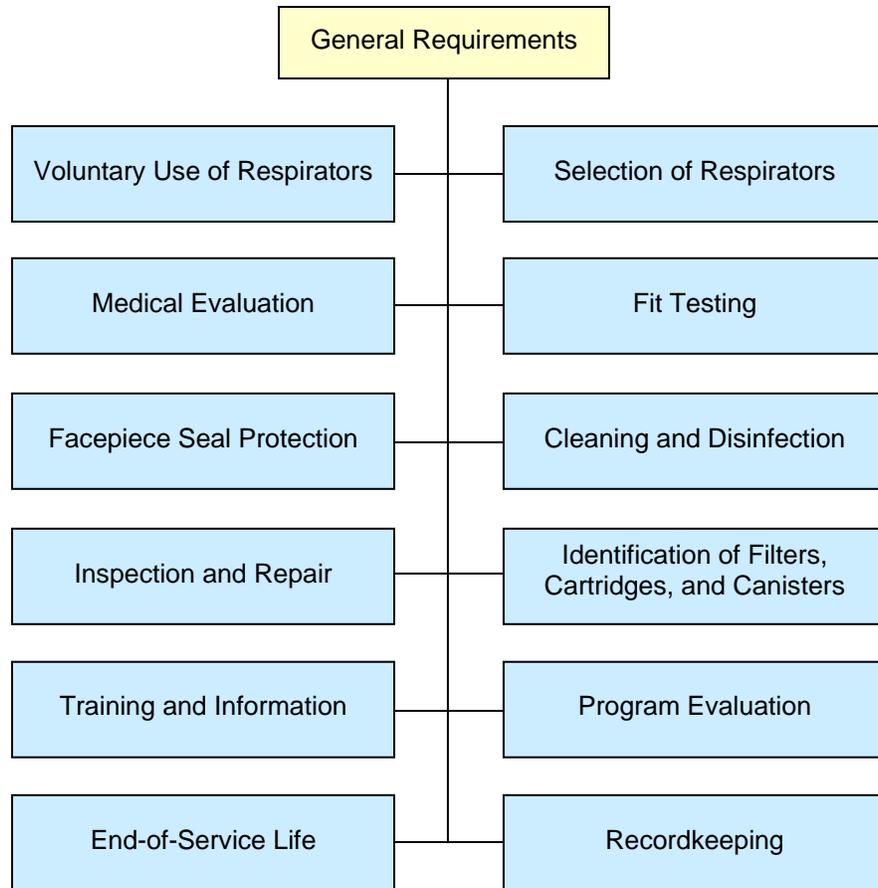


RESPIRATORY PROTECTION PROGRAM



[Link to the entire Guideline \(13 pages\)](#)

**AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY**

RESPIRATORY PROTECTION PROGRAM GUIDELINE

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ATTACHMENTS

- [Attachment A](#) - Respiratory Protection Program Flow Chart
- [Attachment B](#) - Information for Voluntary Use of Respirators
- [Attachment C](#) - Respirator Selection Guide
- [Attachment D](#) - Hazard Assessment and Identification of Protective Devices for Specific Operations/Activities
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AGRICULTURE AND NATURAL RESOURCES ENVIRONMENTAL HEALTH AND SAFETY

RESPIRATORY PROTECTION PROGRAM GUIDELINE

I. INTRODUCTION

As part of their work-related tasks, Agriculture and Natural Resources (ANR) employees, including Cooperative Extension and Research & Extension Center locations, routinely perform work with a variety of substances. Some of these substances may pose a threat to employee health and safety because they may occur as airborne particulates, mists, vapors, fumes, or gases that can cause severe irritation, corrosion, or permanent damage or be toxic by absorption to lung and respiratory tract tissues. In order to prevent or minimize employee injuries from airborne inhalation hazards, the State of California administers a regulatory program through the Department of Industrial Relations, Division of Occupational Health and Safety that assures employee respiratory protection.

II. POLICY

The University of California and ANR are committed to preventing injury and illness to its employees, minimizing impacts to the environment, and maintaining compliance with regulatory requirements. Accordingly, the Office of Environmental Health & Safety (EH&S) has developed this document with input from staff at other ANR programs to provide a summary of regulatory requirements relating to respiratory protection (primarily associated with application of regulated pesticides) and guidance for supervisors and employees to maintain compliance with these regulations.

III. SCOPE

As encompassed by the state regulatory program, ANR is required to develop and undertake a respiratory protection program that includes guidance for the selection, use, and care of respirators. The respiratory protection program must also encompass employee medical evaluation and fit testing, including maintenance of employee medical and fit testing records.

