a respirator that includes a tight-fitting facepiece.

Fit testing is a procedure used to determine how well a respirator “fits”—that is, whether the respirator forms a seal on the user’s face. If a good facepiece-to-face seal is not achieved, the respirator will provide a lower level of protection than it was designed to provide. For example, without a good seal, the respirator can allow contaminants to leak into the user’s breathing air.

This section also describes:

- What types of respirators must be fit tested
- How often fit testing must be conducted
- What procedures must be used
- How the results of fit testing should be used to guide respirator selection

INTRODUCTORY CONCEPTS

As a general introduction to the topic of fit testing, several fundamental concepts are defined below. These definitions expand on those provided with the actual standard (see Appendix I of this guide).

As described below, there are two types of fit testing: quantitative and qualitative.

What is quantitative fit testing (QNFT)?

Quantitative fit testing is a method of measuring the amount of leakage into a respirator. It is a numeric assessment of how well a respirator fits a particular individual.

To quantitatively fit test a respirator, sampling probes or other measuring device must be placed to measure aerosol concentrations both outside and on the inside of the respirator facepiece. The respirator wearer then performs the user seal checks followed by the selected QNFT.

- For the generated aerosol QNFT, he or she stands inside a “test chamber” (booth

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or hood), where a nontoxic aerosol is introduced into the air. Measurements are then taken of the aerosol concentration both inside the test chamber and inside the respirator. An assessment of the quantitative fit is made based on the ratio of the aerosol concentration inside the test chamber to the concentration inside the facepiece.

- For the condensation nuclei counter QNFT, ambient air particles are used as the test aerosol with measurements made of their concentration outside and inside the facepiece, and an assessment is made of the quantitative fit of the facepiece.
- The controlled negative pressure QNFT method uses a fit test instrument to exhaust air from inside the respirator facepiece to maintain a constant negative pressure. The measurement of the exhaust stream required to maintain a constant negative pressure yields a measure of the leakage into the facepiece.

Detailed protocols for quantitative fit testing are provided as part of the standard (see Appendix A of the standard in Appendix I of this document).



Fit test adapter



Facepiece with fit test adapter inserted

What is qualitative fit testing (QLFT)?

Qualitative fit testing is a non-numeric pass/fail test that relies on the respirator wearer's response to a substance ("test agent") used in the test to determine respirator fit.

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In qualitative fit testing, after performing user seal checks, the respirator wearer stands in an enclosure and a test agent is introduced, such as:

- Banana oil (isoamyl acetate)
- Saccharin
- Bitrex
- Irritant smoke (without a test enclosure)

If the individual can smell the test agent (or is irritated by the smoke), this indicates that the agent leaked into the facepiece and that the respirator has failed the test because a good facepiece-to-face seal has not been achieved. If the employee cannot successfully complete the qualitative test with a particular respirator, the employee must then be tested with another make, size, or brand of respirator.

Detailed protocols for qualitative fit testing are provided as part of the standard (see Appendix B of the standard in Appendix I of this document).



Bitrex QLFT kit

What is a tight-fitting facepiece?

A tight-fitting facepiece is intended to form a complete seal with the respirator wearer's face. This seal must be sufficiently tight to prevent any contaminants in the work environment from leaking around the edges of the facepiece into the user's breathing air.

In contrast, a loose-fitting facepiece is specifically designed to form a partial seal with the user's face. Such a facepiece typically covers at least the head and includes a system through which clean air is distributed into the breathing zone. For example, hoods, suits, and helmets are all loose-fitting facepieces. Such equipment does not rely on a tight facepiece-to-face seal to protect the worker, and is useful for workers with facial hair or other physical characteristics that make it difficult to wear a tight-fitting facepiece.

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Tight-fitting facepiece



Loose-fitting hood

What are positive pressure and negative pressure respirators?

Positive pressure respirators maintain positive air pressure inside the facepiece throughout the user's breathing cycle. That is, the air pressure inside the facepiece remains greater than the air pressure outside the facepiece. Thus, any leakage around the facepiece seal should result in air escaping from inside the facepiece to the outside environment rather than worksite contaminants leaking into the facepiece and breathing air.

In contrast, a negative pressure respirator will have a lower air pressure inside the facepiece than outside during inhalation. If the facepiece-to-face seal leaks on these types of respirators, air contaminants will be drawn into the breathing air.

What is the fit factor?

The fit factor is a quantitative measure of how well a particular respirator fits (or provides protection to) an individual. It is the ratio of the concentration of a contaminant in the environment to the concentration inside the mask.

Fit factors are obtained from quantitative fit testing. For example, if an employee was in a test chamber that contained 300 ppm of aerosol and 3 ppm of the test agent was found inside the mask, the fit factor would be equal to 100.

(f)(1)

RESPIRATORS THAT REQUIRE FIT TESTING

You must ensure that quantitative or qualitative fit testing is conducted for all employees required to wear either positive or negative pressure tight-fitting facepiece respirators. This

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includes both air-purifying and atmosphere-supplying respirators operating in either a positive or negative pressure mode, but does not include any loose-fitting facepieces.

Must I perform fit testing for employees who voluntarily wear tight-fitting facepiece respirators ?

No. If an employee chooses to wear a tight-fitting facepiece respirator (including a negative pressure air-purifying respirator or a filtering facepiece (dust mask)) in a worksite environment where such equipment is not necessary, you are not required to conduct fit testing.

(f)(2) WHEN FIT TESTING MUST BE CONDUCTED: GENERAL REQUIREMENTS

You must ensure that fit testing is conducted for all employees required to wear tight-fitting facepiece respirators as follows:

- Prior to initial use.
- Whenever an employee switches to a different tight-fitting facepiece respirator (for example, a different size, make, model, or type).
- At least annually.

(f)(3) WHEN FIT TESTING MUST BE CONDUCTED: CHANGES IN THE RESPIRATOR WEARER'S PHYSICAL CONDITION

You must ensure that an additional fit test is conducted if an employee experiences a change in physical condition that could affect the seal on the tight-fitting facepiece respirator. This requirement is triggered by a physical change:

- Reported by the respirator user.
- Observed by you, a physician or other licensed health care professional, the supervisor, or the program administrator.

Physical changes in the employee that might affect the facepiece-to-face seal could include, for example, an obvious change in body weight, facial scarring, extensive dental work, or cosmetic surgery.

(f)(4)

WHEN FIT TESTING MUST BE CONDUCTED: UNACCEPTABLE FIT AS DETERMINED BY AN EMPLOYEE AFTER FIT TESTING

If, after fit testing, an employee reports that his or her respirator does not fit properly, you must allow the employee a reasonable opportunity to select a different tight-fitting facepiece respirator. After another respirator is selected, you must conduct a new fit test on the employee's replacement equipment.

An employee might determine that the facepiece does not establish an effective facepiece-to-face seal, for example, upon smelling a worksite contaminant while wearing the respirator with new cartridges. Or an employee might hear or feel air leaking around the facepiece-to-face seal. The employee's determination also can be based on factors unrelated to the particular worksite. For example, the employee might find that he or she can't wear the respirator for extended periods without experiencing irritation or pain.

(f)(5)

FIT TESTING PROCEDURES: GENERAL REQUIREMENTS

You must ensure that all fit testing conducted for employees required to wear tight-fitting facepiece respirators follows the OSHA approved protocols.

Detailed protocols for qualitative and quantitative fit testing are provided as part of the standard (see Appendices A and B of the standard in Appendix I of this document). These protocols specify that you must have on hand during fit testing all types and sizes of respirators that are available for use at the worksite. This allows you to ensure that each employee is tested with the same type of respirator (make, model, style, and size) that he or she will wear at the worksite.

(f)(6)

LIMITATION ON USE OF QUALITATIVE FIT TESTING

The table at the end of this chapter summarizes acceptable means of fit testing (QLFT versus QNFT) for different types of respirators. For more information, consult OSHA's web site at www.OSHA.gov.

Qualitative fit-testing may be used to fit test all positive pressure respirators (air-supplying and PAPRs). Your use of qualitative fit testing on negative pressure air-purifying respirators is limited to those that must achieve a fit factor of 100 or less. Dividing the fit factor of 100 by a standard safety factor of 10 indicates that the negative pressure air-purifying respirators that have successfully completed a qualitative fit test can be relied on to reduce a worker's exposure by a protection factor of 10. The safety factor of 10 is used because protection factors that workers achieve at work sites tend to be much lower than the fit factors achieved during fit testing.

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In practice, this means that any negative pressure air-purifying respirator (APR) may be qualitatively fit tested if the APR is to be used in workplace atmospheres where the level of the hazardous contaminant is 10 times or less than the permissible exposure limit (PEL) and lower than the level that is immediately dangerous to life or health (IDLH). For example, if the PEL for a specific workplace contaminant is 5 ppm, you could use a qualitative fit test to fit test a negative pressure APR to be used in the workplace at exposure levels up to 50 ppm (ten times the PEL or less). If the workplace exposure level is greater than 50 ppm, however, you must use quantitative fit testing.

Both half-facepiece APRs and full-facepiece APRs may be qualitatively fit tested if they are to be worn in work areas where the concentration of contaminant is no more than ten times the PEL.

What is a PEL?

OSHA PELs (permissible exposure limits) establish the maximum level of a specific contaminant that a worker can be exposed to, averaged over an 8-hour work day (8-hour time-weighted average, or TWA) or over a specified portion of a work day (for example, a 15 minute short-term exposure limit, or STEL). (PELs are listed in 29 CFR 1910.1000, and 1926.55. Also see the substance-specific standards for general industry and construction.)

(f)(7)

USE OF QUANTITATIVE FIT TESTING

If quantitative testing is used to fit test a tight-fitting facepiece respirator, respirator fit is not acceptable unless:

- For a half or quarter facepiece: The fit factor achieved in the test is greater than or equal to 100
- For a full facepiece: The fit factor achieved in the test is greater than or equal to 500

(f)(8)

FIT TESTING FOR ATMOSPHERE-SUPPLYING AND POWERED AIR-PURIFYING RESPIRATORS

You must ensure that all fit testing conducted for employees issued tight-fitting atmosphere-supplying respirators and powered air-purifying respirators is conducted in the negative pressure mode, even if the respirator is to be worn with positive pressure.

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This is because it is difficult outside of a laboratory test situation to accurately perform fit testing on positive pressure respirators.

In what circumstances might an atmosphere-supplying or powered air-purifying respirator perform like a negative pressure respirator?

For example, if the blower component of a powered air-purifying respirator loses power because it is turned off or the batteries run out, the respirator will become a negative pressure respirator. Similarly, atmosphere-supplying respirators can shift momentarily to negative pressure respirators if the air supply is restricted or the system fails.

Also, powered air-purifying respirators and self-contained breathing apparatus units can perform like negative pressure respirators as the user increases his or her inhalation rate during heavy work. The increased inhalation rate can result in negative pressure spikes inside the facepiece that are greater than the positive pressure of the air being supplied. This is called overbreathing the respirator. Therefore, positive air flow alone cannot be counted on to prevent the leakage that can occur with a poorly fitting facepiece.

You can conduct qualitative or quantitative fit testing of tight-fitting atmosphere-supplying respirators and powered air-purifying respirators according to the following requirements.

Qualitative fit testing. To conduct qualitative fit testing on an atmosphere-supplying respirator, you must do one of the following:

- Temporarily convert the user's actual facepiece into a negative pressure respirator by installing the appropriate filters. If you are not sure how to do this, check with the respirator manufacturer or your supplier.
- Use an identical negative pressure facepiece (size, make, model).

You can conduct qualitative fit testing on a powered air-purifying respirator by simply turning off the blower.

Quantitative fit testing. To conduct quantitative fit testing on an atmosphere-supplying respirator, you must temporarily or permanently install a sampling probe or adaptor inside the facepiece.

In preparation for testing, you should contact the respirator manufacturer or supplier for information on whether a sampling adapter can be temporarily installed in the facepiece. Any modifications made to a respirator for testing purposes must be removed before use.

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If temporary modifications cannot be made, you will need to permanently convert the facepiece to allow for testing. If you permanently convert the facepiece—for example, by drilling a hole in the respirator facepiece to insert the probe—you cannot repair the hole and put the respirator back in service. Once a hole is drilled in the facepiece, the respirator can only be used for fit testing purposes. It is no longer approved for workplace use.

TABLE 2

| Acceptable Fit-testing Methods | | |
|---|--------------------------|-------------|
| Respirator | QLFT | QNFT |
| Half-Face, Negative Pressure, APR (<100 fit factor) | Yes | Yes |
| Full-Face, Negative Pressure, APR (<100 fit factor) used in atmospheres up to 10 times the PEL | Yes | Yes |
| Full-Face, Negative Pressure, APR (>100 fit factor) | No | Yes |
| PAPR | Yes | Yes |
| Supplied-Air Respirators (SAR), or SCBA used in Negative Pressure (Demand Mode) (>100 fit factor) | No | Yes |
| Supplied-Air Respirators (SAR), or SCBA used in Positive Pressure (Pressure Demand Mode) | Yes | Yes |
| SCBA - Structural Fire Fighting, Positive Pressure | Yes | Yes |
| SCBA/SAR - IDLH, Positive Pressure | Yes | Yes |
| Mouthbit Respirators | Fit-testing Not Required | |
| Loose-fitting Respirators (e.g., hoods, helmets) | Fit-testing Not Required | |

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CHECKLIST FOR FIT TESTING

Check that at your facility:

- Employees who are using tight fitting respirator facepieces have passed an appropriate fit test prior to being required to use a respirator.
- Fit testing is conducted with the same make, model, and size that the employee will be expected to use at the worksite.
- Fit tests are conducted annually and when different respirator facepieces are to be used.
- Provisions are made to conduct additional fit tests in the event of physical changes in the employee that may affect respirator fit.
- Employees are given the opportunity to select a different respirator facepiece, and be retested, if their respirator fit is unacceptable to them.
- Fit tests are administered using OSHA-accepted QNFT or QLFT protocols.
- QLFT is only used to fit test either PAPRs, SCBAs, or negative pressure APRs that must achieve a fit factor of 100 or less.
- QNFT is used in all situations where a negative pressure respirator is intended to protect workers from contaminant concentrations greater than 10 times the PEL.
- When QNFT is used to fit negative pressure respirators, a minimum fit factor of 100 is achieved for tight-fitting half-facepieces and 500 for full-facepieces.

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CHECKLIST FOR FIT TESTING (cont.)

- For tight-fitting atmosphere-supplying respirators and powered air-purifying respirators:
 - Fit tests are conducted in the negative pressure mode.
 - QLFT is achieved by temporarily converting the facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure APR
 - QNFT is achieved by modifying the facepiece to allow for sampling inside the mask midway between the nose and mouth. The facepiece is restored to its NIOSH approved configuration before being used in the workplace.

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Section (g): USE OF RESPIRATORS

As part of your written program, you must establish and implement procedures for the proper use of respirators in both routine jobs and emergencies. Specific use procedures are required to:

- Prevent leaks in the respirator facepiece seal.
- Prevent employees from removing respirators in hazardous environments.
- Ensure that respirators operate effectively throughout the work shift.
- Protect employees entering IDLH atmospheres and interior structural firefighting situations.

(g)(1) PREVENTING LEAKS IN THE FACEPIECE SEAL

Facepiece seals and valves are important in tight-fitting respirators. Tight-fitting respirators have a complete seal to the face. If there is a leak in the seal of a tight-fitting respirator or valve, then the respirator cannot reduce the wearer's exposures to respiratory hazards. You must be sure that nothing interferes with the seal of the respirator to the worker's face or with the valves.

Conditions that can interfere with the seal or valve are specified in the standard and include:

- Facial hair,
- Facial scars,
- Jewelry or headgear that projects under the facepiece seal,
- Missing dentures, and
- Corrective glasses or goggles or other personal protective equipment:
 - Face shields
 - Protective clothing
 - Helmets
 - Eyeglass insert or spectacle kits

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Workers may use this equipment with tight-fitting respirators if you ensure that the equipment is worn in a way that:

- Does not interfere with the face-to-facepiece seal.
- Does not distort the worker's vision.
- Does not cause physical harm to the worker (e.g., if the eyeglass insert did not fit properly so that the tight fit of the respirator caused the insert to press against his or her forehead, eyes, or temples).

You must make sure that the respirator does not interfere with the worker's eyewear or force the worker to remove the eyewear altogether.

What if a worker has a condition that does not interfere with the face-to-facepiece seal?

As long as the condition does not interfere with the function of the respirator valves, then the worker can wear a tight-fitting respirator, provided that the worker has no other conditions that interfere with the face-to-facepiece seal or valve. For example, a mustache may not interfere with the facepiece seal but may interfere with the valve function.

Do these restrictions apply to all types of respirators?

The restrictions for facial hair and other conditions apply ONLY to tight-fitting respirators. Several respiratory protection alternatives, such as loose-fitting hoods or helmets, are available to accommodate workers with facial hair or with other conditions that might interfere with the seal of the facepiece to the face of the user.

Can employees wear contact lenses?

Contact lenses can be safely worn with respirators.

You must be sure that workers perform user seal checks each time they put on a tight-fitting respirator. User seal checks are a quick and easy way for workers to verify that they have put on their respirators correctly and that the respirators are working properly.

To conduct a user seal check, the worker must follow either the procedures for a user seal check that are contained in Appendix B-1 of the Respiratory Protection standard or equally effective procedures that the respirator manufacturer recommends for conducting a user seal check.

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How are user seal checks conducted?

To conduct a user seal check, the worker performs a negative or positive pressure fit check.

- For the negative pressure check, the worker:
 - covers the respirator inlets (cartridges, canisters, or seals)
 - gently inhales, and
 - holds breath for 10 seconds.

The facepiece should collapse on the worker's face and remain collapsed.
- For the positive pressure check, the worker:
 - covers the respirator exhalation valve(s); and
 - exhales.

The facepiece should hold the positive pressure for a few seconds. During this time, the worker should not hear or feel the air leaking out of the face-to-facepiece seal.

Appendix B-1 of the Respiratory Protection standard provides detailed instructions on how to conduct the user seal check.

The manufacturer's recommended procedures for checking the facepiece seal may be used if the employer demonstrates that the manufacturer's procedures are as effective as those described in Appendix B-1 of the Respiratory Protection standard, e.g., these procedures are effective in identifying respirators that fit poorly when put on or adjusted.

Can a user seal check be used as a substitute for a qualitative fit test?

A user seal check is **not** a substitute for a qualitative fit test. Fit testing is a more rigorous procedure that is used to determine whether the respirator fits the face of the worker. Section (f) of this Compliance Guide contains a complete discussion on respirator fit testing.

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How can employers ensure that workers perform user seal checks?

The intent of the standard is that you make sure that the fit and performance of the respirator is not compromised. You must take actions that will result in safe work practices. Examples of these actions include:

- Providing training to workers
- Routinely observing work practices
- Routinely monitoring site conditions
- Consulting employees

(g)(2) CONTINUING RESPIRATOR EFFECTIVENESS

You must be aware of conditions in work areas where employees are using respirators. You must also allow employees to leave the respirator use area to perform any activity that involves removing or adjusting a respirator facepiece, or if there is any indication that a respirator may not be fully effective. If there is any indication that they are not functioning properly, you must replace, repair, or discard respirators, before allowing employees to return to an area in which respirator use is required.

How can I conduct appropriate surveillance?

“Appropriate surveillance” means that you must routinely look for any changes that may affect the effectiveness of a respirator. You must look for changes in the work area, such as changes in work tasks or processes, that can result in changes in the hazard or the time period of exposure, or that put the employee in closer proximity to the hazard. Another change might be the addition of new machinery that would cause an employee to exert more energy and breathe harder.

By “appropriate surveillance” OSHA means that you must routinely observe employees as they work while wearing respirators. By observing respirator use under actual workplace conditions, you can determine:

- Whether other protective equipment is interfering with respirator use.
- Whether a change in working conditions may result in exposure to new contaminants.

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- Whether workers are experiencing discomfort, such as skin irritation or breakthrough of contaminants through cartridges and canisters.

