

# Appendix 1

## Personal Protective Equipment Requirements

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**Introduction** The following information is provided to give you a more comprehensive understanding of the regulatory requirements for personal protective equipment (PPE). This appendix outlines the scope, guidance and exemptions for 3CCR § 6738 and § 6739. It also provides information and standards applicable to all other laws and regulations that require the use of PPE.

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**Exceptions/  
substitutions to  
labeling  
required PPE** The definition of “Conflict with labeling” (3CCR § 6000) provides that the use of PPE consistent with the exceptions and substitutions listed throughout 3CCR § 6738 is not a conflict with labeling.

Both employers and employees may utilize any of these exceptions or substitutions from labeling required PPE (including but not limited to closed systems and enclosed cabs) and comply with FAC § 12973 and/or 3CCR § 6738.

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**PPE standards** 3CCR § 6601 states that whenever pesticide labeling requires the use of PPE or other restrictions or procedures, the application of the labeling requirement to an owner, operator of property, their families and others must be consistent with any applicable standards found in the WH&S regulations. See the General Inspection Procedures on page 7 of the manual for more information.

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**In this  
appendix** This appendix contains the following topics.

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## Eyewear Provided and Used 3CCR § 6738.1(a) & 6738.2

**Scope:** All employees handling pesticides when:

- Required by labeling.
- Mixing or loading.
- When exposed to application equipment that contains or maybe contaminated with pesticides.
- Applying using hand-held, vehicle-mounted or towed equipment.
- Flagging.

When pesticide labeling specifies a particular type of eye protection, the employee must use the type specified. When pesticide labeling does not specify any particular kind of eye protection, DPR allows the use of safety glasses, goggles or face shields with the ANSI Z87.1 standard on the protective eyewear 3CCR § 6738.1. Safety glasses need to provide front, brow and temple protection that conforms to the face. See exemptions below.

When it appears that there is an excessive gap between the glasses and the face of the pesticide handler, about ¼ inch can be used to measure if the safety glasses provide front and supplemental brow and temple protection. See examples of unacceptable and acceptable protective eyewear and the pencil fit test in **Figures A and B** on page [242](#). This is a simple field test that can be used to provide evidence in a civil penalty hearing.





Some fumigant labeling only requires eye protection during the introduction of the fumigant (i.e. the opening and closing of the cylinder valve) and while in close proximity of the cylinder when open.

### **Exemptions:**

- When vehicle-mounted spray nozzles are located below the employee and the nozzles are directed downward 3CCR § 6738.4(a)(2).
- When applying vertebrate pest control baits where contact with the bait or equipment which could be contaminated 6738.4(a)(3).
- When applying solid fumigants (including aluminum phosphide, magnesium phosphide, and smoke cartridges) to vertebrate burrows 6738.4(a)(b)(2).
- Baiting insect monitoring traps or applying non-insecticidal lures 6738.4(b)(1).
- Antimicrobial agents used as sanitizers, disinfectants or medical sterilants are exempt under the conditions of 3CCR § 6720(c).
- PCAs or professional foresters performing crop adviser tasks 3CCR § 6720(d).
- Consumer products see 3CCR § 6720(e).

**Exemptions that apply when required eye protection is available at the worksite or immediately available to the handler:**

- When working in an enclosed cab.
- The following table provides examples of acceptable eye protection PPE.

Labeling Statement	Acceptable PPE	Examples
Protective eyewear  <p style="text-align: center;"><b>-OR-</b></p> Safety glasses	<ul style="list-style-type: none"> <li>• Shielded safety glasses; or</li> <li>• Face shield; or</li> <li>• Goggles; or</li> <li>• Full-face respirator</li> </ul>	Safety glasses with supplemental brow and temple protection  
Goggles	<ul style="list-style-type: none"> <li>• Goggles; or</li> <li>• Full-face respirator</li> </ul>	Goggles  
Face shield	<ul style="list-style-type: none"> <li>• Face shield; or</li> <li>• Full-face respirator</li> </ul>	Face shield  
Full-face respirator	<ul style="list-style-type: none"> <li>• Full-face respirator</li> </ul>	Full-face respirator  

## How To Verify That Safety Glasses Are Acceptable.

Follow this simple step to determine if safety glasses have brow and temple protection. However, DO NOT USE A PENCIL AS ILLUSTRATED to measure the space; the illustration is only to be used as a reference. A pencil is about ¼ inch or 6 mm in diameter, the same amount of space needed between the glasses to determine if the eyewear has supplemental "brow and temple protection".