As used in this document, the term “ANR supervisors” refers to those personnel that supervise ANR employees that are required to wear respirators as part of their work activities. Likewise the term “ANR employees” refers to ANR staff required to wear respirators as part of their work activities.

IV. PURPOSE

The purpose of this Guideline is to identify criteria for selecting, using, and caring for respirators, and performing medical evaluation and fit testing and preserving attendant test records in order to prevent employee exposure to airborne inhalation hazards. Information provided by this document will also assist ANR supervisors with achieving and maintaining compliance with the respiratory protection program

as described under California Code of Regulations (CCR), Title 3, Section 6739 and CCR Title 8, Section 5144.

Along with this Guideline, the [Respiratory Protection Manual](#) provides additional information for employees and supervisors concerning the selection, use and care of respirators. In addition, [Safety Note #128](#) summarizes basic respirator information and procedures for employee reference and training and [Safety Note #129](#) summarizes supervisors' responsibilities and actions required to implement the respiratory protection program.

NOTE: Supplied air and self-contained breathing equipment are not used by or provided for ANR employees and are not covered by this Guideline.

V. GENERAL REQUIREMENTS

- A. ANR supervisors shall assure that employees use approved respiratory equipment in compliance with this Guideline when handling pesticides where respirators are required by label, restricted material permit condition, or regulation [CCR, Title 3, Section 6739 (a) (1) (A)].
- B. In any ANR workplace where respirators are required by label, restricted material permit condition, regulation, or supervisors, this Guideline shall serve as the written respiratory protection program. The program shall be updated as necessary to reflect changes in ANR workplace conditions that affect respirator use. The program shall include the following provisions [CCR, Title 3, Section 6739 (a) (2) (A-I)]:
1. Procedures for selecting respirators for use in the workplace;
 2. Medical evaluations of ANR employees required to use respirators;
 3. Fit testing procedures for tight-fitting respirators;
 4. Procedures for proper use of respirators in routine situations;
 5. Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;
 6. Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;
 7. Training of ANR employees in the respiratory hazards to which they are potentially exposed to during routine situations;
 8. Training of ANR employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and
 9. Procedures for evaluating the effectiveness of the program.

10. ANR supervisors and the ANR EH&S Office shall administer the respiratory protection program in compliance with this Guideline. [Safety Note #129](#) summarizes responsibilities and actions required to implement the respiratory protection program.
 11. Respirators, training, and medical evaluations shall be provided at no cost to the ANR employee.
- C. The ANR Office of Environmental Health & Safety shall assist supervisors and employees to comply with the respiratory protection regulations by providing guidance documents, training materials, consultation, and conducting respirator fit testing services. The EH&S Manager serves as the primary Program Administrator for the ANR Respiratory Protection Program.

VI. VOLUNTARY USE OF RESPIRATORS

ANR supervisors may choose to provide respirators, or allow employees to use their own respirators on a voluntary basis (i.e. for nuisance dust that is not hazardous), as long as the following conditions have been met [CCR, Title 3, Section 6739 (b) (1-3)]:

- A. An assessment has been made of the workplace and operational conditions and it has been determined that airborne hazards are not expected to be present in the workplace at concentrations that require use of a respirator;
- B. Use of the respirator will not create a hazard in itself;
- C. Provide employees with the information included in [Attachment B – Voluntary Use of Respirators](#); and
- D. Only filtering facepiece respirators (dust masks) may be allowed for use as voluntary respirators.

VII. SELECTION OF RESPIRATORS

- A. ANR supervisors 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 supervisor requirements, whichever is most protective [CCR, Title 3, Section 6739 (c)].

[Attachment C - Respirator Selection Guide](#) provides guidance to select the appropriate type of respirator and cartridge for various potential exposures or tasks. [Attachment D - Hazard Assessment and Identification of Protective Devices for Specific Operations/Activities](#) provides a form that can be used to document the respirator and other protective equipment needed for different work activities.

- B. ANR supervisors shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user [CCR, Title 3, Section 6739 (c) (1)].