If any of these conditions exist, you must make adjustments—such as providing a more protective respirator or a different size or style of respirator, or altering work practices to reduce the stress on workers—to ensure that workers continue to receive adequate respiratory protection.

When must I allow workers to leave the respirator use area?

To maintain their respirators, workers may, from time to time, need to leave the area where respirator use is required and go to a safe area free of respiratory hazards and contaminants.

Workers must leave the respirator use area:

- If the worker needs to wash his or her face or the respirator facepiece to prevent eye or skin irritation associated with respirator use.
- If the worker detects vapor or gas breakthrough (that is, the cartridge or canister is saturated with contaminant and needs to be changed).
- If the worker notices that the facepiece is leaking.
- If the worker observes a change in breathing resistance (that is, the filter is full of dust or other particles and needs to be changed).
- If the respirator or parts of the respirator, such as valves or straps, are not working properly and need to be replaced.

Workers need a “safe area” in the workplace where they can safely remove their respirators to wash or conduct the maintenance necessary to ensure the respirator’s adequate operation.

Where does the safe area need to be located?

The safe area must be located in a place that is free of respiratory hazards or contamination. As long as these conditions are met, the safe area can be in a location that minimizes interruptions to work flow.

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When must I replace or repair respirators?

You must replace or repair respirators that are not working properly. Respirators should not be used if they are defective in any way. You must replace or repair a defective respirator whenever the worker detects vapor or gas breakthrough, changes in breathing resistance, or facepiece leakage, before allowing the worker to return to the work area where respirator use is required.

How often do respirators need to be replaced or repaired?

There is no required replacement schedule for respirators in general. However, damaged respirators cannot properly protect employees. Respirators need to be replaced or repaired when one or more of their components is missing, damaged, or visibly deteriorated.

(g)(3) PROCEDURES FOR IMMEDIATELY DANGEROUS TO LIFE OR HEALTH ATMOSPHERES (IDLH) AND FOR INTERIOR STRUCTURAL FIREFIGHTING

This section of the Respiratory Protection standard contains requirements for respirator use in IDLH environments. The standard defines IDLH as “an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual’s ability to escape from a dangerous atmosphere.” Section d of this Compliance Guide (Selection of Respirators) contains additional information about IDLH environments.

The provisions of paragraph (g)(3) of the Respiratory Protection standard are requirements for respirator use in all IDLH atmospheres. Paragraph (g)(4) contains additional requirements applicable only to the extra-hazardous environments encountered during interior structural fire fighting (two-in/two-out; use SCBAs only). OSHA considers interior structural firefighting environments to be IDLH environments. These two paragraphs ((g)(3) and (g)(4)) deal with requirements for standby personnel and the respirator users inside the IDLH atmosphere. The standard requires standby personnel when workers use respirators in IDLH environments. These two provisions are intended to ensure that adequate rescue capability exists in case of respirator failure or some other emergency inside the IDLH environment.

Who are standby persons?

Standby personnel remain outside the IDLH atmosphere. They must be available, trained, and equipped to assist respirator users inside the IDLH atmosphere, and to provide effective emergency rescue, when needed.

You must be sure that standby personnel maintain visual, voice, or signal line communication with the workers in the IDLH environment. Standby personnel may use radios to communicate with workers inside the IDLH environment. You must be sure that standby personnel notify you

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or your designated representative before entering the IDLH atmosphere. Once notified, you must provide necessary assistance appropriate to the situation.

When do I need to have more than one standby person located outside the IDLH environment?

A single standby person is adequate if an IDLH environment is well-characterized and controlled and if one person can easily maintain communication with all workers in the IDLH environment. Two stand-by personnel are required for interior structural firefighting. An IDLH atmosphere is “well-characterized” if it has been monitored and the results of the monitoring have been analyzed, or if it has been through a process hazard analysis. (Chemical plants conduct comprehensive process hazard analyses as required by OSHA’s Process Safety Management standard [29 CFR 1910.119] to determine which process units pose IDLH hazards.)

Often, only one respirator user at a time is exposed to an IDLH atmosphere, and a single standby person can easily monitor that worker’s status. Even in situations where more than one respirator user is inside an IDLH environment, a single standby person can often provide adequate communication and support. For example, one standby person can easily communicate with more than one employee working inside a small pump room or shed.

More than one standby person may be required for other situations. For example, to clean and paint the inside of a multi-level, multi-portal water tower, a process that often generates a deadly atmosphere as a result of cleaning solution and paint solvent vapors, employees often enter the tower through different portals to work on different levels. In such a situation, there will be a need for good communication at each entry portal, and more than one standby person would be needed to maintain adequate communication and accessibility (See also 29 CFR 1910.146, Confined Spaces).

For interior structural firefighting, you must have two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times. You must also have two standby personnel located outside the IDLH atmosphere; all employees engaged in interior structural fire fighting must use SCBAs.

When must standby personnel maintain communication with workers in the IDLH atmosphere?

At all times. Voice and visual or hand signal line communication must be maintained between the employee(s) in the IDLH environment and the standby person. Because IDLH conditions present the potential for serious injury or death, there is little margin for error in an IDLH environment. Equipment malfunction in an IDLH environment can

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swiftly disable workers, prevent them from leaving the environment, and lead to severe injury or death. For this reason, close communication between standby personnel and respirator users in the IDLH environment is critical.

When is radio communication acceptable?

Standby personnel may communicate by radio with workers inside the IDLH environment. Although workers inside the IDLH atmosphere may also communicate by radio, these workers must remain in visual contact.

Is voice communication the only acceptable method for workers in the IDLH environment and standby personnel to communicate with one another?

No. Communication can be in the form of hand signals if the workers in the IDLH atmosphere and the standby personnel remain in view of one another. Signal lines may also be used. It is also advisable to have several means of communication systems on hand, in the event that one form of communication fails.

What is appropriate training and equipment for the standby personnel?

You must train the standby personnel to:

- Provide effective emergency rescue; **and**
- Notify you or your designated representative before the standby personnel enter the IDLH atmosphere to provide emergency rescue.

You must equip your standby personnel with the following:

- Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; **and**
- Either appropriate retrieval equipment for removing the workers inside the IDLH atmosphere where retrieval equipment would contribute to the rescue of the workers inside the IDLH atmosphere and would not increase the overall risk resulting from entry; **or**
- Equivalent means for rescue where retrieval equipment could increase the overall risk resulting from entry.

For workers involved in interior structural firefighting, standby personnel must be equipped with SCBAs.

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Rescue personnel must be properly trained and protected before they enter the IDLH environment. The Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120) and the Permit-Required Confined Spaces standard (29 CFR 1910.146) provide guidance on the training and protective equipment that is required. Situations exist in which retrieval lines (harnesses, wristlets, anklets) may pose an entanglement problem, especially in areas in which air lines or electrical cords are present in the work areas in which the IDLH atmosphere occurs. Most of the time, however, rescue with retrieval equipment is effective, and much safer for the rescuers, because the standby personnel do not have to enter the IDLH atmosphere.

If there is an emergency can the standby provide immediate rescue assistance?

Your standby personnel must inform either you or your designated representative before attempting emergency rescue within an IDLH environment. Your designated representative may be a properly trained employee or response team or local firefighting and emergency rescue personnel. In any case, proper arrangements and procedures must be in place before you can allow your workers to enter an IDLH environment. Once notified, you must provide necessary assistance appropriate to the situation.

This provision of the standard is intended to ensure that you know when an emergency has occurred so that you or your designated representative can send in immediate additional assistance to help in the rescue.

When should standby personnel enter the IDLH environment?

Under most circumstances, standby personnel should not enter the IDLH environment until you or your designated representative has responded to the notification acknowledging that an emergency exists, that rescue personnel are entering the IDLH environment, and that emergency response units are on their way to provide additional assistance. You must provide standby personnel (rescuers) with proper respiratory equipment, and you must train and prepare your standby personnel to facilitate rescue attempts.

This notification provision is not intended to suggest that standby employees should wait indefinitely for you or your authorized designee to respond to notification before entering the IDLH atmosphere when your workers inside are in danger and standby personnel are appropriately trained and equipped to provide assistance. In the majority of cases, however, rescuers should not enter the IDLH environment until receiving some response from you (i.e., you or your designated representative should know that the rescuers are entering and emergency response units should be on their way to the incident).

How must I provide appropriate assistance in emergencies?

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Once you or your designated representative has been notified, you or your representative must provide the necessary assistance appropriate for the situation. You must make sure that:

- Rescue operations are carried out appropriately
- Rescuers are provided with proper respiratory equipment
- Designated employees are adequately prepared to conduct rescue attempts

You may not always need to send standby personnel into the hazardous atmosphere. In some cases, the worker within the IDLH environment will be able to get out on his or her own, or retrieval equipment may enable rescuers to retrieve the worker without entering the hazardous atmosphere. In these instances, you will need to provide workers inside IDLH atmospheres and standby personnel employees with emergency medical treatment. If standby employees do need to enter the hazardous environment to perform rescue operations, however, you must make sure that those rescuers are fully protected.

You should consult OSHA's rules on confined spaces (29 CFR 1910.146) and on hazardous waste operations and emergency response (29 CFR 1910.120) for other provisions that may apply to IDLH environments.

(g)(4)

PROCEDURES FOR INTERIOR STRUCTURAL FIREFIGHTING

This portion of the standard applies to workers engaged in interior structural firefighting only.

What is interior structural firefighting?

Firefighting to control or extinguish a fire in an advanced stage of burning inside a building. Because the fire is producing large amounts of smoke, heat, and toxic products of combustion, exposure to firefighters is extremely hazardous and the environment is considered IDLH.

Are all firefighters engaged in interior structural firefighting covered by the standard?

The Respiratory Protection standard applies directly to private sector workers engaged in firefighting, including those working in industrial fire brigades and private incorporated fire companies, and to federal employees covered under Section 19 of the Occupational Safety and Health Act.

Federal OSHA's jurisdiction does not extend to employees of state and local governments; therefore, public sector firefighters are covered only in the 25 states which

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operate their own OSHA-approved occupational safety and health state programs and are required to extend the provisions of their state standards to these workers. These states and territories are: Alaska, Arizona, California, Connecticut, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, New York, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, and Wyoming.

Coverage of volunteers varies by state and depends on state law. State and local government employees in states that do not operate OSHA-approved state plans are not covered by these requirements, unless the requirements are voluntarily adopted for local applicability.

What additional requirements apply to interior structural firefighting?

In addition to the requirements for allIDLH atmospheres, if your workers are involved in interior structural firefighting, you must be certain that:

- At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times.
- At least two employees are located outside the IDLH atmosphere.
- All employees engaged in interior structural firefighting use SCBAs.

Although two individuals must always be located outside the IDLH atmosphere, one may be assigned to an additional role, such as incident command, pump operations, or operator of the fire apparatus—so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident. Any assignment of additional duties to the second firefighter must be weighed against the potential for the additional duties to interfere with assistance or rescue activities.

Must firefighters wait until four workers are assembled before attempting to rescue victims inside the burning structure?

No. There is an explicit exemption in the Respiratory Protection standard that states that, if life is in jeopardy, the “two-in, two-out” requirement is waived. The incident commander and the firefighters at the scene must decide whether the risks posed by entering the interior structural fire before at least four firefighters have assembled is outweighed by the need to rescue a victim who life may be at risk.

CHECKLIST FOR PROPER USE OF RESPIRATORS

Check your facility to be certain that:

- Workers using tight-fitting respirators have no conditions, such as facial hair, that would interfere with a face-to-facepiece seal or valve function.
- Workers wear corrective glasses, goggles, or other protective equipment in a manner that does not interfere with the face-to-facepiece seal or valve function.
- Workers perform user seal checks prior to each use of a tight-fitting respirator.
- There are procedures for conducting ongoing surveillance of the work area for conditions that affect respirator effectiveness, and that, when such conditions exist, you take steps to address those situations.
- Employees are permitted to leave their work area to conduct respirator maintenance, such as washing the facepiece, or to replace respirator parts.
- Employees do not return to their work area until their respirator has been repaired or replaced in the event of breakthrough, a leak in the facepiece, or a change in breathing resistance.
- There are procedures for respirator use in IDLH atmospheres and during interior structural firefighting to ensure that: the appropriate number of standby personnel are deployed; standby personnel and employees in the IDLH environment maintain communication; standby personnel are properly trained, equipped, and prepared; you will be notified when standby personnel enter an IDLH atmosphere; and you will respond to this notification.
- Standby personnel are equipped with a pressure demand or other positive pressure SCBA, or a positive pressure supplied air respirator with an escape SCBA, and appropriate retrieval equipment or other means for rescue.
- Procedures for interior structural firefighting require that: at least two employees enter the IDLH atmosphere and remain in contact with one another at all times; at least two standby personnel are used; and all firefighting employees use SCBAs.

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Section (h): MAINTENANCE AND CARE OF RESPIRATORS

You must provide respirator users with equipment that is clean, sanitary, and in good working order. To accomplish this you must have a system of respirator care and maintenance as a component of your respiratory protection program. Regular care and maintenance is important to ensure that the equipment functions as designed and protects the user from the threat of illness or death.

Your system of respirator care and maintenance must provide for:

- cleaning and disinfection procedures
- proper storage
- regular inspections
- repair methods

(h)(1) CLEANING AND DISINFECTING

Respirator equipment must be regularly cleaned and disinfected according to specified procedures (see Appendix B-2 of the standard in Appendix I of this document) or according to manufacturer specifications that are of equivalent effectiveness.

Cleaning and disinfection procedures are divided into the following:

- Disassembly of components
- Cleaning and disinfecting
- Rinsing, drying, and reassembly
- Testing

How often must respirators be cleaned and disinfected?

The frequency of cleaning and disinfecting or sanitizing respirators will depend in part on whether your employees share the equipment or are issued respirators for their exclusive use. Worksite conditions also will dictate cleaning frequency, e.g., working in a dirty

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environment will require that the respirator facepiece, in particular, be cleaned more frequently.



Respirator wipes are useful for cleaning

At a minimum:

| If a respirator is... | Then... |
|--|---|
| issued for the exclusive use of an individual employee | the equipment must be cleaned and disinfected as often as necessary to be maintained in clean and sanitary condition. |
| used by more than one employee | the equipment must be cleaned and disinfected <i>before</i> being used by different individuals. |
| maintained for use in emergencies, testing, and training exercises | the equipment must be cleaned and disinfected <i>after</i> each use. |

Who is responsible for cleaning and disinfecting respirators?

You may choose the program that best meets the needs of your workplace. For example, you may use a centralized operation where employees receive respirators that have been cleaned, disinfected and repaired by workers assigned to this task. You also may require that each respirator wearer be responsible for cleaning and maintaining his or her equipment. In either case, you must provide appropriate training, on-the-job-time, and the necessary equipment and supplies.

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In addition, if individual employees are required to clean their own respirators, you must allow time during work hours for users to perform this function.

h(2) STORAGE

What are the proper storage procedures for respirators?

You must store respirators in a manner that:

- Protects them from contamination, dust, sunlight, extreme temperatures, excessive moisture, damaging chemicals, or other destructive conditions.
- Prevents the facepiece or valves from becoming deformed.
- Follows all storage precautions issued by the respirator manufacturer.

In addition, if a respirator is intended for emergency use, it must be:

- Kept accessible to the work area, but not in an area that may itself become involved in an emergency and become contaminated or inaccessible.
- Stored in a compartment or cover (e.g., on a fire truck) that is clearly identified as containing emergency equipment.

h(3) INSPECTION

How often must respirators be inspected, and what procedures do I follow?

The frequency of and procedures for inspections depend on whether the respirator is intended for non-emergency, emergency, or escape-only use.

All respirator inspections must include:

- A check of respirator function, i.e., visual inspection to identify any parts that may be missing, distorted, blocked, loose, deteriorated, or otherwise interfere with proper performance.
- A check of elastomeric (rubber) parts for pliability and deterioration.

In addition, inspect:

- **Non-emergency use equipment.** *Before* each use and *during* cleaning and disinfection.

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- **Self-contained breathing apparatus (SCBA).** *Monthly*, making sure the air and oxygen cylinders that are available for immediate use are maintained in a fully charged state (i.e., pressure is not below 90% of manufacturer's recommended level). You must also activate the regulator and low pressure warning devices to ensure that they function properly.
- **Emergency use respirators.** *At least monthly*, checking for proper functioning *before and after each use*. When inspecting these types of respirators you must:
 1. Document the date of inspection, name or signature of inspector, inspection findings, any remedial action required, and serial number or other identification of the respirator.
 2. Retain this information with the respirator, storage compartment, or inspection report until next certification. You may use tags to document the inspections.
- **Emergency escape-only equipment.** *Before* being carried into the workplace for use.



Inspection of SCBA nosecup

h(4) REPAIRS

What do I do if a respirator fails to pass inspection?

If a respirator does not pass inspection, you must remove the respirator from service and discard, repair, or adjust it. Tagging out of service respirators is a good means for ensuring that defective respirators are not inadvertently used.

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Who performs the repair work?

Respirators may be repaired only by an appropriately trained person, who must use NIOSH-approved parts that are designed for the particular respirator being repaired.

Valves, regulators, and alarms must be adjusted and repaired only by the manufacturer or a technician trained by the manufacturer.

What are some examples of when a respirator should be removed from service?

- A cartridge has become saturated or a contaminant has broken through the cartridge and must be replaced.
- An alarm system is not functioning on an SCBA.
- A respirator strap, buckle, or connection is damaged or missing.
- The mask portion of a respirator is misshapen or degraded and can no longer form a good seal around the user's face.

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CHECKLIST FOR RESPIRATOR MAINTENANCE AND CARE

Check to make sure that your facility has met the following requirements:

Cleaning and Disinfecting

- Respirators are provided that are clean, sanitary, and in good working order.
- Respirators are cleaned and disinfected using the procedures specified in Appendix B-2 of the standard.
- Respirators are cleaned and disinfected:
 - As often as necessary when issued for the exclusive use of one employee.
 - Before being worn by different individuals.
 - After each use for emergency use respirators.
 - After each use for respirators used for fit testing and training.

Storage

- Respirators are stored to protect them from damage from the elements, and from becoming deformed.
- Emergency respirators are stored:
 - To be accessible to the work area.
 - In compartments marked as such.
 - In accordance with manufacturer's recommendations.

Inspections

- Routine-use respirators are inspected before each use and during cleaning.
- SCBAs and emergency respirators are inspected monthly and checked for proper function before and after each use.
- Emergency escape-only respirators are inspected before being carried into the workplace for use.

CHECKLIST FOR RESPIRATOR MAINTENANCE AND CARE (cont.)

- Inspections include:
 - Check of respirator function
 - Tightness of connections
 - Condition of the facepiece, head straps, valves, and cartridges.
 - Condition of elastomeric parts.
- For SCBAs, inspection includes checking that cylinders are fully charged, and that regulators and warning devices function properly.
- Emergency use respirators are certified by documenting the inspection, and by tagging the information either to the respirator or its compartment, or storing it with inspection reports.

Repairs

- Respirators that have failed inspection are taken out of service .
- Repairs are made only by trained personnel.
- Only NIOSH-approved parts are used.
- Reducing and admission valves, regulators and alarms are adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

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Section (i): BREATHING AIR QUALITY AND USE

This section of the Respiratory Protection standard requires you to provide workers who are wearing atmosphere-supplying respirators with breathing air of high purity. Respirators that supply breathing air are generally used in highly hazardous work environments. It is critical that such respirator systems provide breathing air of optimal quality and that the equipment operates reliably.

More broadly, you are required to establish or continue a respiratory protection program that follows performance standards for the operation and maintenance of breathing air compressors, methods for ensuring breathing air quality, and requirements for the quality of purchased breathing air.

The requirements detailed in this section are critical for ensuring the integrity of high purity breathing air for use with respirators, whether the air is delivered in tanks by a supplier or produced on site using a compressor. Also, it is your responsibility to ensure that practices are in place for protecting the quality of breathing air while stored in containers and when being used by employees. These requirements are essential for protecting respirator-wearing workers from the threat of illness or death.