**Determine if protective eyewear has acceptable brow and temple protection.**

Figure A



**This is not considered acceptable protective eyewear.** The pencil test shown in **Figure A** indicates that the pencil can easily be placed between the glasses and the face and freely rotate within the surrounding space. This illustration shows that there is no supplemental "brow and temple protection" provided by these glasses. Reading glasses are not acceptable.

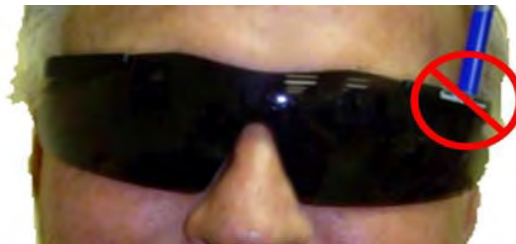


Figure B

**This is considered acceptable protective eyewear.** The pencil test shown in **Figure B** indicates that the pencil cannot easily be placed between the glasses and the face and freely rotate within the surrounding space. This illustration shows that there is supplemental "brow and temple protection" provided by these glasses.

## Chemical Resistant Gloves Provided and Used 3CCR § 6738.1 & 6738.3

**Scope:** Employees handling pesticides when:

- Required by labeling.
- Mixing or loading.
- When exposed to application equipment that contains or maybe contaminated with pesticides.
- Applying by hand or using hand-held equipment.

The employer must assure that handlers use chemical resistant gloves when required and repair or replace any worn, damaged, or heavily contaminated personal protective equipment.. If the labeling does not identify a specific type of glove, the barrier material may be any listed in 3CCR § 6738.3(a) and must be 14 mils thick except for barrier laminate and polyethylene materials.

**Notes:**

- Separable **glove liners** may be used in conjunction with chemical resistant gloves under the conditions found in 3CCR § 6738.3(d). (40 CFR § 170.507(b)(5)(i-iii))
- When glove liners are utilized improperly, the responsible person is in violation of 3CCR § 6738.3(d). Lined chemical resistant gloves (liners not separable) are not allowed.

**Notes:**

- Disposable gloves may be allowed to make fine adjustments to equipment or other activities that require high dexterity and motor control skill the gloves must be made of an appropriate barrier material, for a maximum of 15 minutes.
- Some fumigant labeling prohibits wearing gloves when handling the fumigant.

**Exemptions:**

- Handlers when the pesticide labeling specifies that gloves must not be worn.
- Handlers applying vertebrate pest control bait using long handled implements.
- PCAs or professional foresters. 3CCR § 6720(d)
- Antimicrobial agents used as sanitizers, disinfectants or medical sterilants are exempt under the conditions of 3CCR § 6720(c).
- Consumer products see 3CCR § 6720(e).
- Pilots entering or leaving an aircraft, gloves brought into cockpit must be kept in an enclosed container. 3CCR § 6738.3(f)

**Exemptions that apply when required gloves are immediately available to the handler:**

- Employees mix/loading “Caution” pesticides via a closed system. 3CCR § 6738.4(d)
- Employees working in an enclosed cab. 3CCR § 6738.4(e)

## How To Verify That Gloves Are Acceptable

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### WPS glove categories

The federal Worker Protection Standard requires that labeling of pesticides used on farms, forests, nurseries and greenhouses list the type of gloves that must be worn with each product. Labeling will refer to chemical-resistance categories (A-H) for gloves.

Gloves in these categories are made of materials that the pesticide cannot pass through and are often based on the solvents used in the pesticides, **not** the pesticides themselves. Therefore, there will be instances where the same pesticide with two different formulations (for example, a wettable powder and an emulsifiable concentrate) of the same pesticide will require gloves from two different chemical-resistance categories.

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### Glove table

The following table provides guidance on what glove types are acceptable PPE for hand protection.

<b>Labeling Statement</b>	<b>Acceptable PPE</b>
Waterproof gloves	Any rubber or plastic gloves sturdy enough to remain intact throughout the task being performed
Chemical-resistant gloves or Chemical-resistant gloves such as butyl or nitrile	Any gloves that are resistant to the chemical(s) being handled.  Barrier-laminate gloves; or other gloves as referenced below in the glove category selection key (see below) or the DPR wallet-sized card.

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## How To Verify That Gloves Are Acceptable, Continued

**Glove category selection key** The following text box contains the same information found on the DPR distributed wallet-sized cards mentioned above.