VIII. MEDICAL EVALUATION

- A. ANR supervisors shall ensure a medical evaluation is conducted to determine the ANR employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. The ANR supervisor may discontinue an ANR employee's medical evaluations when the employee is no longer required to use a respirator [CCR, Title 3, Section 6739 (d)].
- B. Medical Evaluation Procedures [CCR, Title 3, Section 6739 (d) (1) (A-B)].
 - 1. ANR supervisors shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using the Medical Evaluation Questionnaire in [Attachment E](#).
 - 2. The medical evaluation shall obtain the information requested in the questionnaire.
- C. Follow-Up Medical Examination [CCR, Title 3, Section 6739 (d) (2) (A-B)].
 - 1. ANR supervisors 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.
 - 2. The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.
- D. Administration of the Medical Questionnaire and Examinations [CCR, Title 3, Section 6739 (d) (3) (A-B)].
 - 1. The Medical Evaluation Questionnaire ([Attachment E](#)) and examinations shall be administered confidentially during the ANR employee's normal working hours or at a time and place convenient to the ANR employee. The medical questionnaire shall be administered in a manner that ensures that the ANR employee understands its content.
 - 2. ANR supervisors shall provide the ANR employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.
- E. Supplemental Information for the PLHCP [CCR, Title 3, Section 6739 (d) (4)].
 - 1. ANR supervisors shall provide the following information to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator [CCR, Title 3, Section 6739 (d) (4) (A) (1-5)]:

- a. The type and weight of the respirator to be used by the ANR employee;
 - b. The duration and frequency of respirator use;
 - c. The expected physical work effort;
 - d. Additional protective clothing and equipment to be worn; and
 - e. Temperature and humidity extremes that may be encountered.
2. ANR supervisors shall not be required to provide any supplemental information provided previously to the PLHCP regarding an ANR employee for a subsequent medical evaluation if the information and the PLHCP remain the same. When a PLHCP is replaced, medical documents shall be transferred from the former PLHCP to the new PLHCP [CCR, Title 3, Section 6739 (d) (4) (B)].
 3. ANR supervisors shall provide the PLHCP with a copy of this Guideline [CCR, Title 3, Section 6739 (d) (4) (C)].

F. Medical Determination [CCR, Title 3, Section 6739 (d) (5)].

ANR supervisors 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 Medical Recommendation Form in [Attachment F](#) 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 workplace conditions in which the respirator will be used, including whether or not the ANR 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 ANR employee with a copy of the PLHCP's written medical recommendation.

G. Additional Medical Evaluations [CCR, Title 3, Section 6739 (d) (6) (A-C)].

ANR supervisors shall provide additional medical evaluations that comply with the requirements of Section VII if:

1. An ANR employee reports medical signs or symptoms that are related to their ability to use a respirator;
2. A PLHCP informs the ANR supervisor that an ANR employee needs to be reevaluated;
3. Observations made during fit testing and program evaluation indicates a need for ANR employee reevaluation; or

4. 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.

IX. FIT TESTING

- A. ANR supervisors shall assure that ANR employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) [CCR, Title 3, Section 6739 (e)]. The Office of Environmental Health & Safety (EH&S) performs fit testing and respirator training annually at each Research and Extension Center, and at Cooperative Extension county offices upon request. The fit testing service is provided for ANR employees at no charge. See the EH&S website: <http://safety.ucanr.org> for the fit testing schedule.
- B. ANR supervisors shall ensure that an ANR 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** [CCR, Title 3, Section 6739 (e) (1)]. Fit Test Procedures are described in [Attachment G](#).
- C. ANR supervisors shall ensure that an additional fit test is conducted whenever the ANR employee reports, or the PLHCP or ANR supervisor makes visual observations of changes in the ANR 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 [CCR, Title 3, Section 6739 (e) (2)].
- D. If after passing a OLFT or QNFT, the ANR employee subsequently notifies an ANR supervisor that the fit of the respirator is unacceptable, the ANR employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested [CCR, Title 3, Section 6739 (e) (3)].
- E. The fit test shall be administered using either the Cal/OSHA-accepted QLFT or QNFT protocols, or as recommended by the manufacturer of the respirator, if such recommendations are in accordance with CCR, Title 8, 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 [CCR, Title 3, Section 6739 (e) (4)].
- F. If the fit factor, as determined through a Cal/OSHA-accepted QNFT protocol is equal 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 [CCR, Title 3, Section 6739 (e) (5)].
- G. 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 [CCR, Title 3, Section 6739 (e) (6)].

1. 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 [CCR, Title 3, Section 6739 (e) (6) (A)].
2. 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 [CCR, Title 3, Section 6739 (e) (6) (B)].
3. 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 [CCR, Title 3, Section 6739 (e) (6) (C)].

Fit testing procedures are described in [Attachment G](#).

X. FACEPIECE SEAL PROTECTION

- A. A respirator that requires a tight face-to-facepiece seal shall not have any interference with the establishment of this seal [CCR, Title 3, Section 6739 (f)].
- B. ANR supervisors shall ensure that:
 1. ANR employees shall not wear a respirator with a tight-fitting facepiece if [CCR, Title 3, Section 6739 (f) (1)]:
 - 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 ANR employee do not interfere with the face-to-facepiece seal [CCR, Title 3, Section 6739 (f) (2)].
 3. ANR employees perform a user seal check each time they put on the respirator using Cal/OSHA procedures or procedures recommended by the respirator manufacturer that the ANR employee demonstrates are as effective as those in the Cal/OSHA procedures when using tight-fitting respirators [CCR, Title 3, Section 6739 (f) (3)].