As detailed below, when using atmosphere-supplying respirators you must:

- Provide breathing air that meets certain specifications.
- Develop procedures to ensure the proper use of compressed gas cylinders and air compressors.
- Implement certain precautions to avoid improper use of couplings on airline systems and confusion about breathing air containers.
- Implement certain precautions to prevent exposure to carbon monoxide when using air compressors.

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ATMOSPHERE-SUPPLYING RESPIRATORS

Atmosphere-supplying respirators are used to provide breathing air from a source independent of the ambient atmosphere. The two types of such equipment are:

- Self-contained breathing apparatus (SCBA) units, for which air is supplied from a tank (a cylinder of compressed air or oxygen). For this type of respirator, the source of the breathing air is designed to be transported by or with the equipment user.
- Supplied-air respirators (SARs) (also known as airline respirators), which receive air from a connecting hose. The source of air is either a pressurized cylinder or an air compressor. Because the employee does not carry the air on his or her back when using a SAR, breathing air can be provided over a longer time than is the case with a SCBA.

How is breathing air delivered to the respirator user?

Air compressors capture air from the surrounding environment, filter it, remove oil (if necessary), compress it to increase its density, and deliver the air through a system of regulators that brings the air back down to a breathable pressure for the respirator user.

With SCBA units, the pressurized breathing air is transferred from the tank to the respirator user through regulators that decrease the pressure to a level that a human can breathe. Because there is a fixed amount of air in the tank, the user can only rely on it for a given period of time. That time varies based on the size of the tank, the amount of pressure in the tank, and the physical effort required by the respirator user. Use times range from 20 minutes for low pressure tanks (2,500 psi) to 45 minutes for high pressure tanks (4,500 psi).

The air delivered by both types of system is at slightly greater than atmospheric pressure, which assists in preventing contaminated air from seeping through gaps in the facepiece or other areas.

(i)(1) SPECIFICATIONS FOR BREATHING AIR

You must ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen meet certain specifications as outlined below for breathing by employees wearing atmosphere-supplying respirators. Unless you produce your own breathing air from a compressor, you can rely on certificates of analysis from air suppliers to ensure that breathing air meets the required

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specifications.

Types of Breathing Air

Compressed air is the most common type of breathing air system used in worksite applications because it is the most convenient and least expensive. Compressed air is provided either through compressed air cylinders or air compressors at relatively high pressures. Regulators are used to ensure that breathing air supplied to respirators is provided at pressures that are safe for workers to breathe.

Other types of breathing air systems include liquid air, compressed oxygen, and liquid oxygen. Liquid air is air that exists in a liquid state, which is achieved by compressing purified air and chilling it to a temperature below the boiling point of its principal components (i.e., nitrogen and oxygen). Compressed oxygen systems are used in limited applications because they present a significant fire hazard. Liquid oxygen is quite expensive and also presents a significant fire hazard. It is generally used only in very specialized applications.

Specifications

- (i)(1)(i) **Compressed and liquid oxygen.** Such forms of oxygen must meet the U.S. Pharmacopoeia requirements for medical or breathing oxygen.
- (i)(1)(ii) **Compressed breathing air.** Any compressed breathing air must meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air (G-7.1-1989). This specification requires that:
 - (A) ■ Oxygen content in compressed breathing air must be 19.5 to 23.5 percent of the total volume of air.
 - (B) ■ Condensed hydrocarbon content in compressed breathing air must be 5 milligrams (mg) per each cubic meter (m^3) of air or less.
 - (C) ■ Carbon monoxide content in compressed breathing air must be 10 parts per million (ppm) or less.
 - (D) ■ Carbon dioxide content in compressed breathing air must be 1,000 ppm or less.
 - (E) ■ There must be a lack of any noticeable odor from the compressed breathing air.

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(i)(2)&(3) OXYGEN USE

Explosion/fire hazard from compressor oil and grease. You must prohibit employees from using compressed oxygen in respirators that have previously been used with compressed air. The reason for this prohibition is that oil and grease can be introduced into respirator airlines used for compressed air, posing a danger of fire or explosion from the high pressure oxygen coming in contact with the oil or grease. Airline systems contain inline filters for capturing impurities so that the respirator user will not inhale the oil or grease.

Explosion/fire hazard from high concentration oxygen. You must ensure that employees use oxygen concentrations greater than 23.5 percent only with equipment designed specifically for oxygen service and distribution. Such equipment is specifically designed to minimize the risk of fire or explosion posed by the high concentration of oxygen.

(i)(4) CYLINDER USE

You must ensure that cylinders used with atmosphere-supplying respirators meet the following requirements:

- Cylinders of breathing air must be tested and maintained according to Department of Transportation (DOT) Shipping Container Specification Regulations (49 CFR Parts 173 and 178), which include provisions for the construction, testing, and maintenance of cylinders. These steps are necessary to prevent explosions that can result from a rupture in a breathing air cylinder under high pressure. (Additional guidance is available in OSHA 29 CFR 1910.101(b), which includes provisions for in-plant handling and storage of compressed gas cylinders.)
- Cylinders of purchased breathing air must be accompanied by a certificate from the supplier indicating that the contents of each cylinder have been tested and found to meet the criteria for Grade D breathing air. This certification will provide you with a reasonable assurance that the breathing air supplied to your employees is safe.
- Cylinder contents must have a moisture level that does not exceed a dew point of minus 50° Fahrenheit (F) (minus 45.6° Celsius [C]) at 1 atmosphere pressure. (Dew point refers to the temperature at which the air is saturated with moisture.) This requirement is intended to prevent respirator valves from freezing when excess moisture accumulates on the valves, which can cause blockages in the flow of breathing air. You should verify with the supplier that the breathing air meets this requirement.

(i)(5)-(7) COMPRESSOR USE

General Requirements

You must ensure that compressors used with atmosphere-supplying respirators provide breathing air according to the following requirements:

(i)(5)(i) Location of compressor during use. The location of an air compressor during use is very important to maintain the purity of the supplied breathing air. For this reason, an air compressor in use must be located so that the air intake component is not drawing from areas that contain:

- Combustion exhaust from vehicles or the compressor itself.
- Plant process exhaust, which should be exhausted to the outside by the facility's ventilation system.
- Contaminated air from hazardous work areas.

(i)(5)(ii) Low moisture content of ambient air. The moisture content of compressed air must be kept to a minimum to prevent freezing of respirator valves at cold temperatures, which can cause blockages in the flow of breathing air. To ensure a low moisture content, the dew point at one atmosphere must be 10° F (5.56° C) below the ambient temperature (in plant).

Are there any systems for keeping moisture from getting into a compressor?

Water traps or desiccators can keep moisture out of a compressor. These systems remove the water from the air as it is run through the compressor, ensuring a certain level of dryness when it comes out. Such systems, like all other parts of a compressor, must be maintained in accordance with the manufacturer's instructions to properly remove the moisture.

(i)(5)(iii) Inline air purification. Suitable air-purifying beds and filters must be used in the supply lines to ensure delivery of a continuous flow of Grade D breathing air to the respirator user. (A sorbent bed is a filter designed to capture impurities in the air.) You must maintain, refurbish, or replace inline sorbent beds and filters as specified by the equipment manufacturer.

(i)(5)(iv) Tracking of bed and filter changes. You must ensure that a tag is maintained at/on the compressor with a note indicating when the sorbent beds and filters were last changed. The notation must include the signature of the person you have authorized to perform the bed and filter maintenance. Only a tag indicating the *most recent* filter and bed changes needs to be retained at/on the compressor.

Requirements Regarding Carbon Monoxide

You must take certain precautions in regard to carbon monoxide when using compressors with atmosphere-supplying respirators. These precautions are required because:

- Exposure to carbon monoxide above certain levels can be fatal.
- Sources of this potentially lethal gas are fairly common in many worksites. (In fact, one source of carbon monoxide is the exhaust from the compressor itself.)
- You will not be able to detect the presence of carbon monoxide because it is an odorless gas.

The types of precautions you will need to take depend on the type of compressor you use.

(i)(6)

Compressors that are not oil lubricated. With this type of compressor, you must ensure that carbon monoxide in the breathing air is less than or equal to 10 ppm. This can be achieved by:

- Locating the compressor's air intake component in an area free of contaminants
- Conducting continuous or frequent monitoring of the breathing air supply
- Using inline carbon monoxide filters
- Using high-temperature alarms or shut-off devices

Must each of these methods be used for compressors that are not oil lubricated?

No. You must use whichever of the above methods are necessary to ensure that carbon monoxide does not contaminate the breathing air. In some cases, one method may be all that is needed. In other cases, you may be required to use more than one of these methods. You must evaluate your own worksite conditions to determine which measures are needed to prevent carbon monoxide from contaminating breathing air.

(i)(7)

Compressors that are oil lubricated. With this type of compressor, carbon monoxide can be generated when oil enters the combustion chamber and is partially combusted. Therefore, you must ensure that the compressor operates with a carbon monoxide alarm or a high-temperature alarm.

Carbon monoxide alarms provide better protection than high-temperature alarms because the high-temperature alarms only detect carbon monoxide generated in the combustion chamber, and

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not carbon monoxide resulting from a poorly located compressor intake. Furthermore, high-temperature alarms are installed more for the purpose of protecting the compressor from damage than guarding employees from exposure to carbon monoxide. Because of this, the alarm component of the system is often located with the alarm sensor, where it may not be heard by the respirator users. Consequently, if the compressor has only a high-temperature alarm, you must ensure that air quality is frequently monitored to confirm that carbon monoxide levels stay below 10 ppm.

How often should I check on carbon monoxide levels?

Periodic monitoring for carbon monoxide is acceptable when using newer, well-maintained compressors. Continuous monitoring, however, is recommended for older compressors. In older equipment, oil may enter the air supply more readily due to piston ring or cylinder wear. Continuous monitoring also should be conducted for rented or second-hand compressors because the maintenance history is likely to be unknown or uncertain.

How do I check carbon monoxide levels?

Carbon monoxide levels can be tested with two general types of devices:

- Direct reading instruments that use electrochemical sensors
- Chemical detector tubes

Although the electrochemical devices tend to be more expensive, they are also more accurate (i.e., they have a 5 percent error rate). Also, such devices must be calibrated periodically (usually monthly) to achieve accurate readings. Chemical detector tubes have a higher error rate of 10 to 15 percent. Carbon monoxide filters (i.e., filters that convert carbon monoxide to carbon dioxide) with color-change indicators may not be used as carbon monoxide monitors because the color change indicates the presence of moisture, not carbon monoxide.

(i)(8)

PRECAUTIONS REGARDING COUPLINGS

You must ensure that couplings used on airlines for atmosphere-supplying respirators are *incompatible* with outlets for nonbreathable worksite air or other gas systems. This precaution

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must be taken to avoid the chance of inadvertently connecting a respirator to a source other than the breathing air. Such a mistake could result in serious illness or death.

Also, you must ensure that at no time is an asphyxiating substance introduced into a respirator's airlines. For example, an inert gas such as nitrogen must not be used to purge or clean breathing airlines.

(i)(9)

LABELING OF BREATHING GAS CONTAINERS

You must ensure that breathing air containers are labeled in keeping with the NIOSH respirator certification standard (42 CFR 84). The NIOSH standard incorporates ANSI's Method of Marking Portable Compressed Gas Containers to Identify Material Contained (Z48.1-1971). Proper labeling of containers will avoid the possibility of confusion when connecting the breathing air source to the respirator.

CHECKLIST FOR BREATHING AIR QUALITY AND USE

Check that at your facility:

General

- Compressed breathing air meets the requirements for Grade D breathing air.
- Compressed oxygen is not used in respirators that have previously used compressed air.
- Oxygen concentrations greater than 23.5 percent are used only in equipment designed for oxygen service or distribution.
- Breathing air couplings are incompatible with outlets for other gas systems.
- Breathing gas containers are marked with appropriate NIOSH certification.

Breathing Air Cylinders

- Cylinders are tested and maintained according to DOT 49 CFR Part 173 and 178.
- A certificate of analysis for breathing air has been obtained from the supplier.
- Moisture content in the cylinder does not exceed a dew point of -50° F at 1 atmosphere pressure.

CHECKLIST FOR BREATHING AIR QUALITY AND USE (cont.)

Compressors

- Are constructed and situated to prevent contaminated air from getting into the system.
- Are set up to minimize the moisture content.
- Are equipped with in-line air-purifying sorbent beds and/or filters that are maintained or replaced following manufacturer's instructions.
- Are tagged with information on the most recent change date of the filter and an authorizing signature.
- Carbon monoxide does not exceed 10 ppm in the breathing air from compressors that are not oil-lubricated.
- High-temperature and carbon monoxide alarms are used on oil-lubricated compressors, or that the air is monitored often enough to ensure that carbon monoxide does not exceed 10 ppm if only a high-temperature alarm is used.

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Section(j): IDENTIFICATION OF FILTERS, CARTRIDGES AND CANISTERS

This section of the standard requires you to ensure that all filters, cartridges and canisters used are labeled and color coded with the NIOSH approval label. You must also ensure that the label is not removed and remains legible.

To fulfill these requirements, you should adopt appropriate procedures for ensuring that:

- Only NIOSH-approved filters, cartridges, and canisters are used
- Labels are not removed, defaced, or obscured during respirator usage

These procedures may be included in your written respiratory protection program.

What is included on the NIOSH label?

The label clearly states the class of contaminants for which the filter, cartridge, or canister may be used (e.g., permissible particulate respirator filter for dusts, fumes and mists, including asbestos containing dusts and mists and radionuclides). The NIOSH approval number, and any limitations or precautions are also included on the label.

What is the purpose of the label?

The NIOSH label serves several purposes. It ensures selection of the appropriate cartridge/canister for the contaminants found in the workplace. Also, it permits the employee using the respirator to check and confirm that the respirator has the appropriate filters before the respirator is used. Further, the color coding scheme allows fellow employees, supervisors, and the respiratory protection program administrator to readily determine that the employee is using the appropriate filter.

Can I write the date of initial use on the label?

Yes. Marking the initial use date on the label can be done in a way that does not obscure the information on the label.

Section (k): TRAINING AND INFORMATION

Employee training is a critical part of a successful respiratory protection program and is essential for correct respirator use. You must provide training to your employees who are required to wear respirators.

(k)(1) CONTENT OF TRAINING

You must ensure that each employee can demonstrate knowledge of at least the following:

- **Why the respirator is necessary and how improper fit, usage, and maintenance can make the respirator ineffective.**

Training must address the identification of hazards, the extent of employee exposure to those hazards, and the potential health effects of exposure. The training that is required under the Hazard Communication standard (29 CFR 1910.1200) can satisfy this requirement for chemical hazards. Employees must understand that proper fit, usage, and maintenance of respirators is critical to ensure that they can perform their protective function.

- **What the limitations and capabilities of the selected respirator are.**

Training must cover how the respirator operates. Included must be an explanation of how the respirator provides protection by filtering the air, absorbing the gas or vapor, or by supplying a clean source of air. Limitations on the use of the equipment, such as prohibitions against using an air-purifying respirator in an IDLH atmosphere, and why not, must also be explained.

- **How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.**

Training must address the possibility of respirator malfunction and the development of emergency situations specific to the worksite. Employees must understand what procedures are to be followed in such circumstances, and which procedures require use of a different respirator.

- **How to inspect, put on and remove, and check the seals of the respirator.**

You must train employees how to recognize problems that may decrease the effectiveness of the respirator and what steps to follow if a problem is detected, such as the person to whom problems should be reported and where replacement equipment can be obtained if

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needed. If specialized personnel conduct inspections, individual respirator wearers only need to be taught about the portions of the inspection process that are their responsibility. You must also cover how to properly put on and remove the respirator to ensure that respirator fit in the workplace is as close as possible to the fit obtained during fit testing. Employees must be trained to perform user seal checks (see Appendix B-1 of the standard in Appendix I of this document).

- **What the respirator maintenance and storage procedures are.**

The extent of training required may vary according to workplace conditions. If employees are individually responsible for storing and maintaining respirators, detailed training may be necessary. If specialized personnel perform these functions, employees only need to be informed of the maintenance and storage procedures.

- **How to recognize medical signs and symptoms that may limit or prevent effective use of the respirator.**

You must instruct employees to recognize medical signs and symptoms, such as shortness of breath or dizziness, that may limit or prevent effective use of respirators. Examples of medical conditions and signs and symptoms that may affect an employee's ability to use a respirator are described in Appendix C of the standard in Appendix I of this document.

- **The general requirements of the Respiratory Protection standard.**

You must ensure that employees are aware, in general, of your obligations under the standard. This discussion need not focus on the standard's provisions but could, for example, simply inform employees that employers are obligated to develop a written program, properly select respirators, evaluate respirator use, correct deficiencies in respirator use, conduct medical evaluations, provide for the maintenance, storage and cleaning of respirators, and retain and provide access to specific records.

Do I Need to Follow a Particular Format?

No. As long as the required topics are addressed, you can use whatever training method is effective. Prepared materials, such as audiovisual and slide presentations, formal classroom instruction, informal discussions during safety meetings, training programs developed or conducted by unions or respirator manufacturers, or a combination of these methods may be used.

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In what sense are employees expected to be able to “demonstrate knowledge” of proper respirator use based on the training?

You must ensure that, before an employee is required to use a respirator in the workplace, he or she understands the information provided and can use the respirator properly. This can be done by reviewing the training with the employee either orally or in writing, and by reviewing the employee’s hands-on use of respirators.

(k)(2) COMPREHENSION OF TRAINING

Training must be conducted in a manner that is understandable to your employees. This means that your program should be tailored to your employees’ education level and language background.

(k)(3) TIMING OF TRAINING

You must provide the required training prior to requiring an employee to use a respirator in the workplace.

(k)(4) PORTABILITY OF TRAINING

If you can demonstrate that a new employee has received training within the last 12 months and can demonstrate the necessary knowledge, you are not required to repeat this training. In cases where training in some elements is lacking or inadequate, you are required to provide training in those elements. Previous training not repeated initially must be provided no later than 12 months from the date of the previous training.

(k)(5) RETRAINING

You must retrain employees in the proper use of respirators annually. You must also retrain employees when:

- Changes in the workplace or the type of respirator make previous training obsolete.
- The knowledge and skill necessary to use the respirator properly has not been retained by the employee.
- Any other situation arises in which retraining appears necessary to ensure safe respirator

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use.

(k)(6)

INFORMATION FOR VOLUNTARY RESPIRATOR USERS

For employees who choose to wear a respirator but are not required to do so, you are only required to provide the advisory information in Appendix D of the standard. This basic information on the proper use of respirators can be presented to the employee either verbally or in written form. Training is not required for employees who are not required to wear respirators, i.e., for employees who are wearing respirators voluntarily.

TRAINING AND INFORMATION CHECKLIST

Check that at your facility:

- Employees can demonstrate knowledge of:
 - Why the respirator is necessary and the consequences of improper fit, use, or maintenance.
 - Limitations and capabilities of the respirator.
 - How to effectively use the respirator in emergency situations.
 - How to inspect, put on, remove, use, and check the seals of the respirator.
 - Maintenance and storage procedures.
 - The general requirements of the respirator standard.
- Training is understandable to employees.
- Training is provided prior to employee use of a respirator.
- Retraining is provided:
 - Annually.
 - Upon changes in workplace conditions that affect respirator use.
 - Whenever retraining appears necessary to ensure safe respirator use.
- Appendix D of the standard is provided to voluntary users.

Section (I): PROGRAM EVALUATION

(I)(1) CONDUCTING PROGRAM EVALUATIONS

You must perform evaluations of the workplace as necessary to make sure that your written respiratory protection program is working effectively.

How often do I need to evaluate my written respiratory protection program?

You do not need to review your respiratory protection program according to any fixed schedule. The frequency with which you need to evaluate your respiratory protection program will depend on the complexity and/or variability of the program and factors such as:

- The type and extent of hazards in your workplace.
- The types of respirators used by your employees.
- The number of your employees who use respirators.
- The amount of experience your respirator-wearing employees have in using respirators.