### **Glove Category Selection Key**

<b>Label Code</b>	<b>Materials Required by Law</b>	<b>Material Code</b>
A	1,2,3,4,5,6,7,8	1: Laminate
B	1,2	2: Butyl
C	1,2,3,4,7,8	3: Nitrile
D	1,2	4: Neoprene
E	1,3,4,8	5: Natural
F	1,2,3,8	6: Polyethylene
G	1,8	7: PVC
H	1,8	8: Viton

All but Laminate and Polyethylene must be 14 mils or thicker

# Chemical Resistant Footwear, Provided and Used

## 3CCR § 6738.1(c)

### Scope:

- All handlers when required by labeling. FAC § 12973
- Employees handling minimal exposure pesticides. 3CCR § 6793(d)

When pesticide labeling specifies a particular type of foot protection to wear, the employee must use the type specified. Chemical-resistant shoes, boots or shoe coverings cannot be made of absorptive materials such as leather or have stitching/eyelet/lacing holes that would allow penetration.


Boot height can vary depending on personal selection and comfort; boot height must at least extend over the ankle. . Pant legs must be worn outside the boots so that pesticides cannot be funneled down into the boot.

Rubber irrigator boot is commonly used and acceptable chemical-resistant boot that complies with most pesticide labeling statements requiring chemical-resistant footwear. Irrigator type boots are made of natural rubber or other chemical-resistant material See the table below.

### Exemption:

- Pilots when in an enclosed cockpit do not need to wear chemical resistant footwear. 6738.4(f)

The following table provides guidance on what is acceptable PPE for foot protection.

Labeling Statement	Acceptable PPE
Shoes	<ul style="list-style-type: none"> <li>• Leather, canvas, or fabric shoes; or</li> <li>• Chemical-resistant;               <ul style="list-style-type: none"> <li>○ Shoes; or</li> <li>○ Boots; or</li> <li>○ Shoe coverings (booties)</li> </ul> </li> </ul>
Chemical-resistant footwear	<ul style="list-style-type: none"> <li>• Chemical-resistant;               <ul style="list-style-type: none"> <li>○ Shoes; or</li> <li>○ Boots; or</li> <li>○ Shoe coverings (booties)</li> </ul> </li> </ul>
Chemical-resistant boots	<ul style="list-style-type: none"> <li>• Chemical-resistant boots Example: Rubber irrigator boot</li> </ul> 



## **Chemical Resistant Headgear/Apron /Clothing, Provided and Used 3CCR § 6738.1(d), 3CCR § 6738.1(f), 6738.1(g)**

### **Scope:**

- All handlers when required by labeling. FAC § 12973
- Employees handling minimal exposure pesticides. 3CCR § 6793(d)

When pesticide labeling specifies a particular type of chemical resistant headgear, apron or clothing to be worn, the employer must provide and the employee must use the type specified.

Chemical resistant suits cannot be worn if the temperature is over 80 degrees F during the day or 85 degrees F at night unless employees use cooled suits or other control methods to maintain an effective environment below those temperatures. Fumigant labeling often prohibits the use of chemical resistant clothing. 6738.1(g)(1)

### **Exemptions:**

- See 3CCR § 6738.4 for substitutions allowed when using closed systems or enclosed cabs, and 3CCR § 6720 See table on page 266. (Required PPE must be immediately available
- Additional minimal exposure pesticide exemptions when chemical resistant full-body protective clothing is present at the work site. (3CCR § 6739(d)(1-4).

# Chemical Resistant Headgear/Apron /Clothing Selection

**Body Protection PPE Table**

The following table provides guidance when evaluating body protection PPE.

Labeling Statement	Acceptable PPE	Comments
Chemical-resistant hood, chemical-resistant headgear or wide-brimmed hat	<ul style="list-style-type: none"> <li>• Rubber or plastic-coated southwestern style hat; or</li> <li>• Rubber or plastic-coated firefighter-style hat; or</li> <li>• Plastic or other barrier-coated hood; or</li> <li>• Rubber or plastic hood; or</li> <li>• Full hood or helmet that is part of a respirator</li> </ul>	
Chemical-resistant apron	<ul style="list-style-type: none"> <li>• Chemical-resistant apron worn over long-sleeved shirt and long pants; or</li> <li>• Chemical-resistant apron worn over coveralls over long-sleeved shirt and long pants; or</li> <li>• Chemical resistant suit</li> </ul>	Chemical-resistant apron means a garment that covers the front of the body from mid-chest to the knees.
Long-sleeved shirt and long pants	<ul style="list-style-type: none"> <li>• Long-sleeved shirt and long pants; or coverall, or</li> <li>• Plastic or other barrier-coated coverall; or</li> <li>• Rubber or plastic suit</li> </ul>	