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 ANR employee exposure or stress that may affect respirator effectiveness, ANR supervisors shall reevaluate the continued effectiveness of the respirator [CCR, Title 3, Section 6739 (f) (4)].
5. ANR employees shall leave the contaminated area [CCR, Title 3, Section 6739 (f) (5) (A-C)]:
 - 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;
 - c. To replace or adjust the respirator or the filter, cartridge, or canister elements.
6. If the ANR employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, ANR supervisors shall assure the respirator is replaced or repaired before allowing the ANR employee to return to the work area [CCR, Title 3, Section 6739 (f) (6)].

XI. CLEANING AND DISINFECTING

- A. Each ANR facility shall provide each respirator user with a respirator that is clean, sanitary, and in good working order [CCR, Title 3, Section 6739 (h)].
- B. ANR supervisors shall ensure that employees clean and disinfect respirators 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. ANR supervisors shall assure that [CCR, Title 3, Section 6739 (h) (1-4)]:
 1. Respirators issued for the exclusive use of an ANR employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
 2. Respirators that are collected and reissued for any use of any ANR employees shall be cleaned and disinfected before reissued.
 3. Employees store respirators 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.

XII. INSPECTION AND REPAIR

- A. ANR supervisors shall ensure that employees inspect all respirators before each use and during cleaning, and that [CCR, Title 3, Section 6739 (j) (1)] routine-use respirators inspections shall 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 cartridge, canisters or filters; and
 2. A check of elastomeric parts for pliability and signs of deterioration.
- B. ANR supervisors shall ensure that respirators that fail an employee's inspection or are otherwise found to be defective shall be removed from service, and discarded, repaired, or adjusted in accordance with the following procedures [CCR, Title 3, Section 6739 (j) (2) (A-C)]:
1. 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;
 2. Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of the repairs to be performed; and
 3. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician by the manufacturer.

XIII. IDENTIFICATION OF FILTERS, CARTRIDGES, AND CANNISTERS

ANR supervisors and employees shall ensure that all filters, cartridges, and canisters used in the workplace are labeled and color-coded with the NIOSH approved label. The label shall remain legible and not be removed [CCR, Title 3, Section 6739 (l)].

XIV. TRAINING AND INFORMATION

ANR supervisors shall ensure that [CCR, Title 3, Section 6739 (m)]:

- A. Each ANR employee has reviewed the [Respiratory Protection Manual](#) and can demonstrate knowledge of at least the following [CCR, Title 3, Section 6739 (m) (1) (A-G)]:
1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
 2. What the limitations and capabilities of the respirator are;

3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
4. How to inspect, put on and remove, use, and check the seals of the respirator;
5. What the procedures are for maintenance and storage of the respirator;
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
7. The general requirements of this Guideline.

[Safety Note #128](#) summarizes basic respirator information and procedures for employee reference and training. [Attachment H – Respirator Training and Fit Test Information](#) can be used to document that employees have been trained on proper use and care of a respirator, including the above items.

- B. The training shall be conducted in a manner that is understandable to the ANR employee [CCR, Title 3, Section 6739 (m) (2)].
- C. Training is provided prior to requiring the ANR employee to use a respirator in the workplace [CCR, Title 3, Section 6739 (m) (3)].
- D. A new ANR employee who has received training within the last 12 months that addresses the elements specified in subsections A 1 through A 7 is not required to repeat such training provided that the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the ANR supervisor must be provided no later than 12 months from the date of the previous training [CCR, Title 3, Section 6739 (m) (4)].
- E. Retraining shall be administered annually, and when the following situations occur [CCR, Title 3, Section 6739 (m) (5) (A-C)]:
 1. Changes in the workplace or the type of respirator render previous training obsolete;
 2. Inadequacies in the ANR employee's knowledge or use of the respirator indicate that the ANR employee has not retrained the requisite understanding or skill; or
 3. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

XV. PROGRAM EVALUATION

- A. The ANR Office of Environmental Health & Safety (EH&S) 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 [CCR, Title 3, Section 6739 (n) (1)].