You must evaluate respirator use with sufficient frequency to ensure that all elements of the respiratory protection program are being effectively implemented.

(I)(2) CONSULTING WITH EMPLOYEES

You must regularly consult with employees required to wear respirators to assess their views on the effectiveness of the respiratory protection program and to identify any problems that they may be encountering with the use of respirators. You must correct any problems that are identified. At a minimum, you must assess:

- Whether proper fit of respirators is being achieved, and whether respirator use is interfering with effective work performance.
- Whether appropriate respirators have been selected.
- Whether respirators are being properly used.

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- Whether respirators are being properly maintained.

When I consult with my employees, what should I ask them?

You may want to ask your employees questions such as:

- Does your respirator interfere with your hearing or vision?
- Do you experience fatigue or have difficulty breathing during respirator use?
- Does your respirator restrict your movements or interfere with your job performance in any way?
- Is your respirator uncomfortable?
- Are you confident that you are using your respirator correctly?
- Are you confident that your respirator is performing adequately?

PROGRAM EVALUATION CHECKLIST

Check that at your facility:

- Workplace evaluations are being conducted as necessary to ensure that the written respiratory protection program is being effectively implemented.
- Employees required to wear respirators are being regularly consulted to assess the employees' views and to identify problems with respirator fit, selection, use and maintenance.
- Any problems identified during assessments are corrected.

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Section (m): RECORDKEEPING

To assist you in auditing the adequacy of your respiratory protection program, to facilitate employee involvement, and to provide a record for compliance determinations by OSHA, you must retain certain records.

(m)(1) MEDICAL EVALUATION RECORDS

Records of medical evaluations required by the standard and described in section (e) of this guide must be retained and made available to the affected employees in accordance with OSHA's Access to Employee Exposure and Medical Records standard (29 CFR 1910.1020).

(m)(2) RESPIRATOR FIT TESTING RECORDS

You are required to retain written records of the qualitative and quantitative fit tests administered to your employees. These records need to include:

- The name or identification of the employee tested.
- The type of fit test performed.
- The make, model, and size of the respirator tested.
- The date of the fit test.
- Pass/fail results if a qualitative fit test (QLFT) is used, or the fit factor and strip chart recording or other record of the test results if a quantitative fit test (QNFT) is used.

How long do I need to retain fit test records?

Fit test records must be retained for respirator users until the next fit test is administered.

Do I need to retain records of fit tests for employees who are no longer using respirators?

No. Fit test records do not need to be retained for these employees.

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(m)(3) WRITTEN RESPIRATORY PROTECTION PROGRAM

You must retain a written copy of your current respiratory protection program.

(m)(4) ACCESS TO RECORDS

Written materials required to be retained must be made available upon request to the affected employees, their designated representatives, and to OSHA. See 29 CFR 1910.1020 for more information.

Do I need to allow employees and OSHA to make copies of these materials?

Yes. You need to make these materials available for inspection and for copying.

Must employees be allowed access to the records of other employees?

No. Each affected employee can have access to his or her records only.

RECORDKEEPING CHECKLIST

Check that at your facility:

- Records of medical evaluations have been retained.
- Fit testing records have been retained.
- A copy of the current respiratory protection program has been retained.
- Access to these records is provided to affected employees.

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Section (n): DATES

This portion of the Respiratory Protection standard sets forth the dates by which you must meet the requirements of the revised Respiratory Protection standard.

(n)(1) EFFECTIVE DATE

The revised Respiratory Protection standard became effective on October 5, 1998.

(n)(4) EXISTING RESPIRATORY PROTECTION PROGRAMS

You may use the results of training, fit testing, or program or medical evaluations conducted within twelve months prior to April 8, 1998 to comply with the revised Respiratory Protection standard, if the results meet the requirements of the standard.

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APPENDIX I

Respiratory Protection Standard (29 CFR 1910.134)

Shipyards (29 CFR 1915.154)

Marine Terminals (29 CFR 1917.92)

Longshoring (29 CFR 1918.102)

Construction (29 CFR 1926.103)

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APPENDIX II

OSHA Area and Regional Offices
States With Consultation Programs and Approved OSHA Plans

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OSHA AREA OFFICES (By state, in alphabetical order)

US Department of Labor - OSHA
2047 Canyon Road - Todd Mall
Birmingham, AL 35216
Telephone:(205) 731-1534

US Department of Labor - OSHA
3737 Government Blvd., Suite 100
Mobile, AL 36693
Telephone:(205) 441-6131

US Department of Labor - OSHA
301 W. Northern Lights Blvd.
Suite 407
Anchorage, AK 99503
Telephone:(907) 271-5152

US Department of Labor - OSHA
3221 North 16th Street, Suite 100
Phoenix, AZ 85016
Telephone:(602) 640-2007

US Department of Labor - OSHA
425 West Capitol
Suite 450
Little Rock, AR 72201
Telephone:(501) 324-6292

US Department of Labor - OSHA
71 Stevenson Street, Suite 415
San Francisco, CA 94105
Telephone:(415) 744-7120

US Department of Labor - OSHA
1391 North Speer Blvd.
Suite 210
Denver, CO 80204
Telephone:(303) 844-5285

US Department of Labor - OSHA
7935 E. Prentice Ave., Suite 209
Englewood, CO 80111-2714
Telephone:(303) 843-4500

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US Department of Labor - OSHA
One Lafayette Square, Suite 202
Bridgeport, CT 06604
Telephone:(203) 579-5579

US Department of Labor - OSHA
Federal Office Building
450 Main Street, Room 508
Hartford, CT 06103
Telephone:(203) 240-3152

US Department of Labor - OSHA
Jacaranda Executive Court
8040 Peters Road
Building H-100
Fort Lauderdale, FL 33324
Telephone:(305) 424-0242

US Department of Labor - OSHA
Ribault Building
1851 Executive Center Drive
Suite 227
Jacksonville, FL 32207
Telephone:(904) 232-2895

US Department of Labor - OSHA
5807 Breckenridge Pkwy.
Suite A
Tampa, FL 33610
Telephone:(813) 626-1177

US Department of Labor - OSHA
450 Mall Blvd., Suite J
Savannah, GA 31406
Telephone:(912) 652-4393

US Department of Labor - OSHA
2400 Herodian Way, Suite 250
Smyrna, GA 30080
Telephone:(404) 984-8700

US Department of Labor - OSHA
Bldg. 7, Suite 110
La Vista Perimeter Office Park
Tucker, GA 30084

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Telephone:(770) 493-6644

US Department of Labor - OSHA
300 Ala Moana Blvd., Suite 5122
Honolulu, HI 96850
Telephone:(808) 541-2685

US Department of Labor - OSHA
3050 N. Lakeharbor Lane
Suite 134
Boise, ID 83703
Telephone:(208) 334-1867

US Department of Labor - OSHA
1600 167th Street, Suite 12
Calumet City, IL 60409
Telephone:(708) 891-3800

US Department of Labor - OSHA
2360 E. Devon Avenue
Suite 1010
Des Plaines, IL 60018
Telephone:(708) 803-4800

US Department of Labor - OSHA
344 Smoke Tree Business Park
North Aurora, IL 60542
Telephone:(630) 803-896-8700

US Department of Labor - OSHA
2918 West Willow Knolls Road
Peoria, IL 61614
Telephone:(309) 671-7033

US Department of Labor - OSHA
46 East Ohio Street, Room 423
Indianapolis, IN 46204
Telephone:(317) 226-7290

US Department of Labor - OSHA
210 Walnut Street, Room 815
Des Moines, IA 50309
Telephone:(515) 284-4794

US Department of Labor - OSHA

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300 Epic Center
301 N. Main
Wichita, KS 67202
Telephone:(316) 269-6644

US Department of Labor - OSHA
John C. Watts Fed. Bldg., Room 108
330 W. Broadway
Frankfort, KY 40601
Telephone:(502) 227-7024

US Department of Labor - OSHA
2156 Wooddale Blvd.
Hoover Annex, Suite 200
Baton Rouge, LA 70806
Telephone:(504) 389-0474

US Department of Labor - OSHA
U.S. Federal Building
202 Harlow Street,
Room 211
Bangor, ME 04401
Telephone:(207) 941-8177

US Department of Labor - OSHA
300 West Pratt Street
Suite 280
Baltimore, MD 21201
Telephone:(410) 962-2840

US Department of Labor - OSHA
639 Granite Street, 4th Floor
Braintree, MA 02184
Telephone:(617) 565-6924

US Department of Labor - OSHA
Valley Office Park
13 Branch Street
Methuen, MA 01844
Telephone:(617) 565-8110

US Department of Labor - OSHA
1145 Main Street, Room 108
Springfield, MA 01103-1493
Telephone:(413) 785-0123

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US Department of Labor - OSHA
801 South Waverly Rd.
Suite 306
Lansing, MI 48917-4200
Telephone:(517) 377-1892

US Department of Labor - OSHA
Federal Courts Bldg.
110 South 4th Street, Room 116
Minneapolis, MN 55401
Telephone:(612) 348-1994

US Department of Labor - OSHA
3780 I-55 North
Suite 210
Jackson, MS 39211
Telephone:(601) 965-4606

US Department of Labor - OSHA
6200 Connecticut Avenue, Suite 100
Kansas City, MO 64120
Telephone:(816) 483-9531

US Department of Labor - OSHA
911 Washington Avenue
Room 420
St. Louis, MO 63101
Telephone:(314) 425-4249

US Department of Labor - OSHA
19 N. 25th Street
Billings, MT 59101
Telephone:(406) 657-6649

US Department of Labor - OSHA
Overland Wolf Bldg., Room 100
6910 Pacific Street
Omaha, NE 68106
Telephone:(402) 221-3182

US Department of Labor - OSHA
1050 East Williams, Suite 435
Carson City, NV 89701
Telephone:(702) 885-6963

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US Department of Labor - OSHA
279 Pleasant Street, Suite 201
Concord, NH 03301
Telephone:(603) 225-1629

US Department of Labor - OSHA
1030 Saint Georges Ave.
Plaza 35, Suite 205
Avenel, NJ 07001
Telephone:(908) 750-3270

US Department of Labor - OSHA
500 Route 17 South, 2nd Floor
Hasbrouck Heights, NJ 07604
Telephone:(201) 288-1700

US Department of Labor - OSHA
Marlton Executive Park
701 Route 73 South Bldg. 2
Suite 120
Marlton, NJ 08053
Telephone:(609) 757-5181

US Department of Labor - OSHA
299 Cherry Hill Road, Suite 304
Parsippany, NJ 07054
Telephone:(201) 263-1003

US Department of Labor - OSHA
505 Marquette Avenue, NW
Suite 820
Albuquerque, NM 87102-2160
Telephone:(505) 248-5302

US Department of Labor - OSHA
401 New Karner Road
Suite 300
Albany, New York 12205-3809
Telephone:(518) 464-6742

US Department of Labor - OSHA
42-40 Bell Blvd. 5th Floor
Bayside, NY 11361
Telephone:(718) 279-9060

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US Department of Labor - OSHA
5360 Genesee Street
Bowmansville, NY 14026
Telephone:(716) 684-3891

US Department of Labor - OSHA
90 Church Street, Room 1407
New York, NY 10007
Telephone:(212) 264-9840

US Department of Labor - OSHA
3300 Vikery Road, North New
Syracuse, NY 13212
Telephone:(315) 451-0808

US Department of Labor - OSHA
660 White Plains Road
4th Floor
Tarrytown, NY 10591-5107
Telephone:(914) 524-7510

US Department of Labor - OSHA
990 Westbury Road
Westbury, NY 11590
Telephone:(516) 334-3344

US Department of Labor - OSHA
Century Station, Room 438
300 Fayetteville Street Mall
Raleigh, NC 27601
Telephone:(919) 856-4770

US Department of Labor - OSHA
220 E. Rosser, Room 348
P.O. Box 2439
Bismarck, ND 58501
Telephone:(701) 250-4521

US Department of Labor - OSHA
36 Triangle Park Drive
Cincinnati, OH 45246
Telephone:(513) 841-4132

US Department of Labor - OSHA
Federal Office Building, Room 899

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1240 East Ninth Street
Cleveland, OH 44199
Telephone:(216) 522-3818

US Department of Labor - OSHA
Federal Office Bldg., Room 620
200 N. High Street
Columbus, OH 43215
Telephone:(614) 469-5582

US Department of Labor - OSHA
Federal Office Bldg., Room 734
234 North Summit Street
Toledo, OH 43604
Telephone:(419) 259-7542

US Department of Labor - OSHA
420 West Main Place, Suite 300
Oklahoma City, OK 73102
Telephone:(405) 231-5351

US Department of Labor - OSHA
1220 S.W. Third Avenue, Room 640
Portland, OR 97294
Telephone:(503) 326-2251

US Department of Labor - OSHA
850 N. 5th Street
Allentown, PA 18102
Telephone:(610) 776-0592

US Department of Labor - OSHA
3939 West Ridge Road
Suite B-12
Erie, PA 16506-1857
Telephone:(814) 833-5758

US Department of Labor - OSHA
Progress Plaza
49 N. Progress Street
Harrisburg, PA 17109
Telephone:(717) 782-3902

US Department of Labor - OSHA
U.S. Custom House, Room 242

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Second and Chestnut Street
Philadelphia, PA 19106
Telephone:(215) 597-4955

US Department of Labor - OSHA
Federal Building, Room 1428
1000 Liberty Avenue
Pittsburgh, PA 15222
Telephone:(412) 644-2903

US Department of Labor - OSHA
Penn Place, Room 2005
20 North Pennsylvania Avenue
Wilkes-Barre, PA 18701
Telephone:(717) 826-6538

US Department of Labor - OSHA
BBV Plaza Building, Suite 5B
1510 F.D. Roosevelt Avenue
Guaynabo, PR 00968
Telephone: (787) 277-1560
Telephone:(809) 766-5457

US Department of Labor - OSHA
380 Westminster Mall, Room 243
Providence, RI 02903
Telephone:(401) 528-4669

US Department of Labor - OSHA
1835 Assembly Street, Room 1468
Columbia, SC 29201
Telephone:(803) 765-5904

US Department of Labor - OSHA
2002 Richard Jones Road
Suite C-205
Nashville, TN 37215
Telephone:(615) 781-5423

US Department of Labor - OSHA
903 San Jacinto Blvd.
Suite 319
Austin, TX 78701
Telephone:(512) 916-5783

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US Department of Labor - OSHA
Wilson Plaza
606 N. Carancahua, Suite 700
Corpus Christi, TX 78476
Telephone:(512) 884-2694

US Department of Labor - OSHA
8344 East R.L. Thornton Freeway
Suite 420
Dallas, TX 75228
Telephone:(214) 320-2400

US Department of Labor - OSHA
North Star 2 Building
Suite 430
8713 Airport Freeway
Fort Worth, TX 76180-7604
Telephone:(817) 885-7025

US Department of Labor - OSHA
17625 El Camino Real, Suite 400
Houston, TX 77058
Telephone:(713) 286-0583

US Department of Labor - OSHA
350 North Sam Houston Parkway
Suite 120
Houston, TX 77058
Telephone:(713) 591-2438

US Department of Labor - OSHA
Federal Building, Room 422
1205 Texas Avenue
Lubbock, TX 79401
Telephone:(806) 743-7681

US Department of Labor - OSHA
1781 South 300 West
Salt Lake City, UT 84165-0200
Telephone:(801) 524-5080

US Department of Labor - OSHA
AFOB, Room 835
200 Granby Mall
Norfolk, VA 23510

Small Entity Compliance Guide

Telephone:(804) 441-3820

US Department of Labor - OSHA
505 16th Avenue, N.E.
Bellevue, WA 98004
Telephone:(206) 553-7520

US Department of Labor - OSHA
550 Eagan Street, Room 206
Charleston, WV 25301
Telephone:(304) 347-5937

US Department of Labor - OSHA
2618 North Ballard Road
Appleton, WI 54915
Telephone:(414) 734-4521

US Department of Labor - OSHA
4802 East Broadway
Madison, WI 53716
Telephone:(608) 264-5388

US Department of Labor - OSHA
Henry S. Reuss Bldg.
Suite 1180
310 West Wisconsin Ave.
Milwaukee, WI 53203
Telephone:(414) 297-3315

OSHA REGIONAL OFFICES

**U.S. Department of Labor
Occupational Safety and Health Administration
Regional Offices**

Region I
(CT, * MA, ME, NH, RI, VT*)
133 Portland Street
1st Floor
Boston, MA 02114
Telephone: (617) 565-9860

Small Entity Compliance Guide

Region II

(NJ, NY,* PR,* VI*)

201 Varick Street

Room 670

New York, NY 10014

Telephone: (212) 337-2378

Region III

(DC, DE, MD,* PA, VA,* WV)

Gateway Building, Suite 2100

3535 Market Street

Philadelphia, PA 19104

Telephone: (215) 596-1201

Region IV

(AL, FL, GA, KY,* MS, NC, SC,* TN*)

1375 Peachtree Street, N.E.

Suite 587

Atlanta, GA 30367

Telephone: (404) 347-3573

Region V

(IL, IN,* MI,* MN,* OH, WI)

230 South Dearborn Street

Room 3244

Chicago, IL 60604

Telephone: (312) 353-2220

Region VI

(AR, LA, NM,* OK, TX)

525 Griffin Street

Room 602

Dallas, TX 75202

Telephone: (214) 767-4731

Region VII

(IA,* KS, MO, NE)

City Center Square

1100 Main Street, Suite 800

Kansas City, MO 64105

Telephone: (816) 426-5861

Small Entity Compliance Guide

Region VIII
(CO, MT, ND, SD, UT,* WY*)
1999 Broadway, Suite 1690
Denver, CO 80202-5716
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Region IX
**(American Samoa, AZ,* CA,* Guam,
HI,* NV,* Trust Territories of the Pacific)**
71 Stevenson Street
Room 420
San Francisco, CA 94105
Telephone: (415) 975-4310

Region X
(AK,* ID, OR,* WA*)
1111 Third Avenue
Suite 715
Seattle, WA 98101-3212
Telephone: (206) 553-5930

*These states and territories operate their own OSHA-approved job safety and health programs (Connecticut and New York plans cover public employees only). States with approved programs must have a standard that is identical to, or at least as effective as, the federal standard.

Small Entity Compliance Guide

States With Consultation Programs and Approved OSHA Plans

States With Consultation Programs

ALABAMA

Safe State Program
University of Alabama
432 Martha Parham West
PO Box 870388
Tuscaloosa, Alabama 35487
(205) 348-3033 Fax: (205) 348-3049

ALASKA

ADOL/OSHA Division of Consultation
3301 Eagle Street
P.O. Box 107022
Anchorage, Alaska 99510
(907) 269-4957 Fax: (907) 269-4950

ARIZONA

Consultation and Training
Industrial Commission of Arizona
Division of Occupational Safety & Health
800 West Washington
Phoenix, Arizona 85007
(602) 542-5795 Fax: (602) 542-1614

ARKANSAS

OSHA Consultation
Arkansas Department of Labor
10421 West Markham
Little Rock, Arkansas 72205
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CALIFORNIA

CAL/OSHA Consultation Service
Department of Industrial Relations
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San Francisco, California 94105
(415) 972-8515 Fax: (425) 972-8513

States with Approved State Plans

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Alaska Department of Labor
1111 W. 8th Street, Room 306
Juneau, Alaska 99801
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ARIZONA

Industrial Commission of Arizona
800 W. Washington
Phoenix, Arizona 85007
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CALIFORNIA

California Department of Industrial Relations
45 Fremont Street
San Francisco, California 94105
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States With Consultation Programs

COLORADO

Colorado State University
Occupational Safety and Health Section
115 Environmental Health Building
Fort Collins, Colorado 80523
(970) 491-6151 Fax:(970) 491-7778

CONNECTICUT

Connecticut Department of Labor
Division of Occupational Safety & Health
38 Wolcott Hill Road
Wethersfield, Connecticut 06109
(203) 566-4550 Fax: (203) 566-6916

DELAWARE

Delaware Department of Labor
Division of Industrial Affairs
Occupational Safety and Health
4425 Market Street
Wilmington, Delaware 19802
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WASHINGTON D.C.