- B. ANR supervisors and EH&S shall annually consult ANR employees required to use respirators to assess the employee's 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 [CCR, Title 3, Section 6739 (n) (2):
 - 1. Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
 - 2. Appropriate respirator selection for the pesticides to which the ANR employee is exposed;
 - 3. Proper respirator use under the workplace conditions the ANR employee encounters; and
 - 4. Proper respirator maintenance;
- C. A written record of these evaluations and consultations shall be documented and at least contain [CCR, Title 3, Section 6739 (n) (3);
 - 1. Name of workers consulted.
 - 2. Date of evaluation/consultation.
 - 3. Description of any findings from the evaluation or consultation requiring modification of written respiratory protection program or a declaration of no findings.
- D. Any findings from either the ANR EH&S evaluation or ANR employees consultation that necessitate the modification to the written respiratory protection program shall be implemented within 30 days from the date of the evaluation/consultation [CCR, Title 3, Section 6739 (n) (4)];

XVI. END-OF-SERVICE LIFE

When air-purifying respirators are required for protection against pesticides, the ANR supervisor shall ensure that air-purifying elements (or entire respirator, if disposable type) shall be replaced according to the following hierarchically arranged criteria [CCR, Title 3, Section 6739 (o) (1-6)]:

- A. At the first indication of odor, taste, or irritation, while in use, the respirator wearer leaves the contaminated area, adjusts the mask fit and on returning still encounters odor, taste, or irritation. This criterion item supercedes any of the criteria listed in subsections B through F.

- B. When any End-of-Service-Life-Indicator (ESLI) indicates the respirator has reached its end of service;
- C. All disposable filtering facepiece respirators shall be discarded at the end of the workday;
- D. According to pesticide-specific label directions/recommendations;
- E. According to pesticide-specific directions from the respirator manufacturer;
- F. Absent any pesticide-specific directions/recommendations, at the end of the day's work period.

XVII. RECORDKEEPING

ANR supervisors shall retain written information regarding medical recommendations, fit testing, and the respirator program [CCR, Title 3, Section 6739 (p)].

- A. Records required by this section shall be maintained while the ANR 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 ANR employee, the regulatory agency, or Agriculture Commissioner [CCR, Title 3, Section 6739 (p) (1)].
- B. ANR supervisors shall establish a record (similar to [Attachment H](#)) of qualitative and quantitative fit tests administered to the ANR employee which includes the following information [CCR, Title 3, Section 6739 (p) (2) (A) (1-5)]:
 - 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.
- C. A written copy of the current respirator program (this Guideline) shall be retained by each ANR facility where ANR employees wear respirators. Previous versions of the written respirator protection program shall be retained for three years [CCR, Title 3, Section 6739 (p) (3)].
- D. Written information required to be retained under this subsection shall be made available upon request to ANR employees falling under the respiratory protection program and to the Agriculture Commissioner and regulatory agency [CCR, Title 3, Section 6739 (p) (4)].

Information for Voluntary Use of Respirators

Supervisors 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 [California Code of Regulations (CCR) Title 3, Section 6739, part (r)].

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

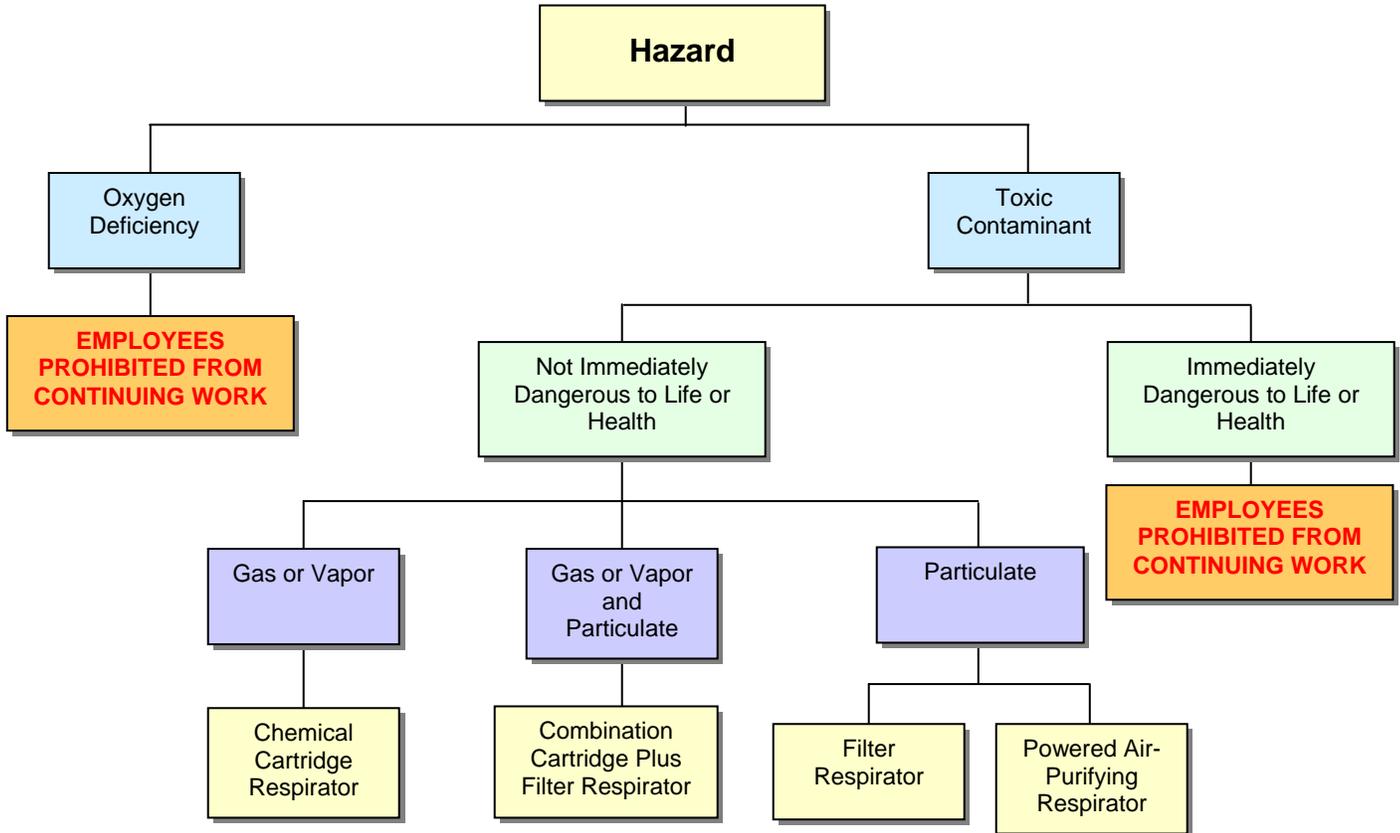
Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use, even when exposures are below the exposure limit, may provide an additional level of comfort and perceived protection for workers. However, if a respirator is used improperly 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.

For more information about respirators, consult the ANR Respiratory Protection Manual, ask your supervisor, or contact ANR Environmental Health and Safety (website: <http://safety.ucanr.org> or telephone (530) 400-5629).

Respirator Selection Guide



Matching the Respirator to the Job

| TYPICAL EXPOSURE | RESPIRATOR TO USE |
|--|--|
| Spray Painting | Full or half facepiece respirator with organic vapor cartridge(s) and mist pre-filter. |
| Battery charging | Full or half facepiece respirator with acid-gas cartridge(s). |
| Laboratory operations | Full or half facepiece respirator with acid-gas cartridge(s). |
| Lead fumes | Full or half facepiece respirator with dust-mist-fume cartridge(s). |
| Pesticide mixing, loading and application | Full or half facepiece respirator with organic vapor cartridge(s) and mist pre-filter or approved pesticide cartridge(s). Follow pesticide label instructions. |
| Airborne particulate at levels near or above published Permissible Exposure Levels | Half facepiece respirator with dust filter or dust-mist-fume cartridge(s). |
| Nuisance dust (wood/metal sanding, cutting, grinding, dusty field conditions) | Disposable dust mask may be used on voluntary basis |

**A. Hazard Assessment and Identification of
B. Protective Devices For Specific Operations/Activities**

I. AGRICULTURE & NATURAL RESOURCES

Center/ UCCE: _____ Date: _____

Employee: _____ Employee I.D. No.: _____

Supervisor: _____ Work Area: _____

| OPERATION/ ACTIVITY | EQUIPMENT NEEDED | REQUIRED | NOT REQUIRED | COMMENTS | |
|------------------------|---|---|--------------------------|--------------------------|--|
| Pesticide Application | Coveralls Head Cover Boots | Respirator* Rubber Cloves Safety Goggles | <input type="checkbox"/> | <input type="checkbox"/> | * Organic vapor cartridge w pre-filter 'only' |
| Shop Activities | Hard Hat Safety Glasses Ear Plugs Welding Mask Safety Shoes | Respirator* Local Exhaust Aprons Welding Gloves | <input type="checkbox"/> | <input type="checkbox"/> | * Disposable dust mask or dust-mist-fume cartridge (sanding, nuisance dust) * Organic vapor cartridge w mist pre-filter (spray painting) * Acid-gas cartridge (battery charging, acid dip tanks) |
| Laboratory Operations | Lab Coat/Smock Face Shield Rubber Gloves Respirator* Emergency Shower | Safety Glasses Rubber Apron Fume Hood Eye Wash Station | <input type="checkbox"/> | <input type="checkbox"/> | * Acid-gas cartridge |
| Field Operations | Safety Glasses Respirator* Rain Gear Safety Shoes | Dust Goggles Rubber Boots Gloves | <input type="checkbox"/> | <input type="checkbox"/> | * Disposable dust mask or dust-mist-fume cartridge (dusty operation, nuisance dust) |

Medical Evaluation Questionnaire

The completion of this form, or a form substantially equivalent and acceptable 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. California Code of Regulations (CCR), Title 3, Section 6739, part (q).