DC Department of Employment Services
Office of Occupational Safety and Health
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Washington, D.C. 20011
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Florida Department of Labor and
Employment Security
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of Safety
2002 St. Augustine Road,
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Tallahassee, Florida 32399
(850) 922 8955 Fax: (850) 922-4538

States with Approved State Plans

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Connecticut Department of Labor
200 Folly Brook Boulevard
Wethersfield, Connecticut 06109
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States With Consultation Programs

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7(c)(1) Onsite Consultation Program
Georgia Institute of Technology
O'Keefe Building, Room 22
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GUAM

OSHA Onsite Consultation
Department of Labor, Government of Guam
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Tamuning, Guam 69631
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HAWAII

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Department of Labor and Industrial Relations
830 Punchbowl Street
Honolulu, Hawaii 96813
(808) 586-9100 Fax: (808) 586-9099

IDAHO

Boise State University, Department of health
Studies
1910 University Drive, ET-338A
Boise, Idaho 83725
(208) 385-3283 Fax: (208) 385-4411

ILLINOIS

Illinois Onsite Consultation
Industrial Service Division
Department of Commerce & Community
Affairs
State of Illinois Center, Suite 3-400
100 West Randolph Street
Chicago, Illinois 60601
(312) 814-2337 Fax: (312) 814-7238

States with Approved State Plans

HAWAII

Hawaii Department of labor and Industrial
Relations
830 Punchbowl Street
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States With Consultation Programs

INDIANA

Bureau of Safety, Education and Training
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402 West Washington
Indianapolis, Indiana 46204
(317) 232-2688 Fax: (317) 232 0748

IOWA

7(c)(1) Consultation Program
Iowa Bureau of Labor
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Des Moines, Iowa 50319
(515) 281-5352 Fax: (515) 281-4831

KANSAS

Kansas 7(c)(1) Consultation
Department of Human Resources
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Topeka, Kansas 40601
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KENTUCKY

Division of Education and Training
Kentucky labor Cabinet
1047 U.S. Highway 127 South
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(502) 564-6895 Fax: (502) 564-4769

LOUISIANA

7(c)(1) Consultation Program
Louisiana Department of Labor
OWC-OSHA Consultation
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Baton Rouge, Louisiana 70804
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States with Approved State Plans

INDIANA

Indiana Department of Labor
State Office Building
402 West Washington Street
Room W195
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(317) 232-2378 Fax: (317)233-3790

IOWA

Iowa Division of Labor
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Des Moines, Iowa 50319
(515) 281-3469 Fax: (515) 281-7995

KENTUCKY

Kentucky Labor Cabinet
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Frankfort, Kentucky 40601
(502) 564-3070 Fax: 564-5387

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States With Consultation Programs

MAINE

Division of Industrial Labor
Maine Bureau of Labor
State House Station #82
Augusta, Maine 04333
(207) 624-6460 Fax: (207) 624-6449

MARYLAND

Division of Labor and Industry
312 Marshall Avenue, Room 600
Laurel, Maryland 20707
(410) 880-4970 Fax: (410) 880-6369

MASSACHUSETTS

The Commonwealth of Massachusetts
Department of Labor & Industries
1001 Watertown Street
West Newton, Massachusetts 02165
(617) 727-3982 Fax: (617) 727-4581

MICHIGAN (HEALTH)

Michigan Department of Public Health
Division of Occupational Health
3423 North Martin Luther King Boulevard
Lansing, Michigan 48909
(517) 335-8250 Fax: (517) 335-8010

MICHIGAN (SAFETY)

Michigan Department of Consumer and
Industry Services
7150 Harris Drive
Lansing, Michigan 48909
(517) 332-1809 Fax: (517) 332-1374

States with Approved State Plans

MARYLAND

Maryland Division of Labor and Industry
Department of Labor Licensing and
Regulation
1100 N. Eutaw Street, Room 613
Baltimore, Maryland 21201-2206
(410) 767-2215 Fax: (410) 767-2003

MICHIGAN

Michigan Department of Consumer and
Industry Relations
4th Floor, Law Building
P.O. Box 30004
Lansing, Michigan 48909
(517) 373-7230 Fax: (517) 373-2129

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States With Consultation Programs

MINNESOTA

Department of Labor and Industry
443 Lafayette Road
Saint Paul, Minnesota 55155
(612) 297-2393 Fax: (612) 297-1953

MISSISSIPPI

Mississippi State University
Center for Safety and Health
2906 North State Street, Suite 201
Jackson, Mississippi 39216
(601) 987-3981 Fax: (601) 987-3890

MISSOURI

Division of Labor Standards
Onsite Consultation program
Department of Labor and Industrial Relations
3315 West Truman Boulevard
P.O. Box 449
Jefferson City, Missouri 65102
(573) 751-3721, (800) 475-2130

MONTANA

Department of Labor and Industry
Bureau of Safety
P.O. Box 1728
Helena, Montana 59624-1728
(406) 444-6418 Fax: (406) 444-4140

NEBRASKA

Division of Safety Labor and Safety
Standards
Nebraska Department of Labor
State Office Building, Lower Level
301 Centennial mall, South
Lincoln, Nebraska 68509-5024
(402) 471-4717 Fax: (402) 471-5039

States with Approved State Plans

MINNESOTA

Minnesota Department of Labor and Industry
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St. Paul, Minnesota 55155
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States With Consultation Programs

NEVADA

Division of Preventive Safety
Department of Industrial Relations, Suite 106
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Las Vegas, Nevada 89106
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NEW HAMPSHIRE

New Hampshire Department of Health
Division of Public Health Services
6 Hazen Drive
Concord, New Hampshire 03301-6527
(603) 271-2024 Fax: (603) 271-2667

NEW JERSEY

New Jersey Department of Labor
Division of Public Safety and Occupational
Safety and Health
225 E. State Street
8th Floor West
P.O. Box 953
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(609) 292-3923 Fax: (609) 292-4409

NEW MEXICO

New Mexico Environmental Department
Occupational Health and Safety Bureau
525 camino de Los Marquez, Suite 3
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-4230 Fax: (505) 827-4422

NEW YORK

Division of Safety and Health
State Office Campus
Building 12, Room 130
Albany, New York 12240
(518) 457-1169 Fax: (518) 457-3454

States with Approved State Plans

NEVADA

Nevada Division of Industrial Relations
400 West king Street
Carson City, Nevada 89703
(702) 687-3032 Fax: (702) 687-6305

NEW MEXICO

New Mexico Environment Department
1190 St. Francis Drive
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Santa Fe, New Mexico 87502
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NEW YORK

New York Department of Labor
W. Averell Harriman State Office
Building 12, room 500
Albany, New York 12240
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States With Consultation Programs

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North Carolina Department of Labor
319 Chapanoke Road, Suite 105
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(919) 662-4644 Fax: (919) 662-4671

NORTH DAKOTA

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1200 Missouri Avenue, Room 304
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OHIO

Bureau of Employment Services
145 S. Front Street
Columbus, Ohio 43216
(614) 644-2246 Fax: (614) 644-3133

OKLAHOMA

Oklahoma Department of Labor
OSHA Division
4001 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-5212
(405) 528-1500 Fax: (405) 528-5751

OREGON

Department of Consumer and Business Services
Oregon Occupational Safety and Health Division
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Salem, Oregon 97310
(503) 378-3272 Fax: (503) 378-5729
toll free: (800) 922-2689

States with Approved State Plans

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North Carolina Department of Labor
319 Chapanoke Road
Raleigh, North Carolina 27603
(919) 662-4585 Fax: (919) 662-4582

OREGON

Department of Consumer and Business Services
Occupational Safety and Health Division (OR-OSHA)
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Salem, Oregon 97310-0220
(503) 378-3272 Fax: (503) 947-7461

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Safety Sciences Department
205 Uhler Hall
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PUERTO RICO

Occupational Safety and Health Office
Department of Labor and Human Resources
21st Floor
505 Munoz Rivera Avenue
Hato Rey, Puerto Rico 00918
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RHODE ISLAND

Rhode Island Department of Health
Division of Occupational Health
3 Capital Hill
Providence, Rhode Island 02908
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SOUTH CAROLINA

South Carolina Department of Labor
Licensing and Regulation
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Columbia, South Carolina 29204
(803) 734-9614 Fax: (803) 734-9741

SOUTH DAKOTA

Engineering Extension
Onsite Technical Division
South Dakota State University
Box 510
West Hall
907 Harvey Dunn Street
Brookings, South Dakota 57007
(605) 688-4101 Fax: (605) 688-6290

States with Approved State Plans

PUERTO RICO

Puerto Rico Department of Labor and Human
Resources
Prudencio Rivera Martinez building
505 Munoz Rivera Avenue
Hato Rey, Puerto Rico 00918
(787) 754-2119 Fax: (787) 753-9550

SOUTH CAROLINA

South Carolina Department of Labor,
Licencing and Regulation
Koger Office Park, Kingstree Building
110 Centerview Drive
P.O. Box 11329
Columbia, South Carolina 29210
(803) 896-4300 Fax: (803) 896-4393

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States With Consultation Programs

TENNESSEE

OSHA Consultative Services
Tennessee Department of Labor
710 James Robertson Parkway, 3rd Floor
Nashville, Tennessee 37243-0659
(615) 741-7036 Fax: (615) 532-2997

TEXAS

Worker's Health and Safety Division
Worker's Compensation Commission
Southfield Building
4000 South I H 35
Austin, Texas 78704
(512) 440-3854 Fax: (512) 440-3831

UTAH

Utah industrial Commission
Consultation Services
160 East 300 South
Salt Lake City, Utah 84114-6650
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VERMONT

Division of Occupational Safety and Health
Vermont Department of Labor and Industry
National Life Building, Drawer 20
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(802) 828-2765 Fax: (802) 828-2748

VIRGINIA

Virgin Department of Labor and Industry
Occupational Safety and Health
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13 South 13th Street
Richmond, Virginia 23219
(804) 786-6359 Fax: (804) 786-8418

States with Approved State Plans

TENNESSEE

Tennessee Department of Labor
710 James Robertson Parkway
Nashville, Tennessee 37243-0659
(615) 741-2582 Fax: (615) 741-5078

UTAH

Labor Commission of Utah
160 East 300 South, 3rd Floor
P.O. Box 146650
Salt Lake City, Utah, 84114-6650
(801) 530-6880 Fax: (801) 530-6390

VERMONT

Vermont Department of Labor and Industry
National Life Building - Drawer 20
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Montpelier, Vermont 05620-3401
(802) 828-2288 Fax: (802) 828-2748

VIRGINIA

Virginia Department of Labor and Industry
Powers-Taylor Building
13 South 13th Street
Richmond, Virginia 23219
(804) 786-2377 Fax: (804) 371-6524

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States With Consultation Programs

VIRGIN ISLANDS

Division of Occupational Safety and Health
Virgin Islands Department of Labor
3021 Golden Rock
Christiansted
St. Croix, Virgin Islands 00840
(809) 772-1315 Fax: (809) 772-4323

WASHINGTON

Washington Department of labor and
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Division of Industrial Safety and Health
P.O. Box 44643
Olympia, Washington 98504
(360) 902-5443 Fax: (360) 902-5459

WEST VIRGINIA

West Virginia Department of Labor
Capitol Complex Building #3
1800 East Washington Street, Room 319
Charleston, West Virginia 25305
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WISCONSIN (HEALTH)

Wisconsin Dept. of Health and Family
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Bureau of Public Health, Section of
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1414 E. Washington Avenue, Rm 112
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WYOMING

Wyoming Department of Employment
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Herschler Building, 2 East
25122 West 25th Street
Cheyenne, Wyoming 82002
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States with Approved State Plans

VIRGIN ISLANDS

Virgin Islands Department of Labor
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(809) 773-1994 Fax: (809) 773-1858

WASHINGTON

Washington Department of Labor and
Industries
General Administration Building
P.O. Box 44001
Olympia, Washington 98504-4001
(360) 902-4200 Fax: (360) 902 4042

WYOMING

Worker's Safety and Compensation Division
(WSC)
Wyoming Department of Employment
Herschler Building, 2nd Floor East
122 West 25th Street
Cheyenne, Wyoming 82002
(307) 777-7786 Fax: (307) 777-5850

Small Entity Compliance Guide

APPENDIX III

Questions and Answers on the Respiratory Protection standard

Small Entity Compliance Guide

APPENDIX IV
Small Entity Compliance Guide:
Sample Respiratory Protection Program

Small Entity Compliance Guide

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Sample Respiratory Protection Program**

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Small Entity Compliance Guide

This Sample Respiratory Protection Program is for demonstration purposes only. XYZ Seating is not intended to represent an actual company. XYZ is a hypothetical company that has chosen to interpret certain provisions of 29 CFR 1910.134 in ways that could be different from the way another company might choose to implement it.

1.0 Purpose

XYZ Seating has determined that employees in the Prep, Coating, Assembly, and Maintenance departments are exposed to respiratory hazards during routine operations. These hazards include wood dust, particulates, and vapors, and in some cases represent Immediately Dangerous to Life or Health (IDLH) conditions. The purpose of this program is to ensure that all XYZ Seating employees are protected from exposure to these respiratory hazards.

Engineering controls, such as ventilation and substitution of less toxic materials, are the first line of defense at XYZ Seating; however, engineering controls have not always been feasible for some of our operations, or have not always completely controlled the identified hazards. In these situations, respirators and other protective equipment must be used. Respirators are also needed to protect employees' health during emergencies. The work processes requiring respirator use at XYZ Seating are outlined in Table 1 in the Scope and Application section of this program.

In addition, some employees have expressed a desire to wear respirators during certain operations that do not require respiratory protection. As a general policy XYZ Seating will review each of these requests on a case-by-case basis. If the use of respiratory protection in a specific case will not jeopardize the health or safety of the worker(s), XYZ Seating will provide respirators for voluntary use. As outlined in the Scope and Application section of this program, voluntary respirator use is subject to certain requirements of this program.

2.0 Scope and Application

This program applies to all employees who are required to wear respirators during normal work operations, and during some non-routine or emergency operations such as a spill of a hazardous substance. This includes employees in the Prep, Coating (Spray Booth), Assembly, and Maintenance departments. All employees working in these areas and engaged in certain processes or tasks (as outlined in the table below) must be enrolled in the company's respiratory protection program.

In addition, any employee who voluntarily wears a respirator when a respirator is not required (i.e., in certain maintenance and coating operations) is subject to the medical evaluation, cleaning, maintenance, and storage elements of this program, and must be provided with certain information specified in this section of the program.¹

¹ Employees who voluntarily wear filtering facepieces (dust masks) are not subject to the medical evaluation, cleaning, storage, and maintenance provisions of this program.

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with training, medical evaluations and respiratory protection equipment will be borne by the company.

| TABLE 1: VOLUNTARY AND REQUIRED RESPIRATOR USE AT XYZ SEATING | |
|--|--|
| Respirator | Department/Process |
| Filtering facepiece (dust mask) | Voluntary use for warehouse workers |
| Half-facepiece APR or PAPR with P100 filter | Prep and Assembly Voluntary use for maintenance workers when cleaning spray booth walls or changing spray booth filter |
| SAR, pressure demand, with auxiliary SCBA | Maintenance - dip coat tank cleaning |
| Continuous flow SAR with hood | Spray booth operations Prep (cleaning)* |
| Half-facepiece APR with organic vapor cartridge | Voluntary use for Dip Coat Tenders, Spray Booth Operators (gun cleaning), and Maintenance workers (loading coating agents into supply systems) |
| Escape SCBA | Dip Coat, Coatings Storage Area, Spray Booth Cleaning Area |

* until ventilation is installed.

3.0 Responsibilities

Program Administrator

The Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards.
- Selection of respiratory protection options.
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage and maintenance of respiratory protection equipment.

- Conducting qualitative fit testing with Bitrex.
- Administering the medical surveillance program.
- Maintaining records required by the program.
- Evaluating the program.
- Updating written program, as needed.

The Program Administrator for Company XYZ Seating is _____.

Supervisors

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing, and annual medical evaluation.
- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.
- Enforcing the proper use of respiratory protection when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan.
- Ensuring that respirators fit well and do not cause discomfort.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

Employees

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

- Care for and maintain their respirators as instructed, and store them in a clean sanitary location.
- Inform their supervisor if the respirator no longer fits well, and request a new one that fits properly.
- Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.

4.0 Program Elements

Selection Procedures

The Program Administrator will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all OSHA standards. The Program Administrator will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- 2) Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing process records, and talking with employees and supervisors.
- 3) Exposure monitoring to quantify potential hazardous exposures. Monitoring will be contracted out. XYZ Seating currently has a contract with ABC Industrial Hygiene Services to provide monitoring when needed.

The results of the current hazard evaluation are the following:

(Table 3 at the end of this program contains the sampling data that this section was based on.)

Prep-sanding: Ventilation controls on some sanders are in place, but employees continue to be exposed to respirable wood dust at 2.5 - 7.0 mg/m³ (8 hour time-weighted-average, or TWA). Half-facepiece APRs with P100 filters and goggles are required for employees sanding wood pieces. PAPRs will be available for employees who are unable to wear an APR.

Prep-cleaning: Average methylene chloride exposures measured at 70 ppm based on 8 hr. TWA exposure results for workers cleaning/stripping furniture pieces. Ventilation controls are planned, but will not be implemented until designs are completed and a contract has been let for installation of the controls. In the meantime, employees must wear supplied air hoods with continuous air flow, as required by the Methylene Chloride standard 1910.1052.

Coating-spray booth: XYZ Seating has decided to take a conservative approach and require all employees to wear supplied air respirators when working inside the spray booth. Based on exposure data in published reports on the same type of spray booth operations, the Program Administrator has determined that an SAR in the continuous flow mode will provide sufficient protection. Spray booth employees may opt to wear half-facepiece APRs with organic vapor cartridges when cleaning spray guns.

Coating-dip coat, and drying: Exposures are kept within PELs by ventilation, and employees generally enter the dip coat area for short time periods (up to one hour). Vapors could leak into the dip coat and drying areas if the ventilation system is not running at peak efficiency. Odors in this area are often unpleasant even at the levels maintained by the ventilation system. While XYZ Seating notes that respiratory protection is not required in this area, the company recognizes employee concern about breathing vapors and about having to work in an unpleasant environment. Accordingly, employees may voluntarily choose to wear a half-facepiece APR with organic vapor cartridges when working in this area.

Assembly: Ventilation controls on sanders are in place, but employees continue to be exposed to respirable wood dust at 2.5 - 6.0 mg/m³ (8 hour TWA); half-facepiece APRs with P100 filters and goggles are required for employees sanding wood pieces in the assembly department. PAPRs will be available for employees who are unable to wear an APR. The substitution for aqueous-based glues will eliminate exposures to formaldehyde, methylene chloride, and epoxy resins.

Maintenance: Because of potentialIDLH conditions, employees cleaning dip coat tanks must wear a pressure demand SAR during the performance of this task.

Employees may voluntarily wear half-facepiece APRs with P100 cartridges when cleaning spray booth walls or changing booth filters and half-facepiece APRs with organic vapor cartridges when loading coating agents into supply systems. Although exposure monitoring has shown that exposures are kept within PELs during these procedures, XYZ Seating will provide respirators to workers who are concerned about potential exposures.

Updating the Hazard Assessment

The Program Administrator must revise and update the hazard assessment as needed (i.e., any time work process changes may potentially affect exposure). If an employee feels that respiratory protection is needed during a particular activity, he/she is to contact his or her supervisor or the Program Administrator. The Program Administrator will evaluate the potential hazard, arranging for outside assistance as necessary. The Program Administrator will then communicate the results of that assessment back to the employees. If it is determined that respiratory protection is necessary, all other elements of this program will be in effect for those tasks and this program will be updated accordingly.

NIOSH Certification

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. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while it is in use.