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.

Information to be completed by supervisor:

1. *Type of respirator to be used (full-face, half-face, etc.):* _____
 2. *Approximate weight of respirator to be used by employee:* _____ lbs.
 3. *Duration and frequency of respirator use (approximate hours per week or month):* _____
 4. *Expected physical work effort (light, moderate, heavy):* _____
 5. *Additional protective clothing and equipment to be worn (gloves, coverall, etc.):* _____
-
6. *Temperature and humidity extremes that may be encountered:* _____

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.

Medical Evaluation Questionnaire

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

Medical Evaluation Questionnaire

- 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

Medical Evaluation Questionnaire

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 fullfacepiece 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.

Medical Recommendation Form

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

This form is derived from California Code of Regulations (CCR), Title 3, Section 6739, part (s).

Fit Test Procedures

Qualitative Fit Test Procedures (Irritant Smoke)

1. The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).
2. The test user shall be instructed to keep his/her eyes closed.
3. The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test user, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the facepiece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.
4. If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.
5. The exercises identified on page 3 of this Attachment shall be performed by the test user while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.
6. If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity screening check and fit test procedure.
7. Each test user passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check, with the smoke from the same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.
8. If a response is produced during this second sensitivity check, then the fit test is passed.

Fit Test Procedures

Quantitative Fit Test Procedures (Portacount)

A. Portacount Fit Test Requirements

1. Check the respirator to make sure the sampling probe and line are properly attached to the facepiece and that the respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used by the fit test (e.g., NIOSH 42 CFR 84 series 100, 99 or 95 particulate filter) per manufacturer's instruction.
2. Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.
3. Check the following conditions for the adequacy of the respirator fit: Chin properly placed; adequate strap tension, not overly tightened; nose to chin; tendency of the respirator to slip; self-observation in a mirror to evaluate fit and respirator position.
4. Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same model respirator, or another model of respirator.
5. Follow the manufacturer's instruction for operating the Portacount and proceed with the test.
6. The test user shall be instructed to perform the Test Exercises on page 3 of this Attachment.
7. After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.

B. Portacount Test Instrument

1. The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.
2. Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance in the Respiratory Protection Program Policy and Procedures.
3. A record of the test needs to be kept on file, assuming the fit test was successful. The record must contain the test user's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

Fit Test Procedures

Test Exercises

- A. The following test exercises are to be performed for all fit testing methods prescribed in this Attachment. The test user shall perform exercises, in the test environment, in the following manner:
1. Normal breathing. In a normal standing position, without talking, the test user shall breathe normally.
 2. Deep breathing. In a normal standing position, the test user shall breathe slowly and deeply, taking caution so as not to hyperventilate.
 3. Turning head side to side. Standing in place, the test user shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the test user can inhale at each side.
 4. Moving head up and down. Standing in place, the test user shall slowly move his/her head up and down. The test user shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
 5. Talking. The test user shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The test user can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

RAINBOW PASSAGE

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

6. Grimace. The test user shall grimace by smiling or frowning (This applies only to quantitative testing; it is not performed for qualitative testing).
 7. Bending over. The user shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type quantitative testing or qualitative testing units that do not permit bending over at the waist.
 8. Normal breathing. Same as exercise A.1.
- B. Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test user shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

Respirator Training and Fit Test Information

Instruction Given:

- | | | |
|--|--|---|
| <input type="checkbox"/> Video/DVD | <input type="checkbox"/> Oral Training | <input type="checkbox"/> Maintenance |
| <input type="checkbox"/> Respirator Manual | | <input type="checkbox"/> Cartridge Care & Replacement |
| <input type="checkbox"/> Positive and Negative Fit-check | | <input type="checkbox"/> Cleaning |
| <input type="checkbox"/> Adjustment | | <input type="checkbox"/> Storage |
| <input type="checkbox"/> Inspection | | |

Test Results:

- | |
|--|
| <input type="checkbox"/> Medical Questionar Signed Off |
| <input type="checkbox"/> Quantitative Fit _____ |
| <input type="checkbox"/> Qualitative Fit _____ |
| <input type="checkbox"/> Respirator PF _____ |
| Type _____ |