Voluntary Respirator Use

XYZ Seating will provide respirators at no charge to employees for voluntary use for the following work processes:

- Employees may wear half-facepiece APRs with organic vapor cartridges while working in the dip coat area.
- Warehouse workers may wear filtering facepieces.
- Spray Booth Operators may wear half-facepiece APRs with organic vapor cartridges while cleaning spray guns.
- Maintenance personnel may wear half-facepiece APRs with P100 cartridges while cleaning spray booth walls, and organic vapor cartridges while loading spray guns.

The Program Administrator will provide all employees who voluntarily choose to wear either of the above respirators with a copy of Appendix D of the standard. (Appendix D details the requirements for voluntary use of respirators by employees.) Employees choosing to wear a half facepiece APR must comply with the procedures for Medical Evaluation, Respirator Use, and Cleaning, Maintenance and Storage.

The Program Administrator shall authorize voluntary use of respiratory protective equipment as requested by all other workers on a case-by-case basis, depending on specific workplace conditions and the results of the medical evaluations.

Medical Evaluation

Employees who are either required to wear respirators, or who choose to wear an APR voluntarily, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician at ABC medical clinic, where all company medical services are provided, will provide the medical evaluations. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the respiratory protection standard. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.

- To the extent feasible, the company will assist employees who are unable to read the questionnaire (by providing help in reading the questionnaire). When this is not possible, the employee will be sent directly to the physician for medical evaluation.
- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the company physician. Employees will be permitted to fill out the questionnaire on company time.
- Follow-up medical exams will be granted to employees as required by the standard, and/or as deemed necessary by the ABC medical clinic physician.
- All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- The Program Administrator has provided the ABC medical clinic physician with a copy of this program, a copy of the Respiratory Protection standard, the list of hazardous substances by work area, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air purifying respirator will be provided with a powered air purifying respirator.
- After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
 - Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
 - The ABC medical clinic physician or supervisor informs the Program Administrator that the employee needs to be reevaluated;
 - Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation;
 - A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

A list of XYZ Seating employees currently included in medical surveillance is provided in Table 2 of this program.

All examinations and questionnaires are to remain confidential between the employee and the physician.

Fit Testing

Fit testing is required for employees wearing half-facepiece APRs for exposure to wood dust in Prep and Assembly, and maintenance workers who wear a tight-fitting SAR for dip tank cleaning. Employees voluntarily wearing half-facepiece APRs may also be fit tested upon request.

Employees who are required to wear half-facepiece APRs will be fit tested:

- Prior to being allowed to wear any respirator with a tight fitting facepiece.
- Annually.
- 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 fit tested with the make, model, and size of respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit. Fit testing of PAPRs is to be conducted in the negative pressure mode.

The Program Administrator will conduct fit tests following the OSHA approved Bitrex Solution Aerosol QLFT Protocol in Appendix B (B4) of the Respiratory Protection standard.

The Program Administrator has determined that QNFT is not required for the respirators used under current conditions at XYZ Seating. If conditions affecting respirator use change, the Program Administrator will evaluate on a case-by-case basis whether QNFT is required.

Respirator Use

Respiratory protection is required for the following personnel:

| TABLE 2: XYZ Seating Personnel in Respiratory Protection Program | | | |
|---|-------------------|--|--|
| Name | Department | Job Description/ Work Procedure | Respirator |
| Joe Apple | Prep | Operator | Half mask APR P100 filter when sanding/ SAR continuous flow hood for cleaning |
| Ron Carey | Maintenance | Dip tank cleaning | SAR, pressure demand with auxiliary SCBA |
| Lisa Jones | Coating | Spray Booth Operator | SAR, continuous flow hood |
| . | | | |
| . | | | |
| . | | | |

General Use Procedures:

- Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
- All employees shall conduct user seal checks each time that they wear their respirator. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection Standard.
- All employees shall be permitted to leave the work area to go to the locker room to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the area.

- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the facepiece-to-face seal.

Emergency Procedures:

The following work areas have been identified as having foreseeable emergencies:

Spray Booth Cleaning Area - spill of hazardous waste
Dip Coat Area - malfunction of ventilation system, leak in supply system
Coatings Storage Area - spill or leak of hazardous substances

When the alarm sounds, employees in the affected department must immediately don their emergency escape respirator, shut down their process equipment, and exit the work area. All other employees must immediately evacuate the building. XYZ Seating's Emergency Action Plan describes these procedures (including proper evacuation routes and rally points) in greater detail.

Emergency escape respirators are located:

Locker #1 in the Spray Booth Area
Storage cabinet #3 in Dip Coat/Drying Area
Locker #4 in the Coatings Storage Area

Respiratory protection in these instances is for escape purposes only. XYZ Seating employees are not trained as emergency responders, and are not authorized to act in such a manner.

Respirator Malfunction

1. APR Respirator Malfunction:

For any malfunction of an APR (e.g., such as breakthrough, facepiece leakage, or improperly working valve), the respirator wearer should inform his or her supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

2. Atmosphere-supplying Respirator Malfunction:

All workers wearing atmosphere-supplying respirators will work with a buddy. Buddies shall assist workers who experience an SAR malfunction as follows:

If a worker in the spray booth experiences a malfunction of an SAR, he or she should signal to the buddy that he or she has had a respirator malfunction. The buddy shall don an emergency escape respirator and aid the worker in immediately exiting the spray booth.

Workers cleaning wood pieces or assembled furniture in the Prep department will work with a buddy. If one of the workers experiences a respirator malfunction, he/she shall signal this to their buddy. The buddy must immediately stop what he or she is doing to escort the employee to the Prep staging area where the employee can safely remove the SAR.

IDLH Procedures

The Program Administrator has identified the following area as presenting the potential for IDLH conditions:

Dip Coat Tank Cleaning:

Maintenance workers will be periodically required to enter the dip tank to perform scheduled or unscheduled maintenance. In such cases, workers will follow the permit required confined space entry procedures specified in the XYZ Seating Confined Space Program. As specified in these procedures, the Program Administrator has determined that workers entering this area shall wear a pressure demand SAR. In addition, an appropriately trained and equipped standby person shall remain outside the dip tank and maintain constant voice and visual communication with the worker. In the event of an emergency requiring the standby person to enter the IDLH environment, the standby person shall immediately notify the Program Administrator and will proceed with rescue operations in accordance with rescue procedures outlined in the XYZ Seating Confined Space Program.

Air Quality

For supplied-air respirators, only Grade D breathing air shall be used in the cylinders. The Program Administrator will coordinate deliveries of compressed air with the company's vendor, Compressed Air Inc., and require Compressed Air Inc. to certify that the air in the cylinders meets the specifications of Grade D breathing air.

The Program Administrator will maintain a minimum air supply of one fully charged replacement cylinder for each SAR unit. In addition, cylinders may be recharged as necessary from the breathing air cascade system located near the respirator storage area. The air for this

system is provided by XYZ Seating's supplier, and deliveries of new air are coordinated by the Program Administrator.

Cleaning, Maintenance, Change Schedules and Storage

Cleaning

Respirators are to be regularly cleaned and disinfected at the designated respirator cleaning station located in the employee locker room.

Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary, but at least once a day for workers in the Prep and Assembly departments.

Atmosphere supplying and emergency use respirators are to be cleaned and disinfected after each use.

The following procedure is to be used when cleaning and disinfecting respirators:

- Disassemble respirator, removing any filters, canisters, or cartridges.
- Wash the facepiece and associated parts in a mild detergent with warm water. Do not use organic solvents.
- Rinse completely in clean warm water.
- Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
- Air dry in a clean area.
- Reassemble the respirator and replace any defective parts.
- Place in a clean, dry plastic bag or other air tight container.

Note: The Program Administrator will ensure an adequate supply of appropriate cleaning and disinfection material at the cleaning station. If supplies are low, employees should contact their supervisor, who will inform the Program Administrator.

Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators will be conducted by the manufacturer.

The following checklist will be used when inspecting respirators:

- Facepiece:
 - cracks, tears, or holes
 - facemask distortion
 - cracked or loose lenses/faceshield
- Headstraps:
 - breaks or tears
 - broken buckles
- Valves:
 - residue or dirt
 - cracks or tears in valve material
- Filters/Cartridges:
 - approval designation
 - gaskets
 - cracks or dents in housing
 - proper cartridge for hazard
- Air Supply Systems:
 - breathing air quality/grade
 - condition of supply hoses
 - hose connections
 - settings on regulators and valves

Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include to wash their face and respirator facepiece to prevent any eye or skin irritation, to replace the filter, cartridge or canister, and if they detect vapor or gas breakthrough or leakage in the facepiece or if they detect any other damage to the respirator or its components.

Change Schedules

Employees wearing APRs or PAPRs with P100 filters for protection against wood dust and other particulates shall change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.

Based on discussions with our respirator distributor about XYZ Seating's workplace exposure conditions, employees voluntarily wearing APRs with organic vapor cartridges shall change the

cartridges on their respirators at the end of each work week to ensure the continued effectiveness of the respirators.

Storage

Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program and will store their respirator in a plastic bag in their own locker. Each employee will have his/her name on the bag and that bag will only be used to store that employee's respirator.

Atmosphere supplying respirators will be stored in the storage cabinet outside of the Program Administrator's office.

The Program Administrator will store XYZ's supply of respirators and respirator components in their original manufacturer's packaging in the equipment storage room.

Defective Respirators

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her supervisor. Supervisors will give all defective respirators to the Program Administrator. The Program Administrator will decide whether to:

- Temporarily take the respirator out of service until it can be repaired.
- Perform a simple fix on the spot such as replacing a headstrap.
- Dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of similar make, model, and size. All tagged out respirators will be kept in the storage cabinet inside the Program Administrator's office.

Training

The Program Administrator will provide training to respirator users and their supervisors on the contents of the XYZ Seating Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard. Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- the XYZ Seating Respiratory Protection Program
- the OSHA Respiratory Protection standard
- respiratory hazards encountered at XYZ Seating and their health effects
- proper selection and use of respirators
- limitations of respirators
- respirator donning and user seal (fit) checks
- fit testing
- emergency use procedures
- maintenance and storage
- medical signs and symptoms limiting the effective use of respirators

Employees will be retrained annually or as needed (e.g., if they change departments and need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. Respirator training will be documented by the Program Administrator and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

5.0 Program Evaluation

The Program Administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of records.

Problems identified will be noted in an inspection log and addressed by the Program Administrator. These findings will be reported to XYZ Seating management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

6.0 Documentation and Recordkeeping

A written copy of this program and the OSHA standard is kept in the Program Administrator's office and is available to all employees who wish to review it.

Also maintained in the Program Administrator's office are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

The Program Administrator will also maintain copies of the medical records for all employees covered under the respirator program. The completed medical questionnaire and the physician's documented findings are confidential and will remain at ABC Medical Clinic. The company will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.

TABLE 3: XYZ SEATING HAZARD ASSESSMENT - JUNE 1998

| Department | Contaminants | Exposure Level (8 hrs TWA)* | PEL | Controls |
|-------------------------------|---------------------------|--|--|---|
| Prep: Sanding | wood dust | 2.5 - 7.0 mg/m ³ | 5 mg/m ³ (TLV= 1 mg/m ³) | Local exhaust ventilation (LEV) for sanders. Half-facepiece APR with P100 filter. |
| Prep: Cleaning | methylene chloride | 70 ppm | 25 ppm 125 ppm = STEL | LEV to be installed for cleaning stations. Continuous flow SAR hood until then needed for respiratory protection. Will reevaluate after LEV installation. |
| | methanol | 150 ppm | 200 ppm | |
| | acetone | 400 ppm | 1,000 ppm | |
| Coating: Spray booth painting | toluene | (300 ppm)** | 200 ppm 500 ppm = 10 min peak | Continuous flow SAR hood |
| | xylene | (40 ppm)** | 100 ppm 150 ppm = STEL | |
| | MEK (methyl ethyl ketone) | (25 ppm)** | 200 ppm | |
| | methanol | (20 ppm)** | 200 ppm | |

| Department | Contaminants | Exposure Level (8 hrs TWA)* | PEL | Controls |
|--------------------------------------|---|--------------------------------|----------------------------------|---|
| Coating: Spray booth gun cleaning | toluene | 80 ppm (30 min) | 200 ppm 500 ppm = 10 min peak | Half-facepiece APR with organic vapor cartridge |
| | methanol | 300 (30 min) | 200 ppm | |
| Coating: Dip Coat | toluene | 25 ppm | 200 ppm 500 ppm = 10 min peak | Automated line is vented. Workers may voluntarily wear half-facepiece APR with organic vapor cartridge. |
| | xylene | 50 ppm | 100 ppm 150 ppm = STEL | |
| | MEK | 60 ppm | 200 ppm | |
| | MIBK | 10 ppm | 100 ppm | |
| | methanol | 50 ppm | 200 ppm | |
| Drying (oven) | None (monitoring revealed no significant exposures) | NA | NA | NA |

| Department | Contaminants | Exposure Level (8 hrs TWA)* | PEL | Controls |
|---|--------------------------------------|--------------------------------|--|---|
| Assembly: Sanding, gluing and nailing | wood dust | 2.5 -6.0 mg/m ³ | 5 mg/m ³ (TLV= 1 mg/m ³) | aqueous-based glues will be used to eliminate exposures to methylene chloride, formaldehyde and epichlorohydrin |
| | formaldehyde | 1.0 ppm | 0.75 ppm 2 ppm = STEL | |
| | epichlorohydrin | 4 ppm | 5 ppm | |
| | methylene chloride | 60 ppm | 25 ppm 125 ppm = STEL | |
| Maintenance: Dip tank cleaning | toluene, xylene, MEK, MIBK, methanol | IDLH conditions | | SAR, pressure demand with auxiliary SCBA must be worn |
| Maintenance: Spray booth cleaning/filter change | particulates | 1.8 mg/m ³ | 5 mg/m ³ | Voluntary use, half-facepiece APR with P100 filter |

| Department | Contaminants | Exposure Level (8 hrs TWA)* | PEL | Controls |
|---|--------------|--------------------------------|---------------------------------|---|
| Maintenance: Loading coatings into supply systems | toluene | 40 ppm (1 hr) | 200 ppm 500 ppm =10 min peak | Voluntary use, half-facepiece APR with organic vapor cartridges |
| | xylene | 80 ppm (1 hr) | 100 ppm 150 ppm = STEL | |
| | MEK | 100 ppm (1 hr) | 200 ppm | |
| | MIBK | 15 ppm (1 hr) | 100 ppm | |
| | methanol | 125 ppm (1 hr) | 200 ppm | |
| Warehouse | None | NA | NA | NA |

* Summarized from Industrial Hygiene report provided by ABC Industrial Hygiene Services

** These values were obtained from a survey on average exposures in downdraft spray booths utilized in the furniture coating industry as published in the American Journal of Industrial Hygiene _____.

APPENDIX V
References

REFERENCES

QUESTIONS AND ANSWERS ON THE RESPIRATORY PROTECTION STANDARD OSHA PUBLICATION

AVAILABLE FROM: OSHA, SEE THE LIST OF AREA AND REGIONAL OFFICES IN APPENDIX II; WEB SITE: WWW.OSHA.GOV.

OSHA INSTRUCTION: INSPECTION PROCEDURES FOR THE RESPIRATORY PROTECTION STANDARD OSHA PUBLICATION. AVAILABLE FROM OSHA WEB SITE: WWW.OSHA.GOV.

RESPIRATOR SELECTION GUIDE OSHA PUBLICATION

AVAILABLE FROM: OSHA, SEE THE LIST OF AREA AND REGIONAL OFFICES IN APPENDIX II; WEB SITE: WWW.OSHA.GOV.

DOCUMENTATION OF THE THRESHOLD LIMIT VALUES

AVAILABLE FROM: ACGIH PUBLICATIONS OFFICE, 6500 GLENWAY AVE., BUILDING D-5, CINCINNATI, OH 45221

NIOSH/OSHA POCKET GUIDE TO CHEMICAL HAZARDS

**AVAILABLE FROM: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
Phone Number: (800-356-4674); Web site: WWW.CDC.GOV/NIOSH/HOME PAGE.HTML**

ANSI RESPIRATOR STANDARD 1992 Z88.2

CONDENSED CHEMICAL DICTIONARY

GESSNER G. HAWLEY, VAN NOSTRAND REINHOLD CO., 135 W. 50TH ST., NEW YORK, NY 10020

INDUSTRIAL RESPIRATORY PROTECTION NIOSH PUBLICATION

**AVAILABLE FROM: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
Phone Number: (800-356-4674); Web site: WWW.CDC.GOV/NIOSH/HOME PAGE.HTML**

Respirator Decision Logic NIOSH PUBLICATION

**AVAILABLE FROM: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
Phone Number: (800-356-4674); Web site: WWW.CDC.GOV/NIOSH/HOME PAGE.HTML**

NIOSH GUIDE TO THE SELECTION AND USE OF PARTICULATE RESPIRATORS CERTIFIED UNDER 42 CFR 84

**AVAILABLE FROM: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
Phone Number: (800-356-4674); Web site: WWW.CDC.GOV/NIOSH/HOME PAGE.HTML**

Pesticide Safety Information

Safety Rules for Pesticide Handlers on Farms

This leaflet, the pesticide label, and your training, tell you about pesticide dangers at work. Your employer must know and help you learn about the pesticides you will use, how to safely use them, and how to protect yourself. Pesticides are chemicals that are used to kill insects, weeds, germs and plant diseases.

Fertilizers are not pesticides.

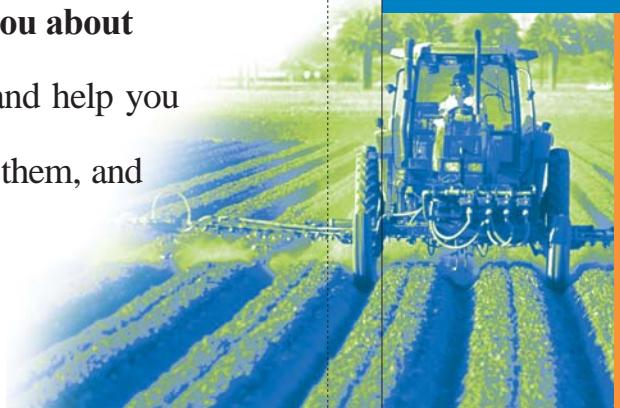
Your employer must make plans for emergency medical care before you start working with pesticides. If you think that pesticides made you sick or hurt you at work, he must make sure that you are taken to the doctor right away. You do not have to pay for medical care if you get sick or hurt from pesticides at work.

Emergency medical care is available at

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

CALIFORNIA
DEPARTMENT OF
PESTICIDE REGULATION
1001 I Street,
Sacramento,
California 95814

A
No. 8



WHAT ARE MY RIGHTS?

You have the right to know the following about pesticides that have been used recently where you work

- when and where the pesticide was applied
- the restricted entry interval (REI)
- name of the pesticide and active ingredient(s)
- the EPA registration number

When you get training your employer must tell you where all this information is kept. He must also let you see the records any-time you want without having to ask.

If you think that pesticides have made you sick at work, your employer must make sure that you are taken to the doctor immediately.

EMPLOYERS: This is the hazard communication leaflet for pesticide handlers. Fill in the blank lines in this leaflet and display this handout at the employee's worksite.

HS-1571
Revised September 2004

You can find information about recent pesticide use at

If you get sick or hurt **BECAUSE OF YOUR JOB**, you have the right to file for worker's compensation. Workers' compensation will pay for your medical bills, and sometimes, lost pay.

You have the right to look at Material Safety Data Sheets (MSDS) and records for all pesticides used where you work. The MSDS tells you about the pesticide and its dangers.

These records are kept at

Your employer must explain your rights to you. If you need more help in understanding your rights, call or go to your local county agricultural commissioner's office, local legal aid and worker's rights office, union or the Department of Pesticide Regulation (DPR).

The DPR offices are:

- Anaheim (714) 279-7690
- Fresno (559) 445-5401
- Sacramento (916) 324-4100

WHO DO I TELL ABOUT DANGERS AT WORK?