Following is a partial list of gaseous materials for which chemical cartridge respirators should **not** be used for respiratory protection regardless of concentration or time of exposure. Contact EH&S for further information on other specific materials.

| | | | | |
|------------------|-------------------|-----------------|------------------------|----------------------|
| Arsine | Hydrazine | Methyl bromide | Nitromethane | Stibine |
| Bromine | Hydrogen cyanide | Methyl chloride | Ozone | Sulfur chloride |
| Carbon monoxide | Hydrogen fluoride | Nickel carbonyl | Phosgene | Toluene Diisocyanate |
| Dimethylaniline | Hydrogen selenide | Nitrobenzene | Phosphine | Vinyl chloride |
| Dimethyl sulfate | Hydrogen sulfide | Nitrogen oxides | Phosphorus oxychloride | Vinylidene chloride |
| Ethylene Oxide | Methyl alcohol | Nitroglycerin | Phosphorus trichloride | |

I understand that a cartridge-type respirator must not be used in an oxygen-deficient atmosphere (>19.5%).

ORGANIC VAPOR*

For respiratory protection against not more than 0.1 percent **ORGANIC VAPORS** by volum. **Do not wear** for protection against organic vapors with poor warning properties or those which generate high heat of reaction with sorbent material in the cartridge. Maximum use concentration will be lower than 0.1 percent where that concentration produces atmospheres immediately dangerous to life or health.

ACID GAS*

For respiratory protection against not more than 10 ppm **CHLORINE**, 10 ppm **FORMALDEHYDE**, 50 ppm **HYDROGEN CHLORIDE** or 50 ppm **SURPHUR DIOXIDE**. **Do not wear** in atmospheres immediately dangerous to life or health.

PESTICIDE

For use against **PESTICIDES**. **Do not wear** for protection against organic vapors with poor warning properties or those which generate high heats of reaction with sorbent material in the cartridge. Maximum use concentrations will be lower than 0.1 percent where that concentration produces atmospheres immediately dangerous to life or health. **Not approved for fumigants.**

RADIONUCLIDE

For respiratory protection against **DUSTS, FUMES, and MISTS** having a TWA less than 0.05 milligram per cubic meter, and **RADIONUCLIDES, and asbestos-containing dusts and mists**. 99.97% efficient against 0.3 micron DOP. Not for use in atmospheres containing toxic gases or vapors.

ORGANIC VAPOR/ACID GAS*

For respiratory protection against not more 1000 ppm **ORGANIC VAPORS**, 10 ppm **CHLORINE**, or 50 ppm **HYDROGEN CHLORIDE** or **SULPHUR DIOXIDE**. **Do not wear** in atmospheres immediately dangerous to life. **Do not wear** in organic vapors with poor warning properties or which generate high heat of reaction with sorbent materials in the cartridge.

PAINT

For respiratory protection against (1) mists of **MISTS, LACQUERS, and ENAMELS**, (2) not more than 1000 ppm **ORGANIC VAPORS**, or (3) any combination thereof. **Not for use** with urethane or other diisocyanate-containing paints. **Do not wear** for protection against organic vapors with poor warning properties or those which generate high heat of reaction with sorbent material in the cartridge. Maximum use concentrations will be lower than 0.1 percent where that concentration produces atmospheres immediately dangerous to life or health.

DUST AND MIST

For respiratory protection against **DUSTS** and **MISTS** having a TWA not less than 0.05 milligram per cubic meter or 2 million particles per cubic foot. Not for use in atmospheres containing toxic gases or vapors.
(TWA = Time-Weighted Average; ppm = parts per million)

OTHER

***For DUST and MIST protection, add Prefilter and Filter Cover**

Your approval to wear a respirator expires no later than twelve (12) calender months from the date listed below. After this date, you must be retrained and refitted by EH&S or a qualified person.

By my signature, I acknowledge that I have received the indicated instruction in the fitting, use, storage, and care of my respirator. I have read the above material which pertains to the cartridges I have received and I understand that the cartridges are to be used only for the purposes indicated. I have discussed the intended use of this respirator with an EH&S representative. I have been given an opportunity to ask questions about respiratory protection and I understand the information that has been provided.

[Please Print] First Name, Last Name

Signature: _____

(Signature, EH&S Representative)

Date: _____

IF YOU HAVE QUESTIONS ABOUT YOUR RESPIRATOR OR ITS PERFORMANCE, PLEASE CONSULT YOUR SUPERVISOR OR CALL ANR ENVIRONMENTAL HEALTH & SAFETY AT (530) 400-5629 or (530) 752-393