Pesticides are only one kind of danger at your work. If you have a complaint about a pesticide safety problem, you should call the county agricultural commissioner. Other health



and safety complaints (bathrooms, drinking water, etc.) should be filed with the California Department of Industrial Relations-Cal/OSHA office. You can find the telephone numbers in the government pages of the telephone book.

What training should I get?

- You must be trained in a way that you understand before you begin working with pesticides, and anytime you work with new pesticides.
- You must also be given training each year to remind you how to work with pesticides safely.
- You must be told the ways a pesticide can hurt you and how to safely use each pesticide you work with. (Ask your foreman for the A-1 safety leaflet to learn more about training.)
- You must get extra training if you have to use a respirator (ask your foreman for the A-5 safety leaflet).



All the information about your training must also be written down. You will be given a paper to sign to show you have been trained. But sign it only after you have finished the training and you understand what you heard.

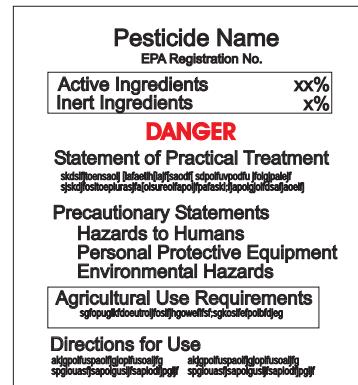
WHAT CAN A PESTICIDE LABEL TELL ME?

Some of the most important things listed on the label are

- what chemicals are in the pesticide,
- first aid and health warnings,
- protective equipment you need,
- and directions for applying the pesticide.

All pesticides are poisonous. If a pesticide gets in or on you, it can hurt you or make you sick.

The pesticide label tells you how to safely mix and apply the pesticide. **The label must be at the place where you mix or**



apply the pesticide. You must read and follow **ALL** directions on the label. There may also be product bulletins or other extra label information that you must read and follow.

If you have to move pesticides from one place to another, or dispose of empty pesticide containers, there are special rules your foreman must tell you about. Ask for the A-2 safety leaflet for more information.

How can I tell which pesticides are more dangerous?

Most pesticide labels have a signal word in large print on the front of the label. This word tells you about the acute health effect of the pesticide. If a pesticide can hurt you or make you sick right away, that's called an acute effect. If it takes months or years of exposure to a pesticide before you get sick, that's called a chronic effect.

These are the words that tell about acute effects

- **DANGER**, which means the pesticide is extremely harmful.
- **WARNING**, which means moderately harmful.
- **CAUTION**, which means slightly harmful, but still can make you sick.

If the label does not have one of these words, it means that the pesticide is unlikely to harm you. However, always handle pesticides carefully.

WHAT ELSE DOES THE LABEL TELL ME?

- If the pesticide can severely hurt your eyes or skin, the label will say something like "Corrosive, causes eye and skin damage."
- If the pesticide can make you very sick, the label will have a skull-and-crossbones symbol and the word "POISON."



- Words like "fatal" or "may be fatal if swallowed, inhaled, or absorbed through the skin," mean the pesticide can make you very sick or even kill you.
- Some pesticide labels tell you about other health problems that might not show up until long after use, such as cancer (may take years) or dangers to unborn babies.

The label must be at the place where you mix or apply the pesticide. You must read and follow ALL directions on the label.

ARE THERE ANY EXTRA RULES FOR VERY DANGEROUS PESTICIDES?

Yes, there are two groups of pesticides that California has extra rules for because they could be especially dangerous to you.

1. The first group is the organophosphate or carbamate pesticides

If you mix, load or apply these kinds of pesticides you might need extra medical care. Ask your foreman for A-11 safety leaflet for more information on these pesticides.

THESE ARE SOME OF THE PESTICIDES THAT THESE SPECIAL RULES APPLY TO

| Organophosphates | Carbamates |
|---|------------------------|
| Acephate, Address | Aldicarb, Temik |
| Azinphos-methyl, Guthion | Carbaryl, Sevin, Adios |
| Chlorpyrifos, Dursban, Lorsban, Dorsan, Cyren | Furadan |
| DEF, Folex | Lannate |
| Diazinon | Vydate |
| Dimethoate, Defend | Thiodicarb |
| Malathion | |
| Monitor | |
| Supracide | |
| Penncap | |
| Naled | |
| Imidan | |

If organophosphates or carbamates are used on crops, they

ARE ARE NOT

handled by any person more than six days in any 30-day period.

The doctor providing medical care and blood tests is

NAME _____

ADDRESS _____

TELEPHONE NUMBER _____

Medical records for organophosphate and carbamate handlers are kept at

2. The second group is called minimal exposure pesticides (MEP). These are the agricultural pesticides on the MEP list.

- Omite, Comite
- Buctril
- Metasystox-R

See the A-10 safety leaflet for more information about safety rules if you have to work with these.

Other safety leaflets mentioned in this document should be part of your training. They are free and are available from your employer and your local Agricultural Commissioner's office.

SUMMARY OF RECORDS YOUR EMPLOYER MUST KEEP

| Information | Location |
|--|------------------------|
| Training papers | Employer's office site |
| Written training program | Employer's office site |
| Respirator program procedures | Employer's office site |
| Medical evaluation (respirator use) | Employer's office site |
| Accident response plan (fumigants) | Work site |
| Pesticide label | Work site |
| Pesticide Safety Information Series | Employer's office site |
| Material Safety Data Sheet | Employer's office site |
| Treatment notification method | Employer's office site |
| Field posting | Work site |
| Storage area posting ¹ | Storage area |
| Employee exposure records ² | Employer's office site |
| Identity of medical supervisor notice ² | Employer's office site |
| Employer/medical supervisor agreement ² | Employer's office site |
| Medical supervisor recommendations ² | Employer's office site |
| Cholinesterase blood test results ² | Employer's office site |
| Employee work practice review ² | Employer's office site |
| Emergency medical care notice | Work site |
| Pesticide use records | Employer's office site |

1 Required only for pesticides with the Signal word "DANGER" or "WARNING"

2 Required only for organophosphate and carbamate pesticides with the signal word "DANGER" or "WARNING"

PROPOSITION 65

In 1986, a law called the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) was passed. Proposition 65 requires California to make a list of chemicals that cause cancer, birth defects, or other reproductive harm. The Proposition 65 list contains many different chemicals, including dyes, solvents, pesticides, drugs, and food additives. If a pesticide is on the Proposition 65 list, your employer must warn you if you could be exposed to enough pesticide to result in a significant health risk. Your employer may also choose to warn you if a pesticide on the Proposition 65 list has been sprayed, even if health problems are not likely. Your employer is required to keep information on each pesticide application and allow you to look at it. If you are not sure of the record location, ask your foreman. *The following table lists pesticides that are on the Proposition 65 list and that might be used in California.*

CURRENTLY REGISTERED PESTICIDES ON THE PROPOSITION 65 LIST

>>

If you don't get all the information you need in your training, or from your foreman you should call your County Agricultural Commissioner, or the Department of Pesticide Regulation (DPR) for more information. You can find the Commissioner's number in your local white pages phone directory. DPR numbers are:

- Anaheim (714) 279-7690
- Fresno (559) 445-5401
- Sacramento (916) 324-4100

PESTICIDES KNOWN TO THE STATE TO CAUSE CANCER

| | |
|----------------------------|-------------------------|
| Arsenic acid | Formaldehyde (gas) |
| Arsenic pentoxyde | Iprodione |
| Arsenic trioxide | Lindane |
| Cacodylic acid | Mancozeb |
| Captan | Maneb |
| Chlorothalonil | Metam sodium |
| Chromic acid | Metiram |
| Creosote | Oxadiazon |
| Daminozide | Pentachlorophenol |
| DDVP (dichlorvos) | Propargite |
| p-Dichlorobenzene | Pronamide (propyzamide) |
| 1,3-Dichloropropene | Propylene oxide |
| Diocyl phthalate | Sodium dichromate |
| Dipropyl isocinchomeronate | Terrazole |
| Diuron | Thiodicarb |
| Ethylene oxide | Vinclozolin |
| Fenoxy carb | |
| Folpet | |

PESTICIDES KNOWN TO THE STATE TO CAUSE BIRTH DEFECTS OR REPRODUCTIVE HARM

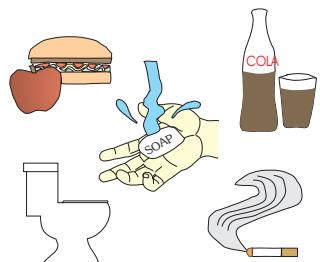
| | |
|-------------------------------------|---|
| Amitraz | Methyl bromide (as a structural fumigant) |
| Arsenic pentoxyde | Myclobutanil |
| Arsenic trioxide | Nabam |
| Bromoxynil octanoate | Nitrapyrin |
| Chlorsulfuron | Oxadiazon |
| Diclofop methyl | Oxydemeton-methyl |
| Disodium cyano-dithioimidocarbonate | Potassium dimethyldithiocarbamate |
| EPTC (ethyl dipropyl-thiocarbamate) | Propargite |
| Ethylene oxide | Resmethrin |
| Ethylene glycol monomethyl ether | Sodium dimethyldithiocarbamate |
| Fenoxyprop ethyl | Streptomycin sulfate |
| Fluazifop butyl | Thiophanate methyl |
| Fluvalinate | Triadimefon |
| Hydramethylnon | Tributyltin methacrylate |
| Linuron | Triforine |
| Metam sodium | Vinclozolin |
| Metiram | Warfarin |

Safety Tips

HOW TO PROTECT YOUR SKIN



- Wear clothes with long sleeves and long pants, shoes or boots, socks, a hat and/or scarf and gloves
- Make sure they are clean and without holes



- Always wash your hands before eating, drinking, smoking, chewing gum or going to the bathroom
- Do not cook food with wood found in the field



- Pesticides get on work clothes and then on your skin
- Wash work clothes before wearing them again
- Wash work clothes separate from other clothes



- Take a bath or shower as soon as you get home from work
- Wash with soap & water and use shampoo on your hair
- Put on clean clothes

WHAT TO DO IN CASE OF ILLNESS OR INJURY



- Pesticides get on your skin and clothes when you touch sprayed plants, soil, and irrigation water or are exposed to spray drift
- They can move from your clothes and onto your skin
- Some pesticides easily go through your skin and can make you sick
- Tell your foreman if you are sick or hurt at work
- If the illness/injury is work-related, your employer will pay for all medical care of that illness
- If the condition is work-related, you may be paid for your time off work while sick or hurt

Have someone else drive you to the doctor if you are sick or injured

FIRST AID



- Wash immediately with the closest clean water if pesticides are spilled or sprayed on your clothes or skin
- Change into clean clothes
- Tell your foreman about the spill after washing



- Wash if your eyes or skin begin to itch or burn
- Use lots of water
- Tell your foreman you should go to a doctor



- If you feel sick at work (headache, stomach ache, vomiting, dizzy) tell your foreman
- He or she can make sure you are taken to a doctor
- Have someone else drive you to the doctor if you are sick or injured

ALWAYS REMEMBER



- Never put pesticides in food containers
- Do not take farm pesticides or their containers home
- Keep children away from pesticides

Pesticide Safety Information

Safety Rules for Pesticide Handlers in Non-Agricultural Settings

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

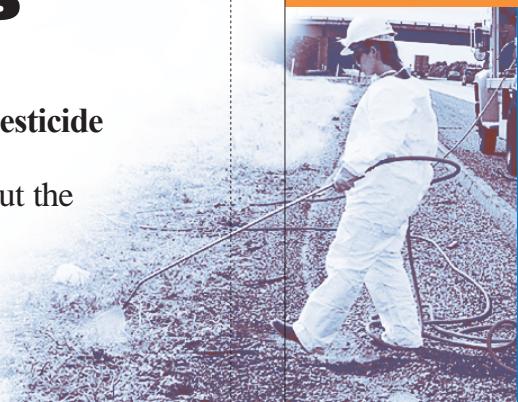
CALIFORNIA
DEPARTMENT OF
PESTICIDE REGULATION
1001 I Street,
Sacramento,
California 95814

N
No. 8

This leaflet, the pesticide label, and your training, tell you about pesticide dangers at work. Your supervisor must know and help you learn about the pesticides you will use, how to safely use them, and how to protect yourself. Pesticides are chemicals that are used to kill insects, weeds, germs and plant diseases. Fertilizers are not pesticides.

Your employer must make plans for emergency medical care before you start working with pesticides. If you think that pesticides made you sick or hurt you at work, he must make sure that you are taken to the doctor right away. You do not have to pay for medical care if you get sick or hurt from pesticides at work.

Emergency medical care is available at



WHAT ARE MY RIGHTS?

You have the right to know the following about pesticides that have been used where you work

- when and where the pesticide was applied
- name of the pesticide
- the EPA registration number

When you are trained your supervisor must tell you where all this information is kept. You have the right to look at Material Safety Data Sheets (MSDS) and records for all pesticides used where you work. The MSDS tells you about the pesticide and its dangers.

If you think that pesticides have made you sick at work, your supervisor must make sure that you are taken to the doctor immediately.

EMPLOYERS: This is the hazard communication leaflet. Fill in the blank lines in this leaflet and display this handout at the employees' work site.

HS-1749
Revised September 2004

These records are kept at:

If you get sick or hurt **BECAUSE OF YOUR JOB**, you have the right to file for worker's compensation. Workers' compensation will pay for your medical bills, and sometimes, lost pay.

Your supervisor must explain your rights to you. If you need more help in understanding your rights, call or go to your local county agricultural commissioner's office, local legal aid, and worker's rights office, union or the Department of Pesticide Regulation (DPR).

The DPR offices are:

- Anaheim (714) 279-7690
- Fresno (559) 243-8111
- Sacramento (916) 324-4100

WHO DO I TELL ABOUT DANGERS AT WORK?

Pesticides are only one kind of danger at your work. If you have a complaint about a pesticide safety problem, you should call the county agricultural commissioner.



Other health and safety complaints (bathrooms, drinking water, etc.) should be filed with the California Department of Industrial Relations-Cal/OSHA office. You can find the telephone numbers in the government pages of the telephone book.

What training should I get?

- You must be trained in a way that you understand **before** you begin working with pesticides, and anytime you work with new pesticides.

- You must also be given training each year to remind you how to work with pesticides safely.
- You must be told the ways a pesticide can hurt you and how to safely use each pesticide you work with. (Ask your supervisor for the N-1 safety leaflet to learn more about training.)
- You must get extra training if you have to use a respirator (ask your supervisor for the N-5 safety leaflet).

All the information in your training must also be written down. You will be given a paper to sign to show you have been trained. But only do that when you have finished the training and you understand what you heard.

WHAT CAN A PESTICIDE LABEL TELL ME?

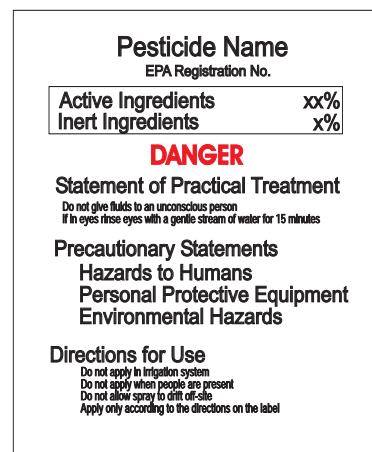
Some of the most important things listed on the label are

- what chemicals are in the pesticide,
- first aid and health warnings,
- protective equipment you need,
- and directions for applying the pesticide.

All pesticides are poisonous. If a pesticide gets in or on you, it can hurt you or make you sick.

The pesticide label tells you how to safely mix and apply the pesticide. **The label must be at the place where you mix or apply the pesticide.** You must read and follow **ALL** directions on the label. There may also be product bulletins or other extra label information that you must read and follow.

If you have to move pesticides from one place to another, or dispose of empty pesticide containers, there are special rules your supervisor must tell you about. Ask for the N-2 safety leaflet for more information.



How can I tell which pesticides are more dangerous?

Most pesticide labels have a signal word in large print on the front of the label. This word tells you about the acute health effect of the pesticide. If a pesticide can hurt you or make you sick right away, that's called an acute effect. If it takes months or years of exposure to a pesticide before you get sick, that's called a chronic effect.

These are the words that tell about acute effects

- **DANGER** means the pesticide is extremely harmful
- **WARNING** means less harmful, but still dangerous
- **CAUTION** means much slightly harmful, but still can make you sick

If the label does not have one of these words, it means that the pesticide is unlikely to harm you. However, **always** handle pesticides carefully.

WHAT ELSE DOES THE LABEL TELL ME?

- If the pesticide can severely hurt your eyes or skin, the label will say something like "Corrosive, causes eye and skin damage."

- If the pesticide can make you very sick, the label will have a skull-and-crossbones symbol and the word "**POISON**."
- Words like "**FATAL**" or "may be fatal if swallowed, inhaled, or absorbed through the skin," mean the pesticide can make you very sick or even kill you.
- Some pesticide labels tell you about other health problems that might not show up until long after use, such as cancer (may take years) or dangers to unborn babies.



ARE THERE ANY EXTRA RULES FOR VERY DANGEROUS PESTICIDES?

Yes, there is a group of pesticides, called Minimal Exposure Pesticides (MEPs) that California has extra rules for because they could be especially dangerous to you.

These are the pesticides on this list

- Buctril
- Metasystox-R

See the N-10 safety leaflet or more information about these pesticides.

Other handouts mentioned in this document should be part of your training. They are free and are available from your supervisor and your local agricultural commissioner's office.

SUMMARY OF RECORDS YOUR EMPLOYER MUST KEEP

| Information | Location |
|-------------------------------------|------------------------|
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| Written training program | Employer's office site |
| Respirator program procedures | Employer's office site |
| Accident response plan (fumigants) | Work site |
| Pesticide label | Work site |
| Pesticide Safety Information Series | Employer's office site |
| Material Safety Data Sheet | Employer's office site |
| Storage area posting ¹ | Storage area |
| Emergency medical care notice | Work site |
| Doctor's report for respirator use | Employer's office site |
| Pesticide use records | Employer's office site |

¹ Required only for pesticides with the Signal word "DANGER" or "WARNING"

SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT

In 1986, a law called the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) was passed. Proposition 65 requires California to make a list of chemicals that cause cancer, birth defects, or other reproductive harm. The Proposition 65 list contains many different chemicals, including dyes, solvents, pesticides, drugs, and food additives. If a pesticide is on the Proposition 65 list, your supervisor must warn you if you could be exposed to enough pesticide to result in a significant health risk. Your supervisor may also choose to warn you if a pesticide on the Proposition 65 list has been sprayed, even if health problems are not likely. Your employer is required to keep information on each pesticide application and allow you to look at it. If you are not sure of the record location, ask your supervisor. *The following table lists pesticides that are on the Proposition 65 list and that might be used in California.*

CURRENTLY REGISTERED PESTICIDES ON THE PROPOSITION 65 LIST

>>

If you don't get all the information you need in your training, or from your supervisor, you should call your County Agricultural Commissioner, or the Department of Pesticide Regulation (DPR) for more information. You can find the Commissioner's number in your local white pages phone directory. DPR numbers are:

- Anaheim (714) 279-7690
- Fresno (559) 243-8111
- Sacramento (916) 324-4100

PESTICIDES KNOWN TO THE STATE TO CAUSE CANCER

| | |
|----------------------------------|-------------------------|
| Arsenic acid | Folpet |
| Arsenic pentoxyde | Formaldehyde (gas) |
| Arsenic trioxide | Iprodione |
| Cacodylic acid | Lindane |
| Captan | Mancozeb |
| Chlorothalonil | Maneb |
| Chromic acid | Metam Sodium |
| Creosote | Metiram |
| Daminozide | Oxadiazon |
| DDVP (dichlorvos) | Pentachlorophenol |
| Diuron | Propargite |
| <i>p</i> -Dichlorobenzene | Pronamide (propyzamide) |
| 1,3-Dichloropropene | Propylene oxide |
| Diethyl phthalate | Sodium dichromate |
| Ethylene oxide | Terrazole |
| Ethylene glycol monomethyl ether | Thiodicarb |
| Fenoxy carb | Vinclozolin |

PESTICIDES KNOWN TO THE STATE TO CAUSE BIRTH DEFECTS OR REPRODUCTIVE HARM

| | |
|-------------------------------------|---|
| Amitraz | Methyl bromide (as a structural fumigant) |
| Arsenic pentoxyde | Myclobutanil |
| Arsenic trioxide | Nitrapyrin |
| Bromoxynil octanoate | Oxadiazon |
| Chlorsulfuron | Oxydemeton-methyl |
| Diclofop methyl | Potassium dimethyldithiocarbamate |
| Disodium cyano-dithioimidocarbonate | Propargite |
| EPTC (ethyl dipropyl-thiocarbamate) | Resmethrin |
| Ethylene oxide | Sodium dimethyldithiocarbamate |
| Ethylene glycol monomethyl ether | Streptomycin sulfate |
| Fenoxyprop ethyl | Thiophanate methyl |
| Fluazifop butyl | Triadimenol |
| Fluvalinate | Tributyltin methacrylate |
| Hydramethylnon | Triforine |
| Linuron | Vinclozolin |
| Metam sodium | Warfarin |
| Metiram | |

**TITLE 3. CALIFORNIA CODE OF REGULATIONS
DIVISION 6. PESTICIDES AND PEST CONTROL OPERATIONS
CHAPTER 3. PEST CONTROL OPERATIONS
SUBCHAPTER 3. PESTICIDE WORKER SAFETY
ARTICLE 2. GENERAL SAFETY REQUIREMENTS**

6739. Respiratory Protection.

(a) General Requirements.

(1) The employer shall assure that:

(A) Employees use approved respiratory equipment in compliance with this regulation when handling pesticides where respirators are required by label, restricted material permit condition, or regulation.

(2) In any workplace where respirators are required by label, restricted material permit condition, regulation, or employer, the employer shall establish a written respiratory protection program with work site-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions, as applicable:

(A) Procedures for selecting respirators for use in the workplace;

(B) Medical evaluations of employees required to use respirators;

(C) Fit testing procedures for tight-fitting respirators;

(D) Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;

(E) Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;

(F) Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;

(G) Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations, including Immediately Dangerous to Life or Health (IDLH) atmospheres, if appropriate;

(H) Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and

(I) Procedures for evaluating the effectiveness of the program pursuant to subsections (n)(1) and (2).

1. The respirator program administrator shall administer the respiratory protection program in compliance with this section.

2. The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(b) Voluntary Respirator Provision.

(1) An employer may provide respirators at the request of employees or permit employees to use their own respirators for use on a voluntary basis, if the employer determines that such respirator use will not in itself create a hazard.

(2) If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in subsection (r) and display this information alongside the display of either the Hazard Communication Information for Employees Handling Pesticides in Agricultural Settings (Pesticide Safety Information Series leaflet A-8), or Hazard Communication Information for Employees Handling Pesticides in Noncrop Settings (Pesticide Safety Information Series leaflet N-8), at a central location in the workplace.

(3) Under the employer-supplied voluntary respirator provision, the employer shall establish and implement the provisions of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Employers are not required to include a written respiratory protection program for those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

(A) The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

(c) Selection of Respirators. The employer shall select and provide an appropriate respirator

certified by the National Institute for Occupational Safety and Health (NIOSH) based on the respiratory hazard(s) and relevant workplace and user factors to which the worker is exposed; and the appropriate pesticide label, restricted materials permit condition, regulation, or employer requirements, whichever is most protective.

(1) The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

(2) Fumigant-confining structures shall be consideredIDLH atmosphere unless proven not to be by appropriate measuring devices as to that chemical. The employer shall provide the following respirators for employee use in IDLH atmospheres:

(A) A full facepiece pressure demand self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes, or

(B) A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

(C) Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

(d) Medical Evaluation. The employer shall ensure a medical evaluation is conducted to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

(1) Medical Evaluation Procedures.

(A) The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using the medical questionnaire in subsection (q) or an equivalent form or an initial medical examination that obtains the same information as the medical questionnaire.

(B) The medical evaluation shall obtain the information requested by the questionnaire in subsection (q), sections 1 and 2.

(2) Follow-up Medical Examination.

(A) The employer shall ensure that a follow-up medical examination is provided when a PLHCP determines that there is a need for a follow-up medical examination.

(B) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

(3) Administration of the Medical Questionnaire and Examinations.

(A) The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

(B) The employer shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

(4) Supplemental Information for the PLHCP.

(A) The employer shall provide the following information to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

1. The type and weight of the respirator to be used by the employee;
2. The duration and frequency of respirator use (including use for rescue and escape);
3. The expected physical work effort;
4. Additional protective clothing and equipment to be worn; and
5. Temperature and humidity extremes that may be encountered.

(B) The employer shall not be required to provide any supplemental information provided previously to the PLHCP regarding an employee for a subsequent medical evaluation if the information and the PLHCP remain the same. When the employer replaces a PLHCP, the employer shall ensure that the new PLHCP obtains the information specified in (4)(A)1-5 by having the documents transferred from the former PLHCP to the new PLHCP. Employers are not required to have employees medically reevaluated solely because a new PLHCP has been selected.

(C) The employer shall provide the PLHCP with a copy of the written respiratory protection program and a copy of this section.

(5) Medical Determination.

(A) The employer shall obtain a written medical recommendation from the PLHCP regarding the employee's ability to use the respirator. The written medical recommendation shall be

provided on the form in subsection (s) or provide substantially the same information as follows:

1. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
2. The need, if any, for follow-up medical evaluations; and
3. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written medical recommendation.

(B) If a negative pressure respirator is to be used and the PLHCP finds a medical condition that may place the employee's health at increased risk, the employer shall either provide a powered air purifying respirator (PAPR) provided the PLHCP's medical evaluation finds that the employee can use such a respirator or make changes in the workplace such that respiratory protection is not required. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer shall no longer be required to provide a PAPR.

(6) Additional Medical Evaluations. The employer shall provide additional medical evaluations that comply with the requirements of this section if:

- (A) An employee reports medical signs or symptoms that are related to their ability to use a respirator;
- (B) A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
- (C) Information from the respiratory protection program administrator, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- (D) A change occurs in workplace conditions including, but not limited to, physical work effort, protective clothing, or temperature, that may result in a substantial increase in the physiological burden placed on an employee.

(e) Fit Testing. The employer shall assure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT).

(1) The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

(2) The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or respirator program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

(3) If after passing a QLFT or QNFT, the employee subsequently notifies the employer, PLHCP, supervisor, or respirator program administrator that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.

(4) The fit test shall be administered using either the Cal/OSHA-accepted QLFT or QNFT protocols (Title 8, California Code of Regulations, section 5144, Appendix A), or as recommended by the manufacturer of the respirator, if such recommendations are in accordance with Title 8 CCR section 5144, Appendix A, Part II. QLFT is acceptable for all negative-pressure tight-fitting half or full facepiece respirators used in the application of pesticides.

(5) If the fit factor, as determined through a Cal/OSHA-accepted QNFT protocol (Title 8, California Code of Regulations, section 5144, Appendix A), is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

(6) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

(A) Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

(B) Quantitative fit testing of these respirators shall be accomplished by modifying the

facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

(C) Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

(f) Facepiece Seal Protection. A respirator that requires a tight face-to-facepiece seal shall not have any interference with the establishment of this seal. The employer shall ensure that:

(1) Employees shall not wear a respirator with a tight-fitting facepiece if:

(A) Facial hair comes between the sealing surface of the facepiece and the face or interferes with valve function; or

(B) Any physical or mental condition interferes with the face-to-facepiece seal or valve function.

(2) Corrective glasses or goggles or other personal protective equipment worn by an employee do not interfere with the face-to-facepiece seal.

(3) Employees perform a user seal check each time they put on the respirator using the Cal/OSHA procedures (Title 8, California Code of Regulations, section 5144, Appendix B-1) or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in the Cal/OSHA procedures when using tight-fitting respirators.

(4) Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the employer shall reevaluate the continued effectiveness of the respirator.

(5) Employees shall leave the contaminated area:

(A) To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use;

(B) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or

(C) To replace or adjust the respirator or the filter, cartridge, or canister elements.

(6) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the employer shall replace or repair the respirator before allowing the employee to return to the work area.

(g) Procedures for Immediately Dangerous to Life or Health (IDLH) Atmospheres. Fumigant-confining structures shall be considered IDLH atmosphere unless proven not to be by appropriate measuring devices. For all IDLH atmospheres, the employer shall assure that:

(1) One employee, or when needed pursuant to (2), more than one employee is located outside the IDLH atmosphere;

(2) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;

(3) The employee(s) located outside the IDLH atmosphere is trained and equipped to provide effective emergency rescue;

(4) The employee(s) located outside the IDLH atmosphere notifies the employer or designee, and/or calls 9-1-1 before entering the IDLH atmosphere to provide emergency rescue. Once notified, the employer or designee authorized to do so by the employer, shall provide necessary assistance appropriate to the situation; and

(5) Employee(s) located outside the IDLH atmospheres is equipped with:

(A) Pressure demand or other positive pressure self-contained breathing apparatus (SCBA), or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and if necessary,

(B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry.

(h) Cleaning and Disinfecting. The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures recommended by the respirator manufacturer. If the manufacturer requires a cleaning agent that does not contain a disinfectant, the respirator components shall be disinfected with a registered disinfectant approved for such

use. The employer shall assure that:

(1) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

(2) Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(3) Respirators that are collected and reissued for use of any employee shall be cleaned and disinfected before reissued.

(4) Respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

(i) Storage of Emergency Respirators. Emergency respirators shall be:

(1) Stored immediately accessible to the work area.

(2) Stored in compartments or in covers that are clearly marked as containing emergency respirators.

(3) Stored in accordance with any applicable manufacturer instructions.

(4) Stored in such a location as to be safely accessible for use if conditions develop requiring utilization of emergency respiratory protection.

(j) Inspection and Repair.

(1) The employer shall ensure that all respirators are inspected before each use and during cleaning, and that:

(A) Routine-use respirator inspections include the following:

1. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters;

2. A check of elastomeric parts for pliability and signs of deterioration; and

3. SCBA air cylinders are checked to ensure that they are recharged when the pressure falls to 80 percent of the manufacturer's recommended pressure level by the end of any workday.

(B) Emergency-use respirators are also inspected at least monthly according to the routine-use inspection criteria, and in accordance with the manufacturer's recommendations. For escape-only respirators, also conduct inspection before being brought into the workplace for use. For both emergency use and escape-only respirators, inspections shall include the following:

1. A check for proper function before and after each use;

2. Certify by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and that this information is included on a tag or label that is attached to the storage compartment for the respirator or is kept with the respirator. This information shall be maintained until replaced following a subsequent certification;

3. A check for properly functioning SCBA regulator and warning devices; and

4. SCBA air cylinders are checked to ensure that they are maintained at 100 percent manufacturer's recommended capacity.

(2) The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective shall be removed from service, and discarded, repaired, or adjusted in accordance with the following procedures:

(A) Repairs or adjustments to respirators shall be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

(B) Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

(C) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

(k) Breathing Air Quality and Use. The employer shall ensure:

(1) Compressed breathing air suppliers meet at least the requirements for Grade D breathing air described by the Compressed Gas Association (CGA) Commodity Specification for Air, G-7.1-1997 and certify such with a Certificate of Analysis (original or copy) from the supplier.

(2) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 Code of Federal Regulation part 173 and part 178).

(3) Compressors used to supply breathing air to respirators are constructed and situated so as to

conform to Title 8, California Code of Regulations, section 5144.

(l) Identification of Filters, Cartridges, and Canisters. The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color-coded with the NIOSH approval label. The label shall remain legible and not be removed.

(m) Training and Information. In addition to the training requirements specified in section 6724, the employer shall ensure that:

(1) Each employee can demonstrate knowledge of at least the following:

(A) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

(B) What the limitations and capabilities of the respirator are;

(C) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

(D) How to inspect, put on and remove, use, and check the seals of the respirator;

(E) What the procedures are for maintenance and storage of the respirator;

(F) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

(G) The general requirements of this section.

(2) Training shall be conducted in a manner that is understandable to the employee.

(3) Training is provided prior to requiring the employee to use a respirator in the workplace.

(4) A new employee who has received training within the last 12 months that addresses the elements specified in subsection (m)(1)(A) through (G) is not required to repeat such training provided that, as required by subsection (m)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

(5) Retraining shall be administered annually, and when the following situations occur:

(A) Changes in the workplace or the type of respirator render previous training obsolete;

(B) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or

(C) Any other situation arises in which retraining appears necessary to ensure safe respirator use.

(6) The basic advisory information on respirators specified in (r) is provided in any written or oral format to employees who wear respirators when such use is not required by label, restricted materials permit condition, regulation, or by the employer.

(n) Program Evaluation.

(1) The employer shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective as required by this section.

(2) The employer shall annually consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

(A) Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

(B) Appropriate respirator selection for the pesticides to which the employee is exposed;

(C) Proper respirator use under the workplace conditions the employee encounters; and

(D) Proper respirator maintenance.

(3) A written record of these evaluations and consultations shall be documented and at least contain:

(A) Name of workers consulted.

(B) Date of evaluation/consultation.

(C) Description of any finding from the evaluation or consultation requiring modification of written respiratory protection program or a declaration of no findings.

(4) Any findings from either the employer evaluation or the employee consultation that necessitate the modification to the written respiratory protection program shall be implemented within 30 days from the date of the evaluation/consultation.

(o) End-of-Service Life. When air-purifying respirators are required for protection against pesticides, the employer shall ensure that air-purifying elements (or entire respirator, if disposable type) shall be replaced according to the following hierarchically arranged criteria:

(1) At the first indication of odor, taste, or irritation while in use, the respirator wearer leaves the contaminated area, adjusts the mask for fit and on returning still encounters odor, taste, or irritation. This criterion item supercedes any of the criteria listed in (2)-(6).

(2) When any End-of-Service-Life-Indicator (ESLI) indicates that the respirator has reached its end of service;

(3) All disposable filtering facepiece respirators shall be discarded at the end of the workday;

(4) According to pesticide-specific label directions/recommendations;

(5) According to pesticide-specific directions from the respirator manufacturer;

(6) Absent any pesticide-specific directions/recommendations, at the end of the day's work period;

(p) Recordkeeping. The employer shall retain written information regarding medical recommendations, fit testing, and the respirator program.

(1) Records required by this section shall be maintained while the employee is required to use respiratory protection and for three years after the end of employment conditions requiring respiratory protection and shall be available for inspection by the employee, the Director, or commissioner.

(2) Fit testing.

(A) The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

1. The name or identification of the employee tested;
2. Type of fit test performed;
3. Specific make, model, style, and size of respirator tested;
4. Date of test; and
5. The pass/fail results for qualitative fit testing or the fit factor and strip chart recording or other recording of the test results for QNFTs.

(3) A written copy of the current respirator program shall be retained by the employer. Previous versions of the written respirator protection program shall be retained for three years.

(4) Written information required to be retained under this subsection shall be made available upon request to employees falling under the respiratory protection program and to the commissioner or persons designated by the Director for review and copying.

(q) Medical Evaluation Questionnaire. The completion of this form, or a form that obtains the same information as the medical questionnaire to the DEPARTMENT OF PESTICIDE REGULATION, by each respirator wearing employee; and the review of the completed form by a physician or licensed health care provider, is mandatory for all employees whose work activities require the wearing of respiratory protection.

The medical evaluation questionnaire shall be administered in a manner that ensures that the employee understands the document and its content. The person administering the questionnaire shall offer to read or explain any part of the questionnaire to the employee in a language and manner the employee understands. After giving the employee the questionnaire, the person administering the questionnaire shall ask the following question of the employee: "Can you read and complete this questionnaire?" If the answer is affirmative, the employee shall be allowed to confidentially complete the questionnaire. If the answer is negative, the employer must provide either a copy of the questionnaire in a language understood by the employee or a confidential reader, in the primarily understood language of the employee.

To the employee:

Can you read (circle): Yes/No (This question to be asked orally by employer. If yes, employee may continue with answering form. If no, employer must provide a confidential reader, in the primarily understood language of the employee.)

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.

Section 1. (Mandatory, no variance in this format allowed) Every employee who has been

selected to use any type of respirator must provide the following information (please print):1

1. Today's date: ____/____/____
2. Your name: _____
3. Your age: _____
4. Sex (circle one): Male/Female
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. How can you be reached by the health care professional who reviews this questionnaire?

9. If by phone, the best time to call is Morning/Afternoon/Evening/Night at:
(include the area code): _____ - _____ - _____
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, noncartridge type only).
 - b. Half-face respirator (particulate or vapor filtering or both)
 - c. Full-face respirator (particulate or vapor filtering or both)
 - d. Powered air purifying respirator (PAPR)
 - e. Self contained breathing apparatus (SCBA)
 - f. Supplied air respirator (SAR)
 - g. Other
12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s):

- a. N, R, or P disposable respirator (filter-mask, noncartridge type only).
- b. Half-face respirator (particulate or vapor filtering or both)
- c. Full-face respirator (particulate or vapor filtering or both)
- d. Powered air purifying respirator (PAPR)
- e. Self contained breathing apparatus (SCBA)
- f. Supplied air respirator (SAR)
- g. Other

Section 2. (Mandatory) Every employee who has been selected to use any type of respirator must answer questions 1 through 8 below (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. Allergic reactions that interfere with your breathing: Yes/No
 - c. Claustrophobia (fear of closed-in places): Yes/No
 - d. Trouble smelling odors: Yes/No/Do not know
 - e. Diabetes (sugar disease): Yes/No/Do not know

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 have 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 (pain in chest): Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Irregular heart beat (an arrhythmia): Yes/No/Do not know.
- g. High blood pressure: Yes/No/Do not know
- h. Any other heart problem that you have 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?

- 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 have used a respirator, have you ever had any of the following problems?
(If you have 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. Breathing difficulty: Yes/No
- f. 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 10-15 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 and 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. Difficulty 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

At the discretion of the PLHCP, if further information is required to ascertain the employee's health status and suitability for wearing respiratory protection, the PLHPC may include and require the questionnaire found in Title 8, California Code of Regulations, section 5144, Appendix C, Part B, Questions 1-19.

(r) Voluntary Respirator Provision Information. The employer shall ensure that the following information is provided to employees who voluntarily wear a respirator when not required to do so by label, restricted materials permit condition, regulation, or employer.

Information for Employees Using Respirators When Not Required By Label or Restricted Material Permit Conditions or Regulation.

Respirators are an effective method of protection against designated hazards when properly

selected and worn. Respirator use, even when exposures are below the exposure limit, may provide an additional level of comfort and perceived 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 or Department of Pesticide Regulation guidelines. 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 follow 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.
5. Air filtering respirators DO NOT supply oxygen. Do not use in situations where the oxygen levels are questionable or unknown.

(s) Medical Recommendation Form. A physician or other licensed health care professional's report of evaluation and approval for respirator use must be on file with the employer before work requiring respirator use is allowed. The following or substantially similar statement from a physician is acceptable:²

On _____, I evaluated _____.
Date _____
Patient's name _____

At this time there (are)/(are not) medical contraindications to the employee named above wearing a respirator while working in potential pesticide exposure environments. The patient (does)/(does not) require further medical evaluation at this time. Any restrictions to wearing a respirator or to the type of respiratory protection are given below.

I have provided the above-named patient with a copy of this form.

Physician _____ Date _____

INFORMATIONAL NOTE for section 6739: Employers requiring employees to enter oxygen-deficient atmospheres shall conform to respiratory protection requirements in Title 8, California Code of Regulations, section 5144. Oxygen-deficient atmospheres contain less than 19.5 percent oxygen by volume.

NOTE: Authority cited: Sections 11456 and 12981, Food and Agricultural Code. Reference: Sections 12980 and 12981, Food and Agricultural Code.

Information for Employees Using Respirators



When Not Required By Label or Restricted Material Permit Conditions or Regulation



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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.
5. Air filtering respirators DO NOT supply oxygen. Do not use in situations where the oxygen levels are questionable or unknown.