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# Chemical Resistant Headgear/Apron /Clothing Selection, Continued

**Body  
Protection  
PPE Table  
(continued).**

Labeling Statement	Acceptable PPE	Comments
Coverall worn over short-sleeved shirt and short pants	<ul style="list-style-type: none"> <li>• Coverall worn over short-sleeved shirt and short pants; or</li> <li>• Coverall worn over long-sleeved shirt and long pants; or</li> <li>• Coverall worn over another coverall; or</li> <li>• Plastic or other barrier-coated coverall; or</li> <li>• Rubber or plastic suit</li> </ul>	<p>Non-laminated Tyvek coveralls are considered equivalent to cloth coveralls.</p> <p>Undergarments are not acceptable as short pants.</p>
Coverall worn over long-sleeved shirt and long pants	<ul style="list-style-type: none"> <li>• Coverall worn over long-sleeved shirt and long pants; or</li> <li>• Coverall worn over another coverall; or</li> <li>• Plastic or other barrier-coated coverall; or</li> <li>• Rubber or plastic suit</li> </ul>	
<p>Chemical-resistant protective suit <b>-OR-</b> Waterproof suit or liquid-proof suit</p> <p>[Chemical-resistant suit means a protective garment that covers the torso, arms, and legs from wrist to ankle.]</p>	<ul style="list-style-type: none"> <li>• Plastic or other barrier-coated coveralls; or</li> <li>• Rubber or plastic suit or</li> <li>• Specially constructed disposable/ limited use coveralls.</li> </ul>	<p>Four acceptable materials for chemical-resistant disposable coverall include but are not limited to:</p> <ul style="list-style-type: none"> <li>• Tyvek 7;</li> <li>• 100% spun-bonded Olefin 7, which has been laminated with Saranex 7 or polyethylene;</li> <li>• Polypropylene laminated with polyethylene;</li> <li>• Encase II.</li> </ul>

# Respiratory Protective Equipment, Provided & Used

## 3CCR § 6739

### Scope:

- Employees when required by labeling, restricted materials permit, regulation, or employer policy.
- Employees applying minimal exposure pesticides by hand, or ground rig. (3CCR § 6793(e))
- Employees treating potato seed pieces with thiophanate-methyl. (3CCR § 6795(a))

When methyl bromide fumigation is commenced from an enclosed space for commodity treatment, the handler(s) must wear a self-contained breathing apparatus (SCBA).

### Minimal exposure pesticide respirator selection.

Title 3, CCR § 6793(f) requires use of a respirator when engaged in specific activities with bromoxynil, folpet, oxydemeton-methyl and propargite. Some pesticide product labels containing those active ingredients do not specify the type of respirator needed. The Worker Health and Safety Branch issued specifications to be used when product labels are silent on respirator selection. The following respirators meet the respiratory protection requirements of the following minimal exposure pesticides:

- Bromoxynil: Particulate filter .
- Folpet: Particulate filter.
- Oxydemeton-methyl is registered for two pesticide methods: an injector system used to control tree-boring pests and an agricultural spray material.
  - The injector method has respiratory protection requirements for use in confined spaces (N95); this specification applies to all use conditions in California.
  - The agricultural spray label specifies use of an organic vapor (OV) cartridge with particulate (N, R or P-rated) pre-filters; this specification applies to all use conditions in California.

Propargite: Labels specify OV cartridge with particulate (N, R or P-rated) pre-filter; this specification applies to all use conditions in California

### Exemptions:

- See 3CCR § 6738.4 on substitutions allowed when using closed systems or enclosed cabs.
- Minimal exposure pesticides 3CCR § 6793.
- 3CCR § 6720 for antimicrobial agents used as sanitizers, disinfectants, PCAs or professional foresters, and consumer products.
- Voluntary respirator use, of 3CCR § 6739

# Respirator Requirements

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- Use limitations**
- Respirators should be snug, but not so tight as to distort the facial topology or cause worker discomfort. 3CCR § 6739(e)
  - Face sealing respirators shall not be worn when conditions prevent a tight face-to-face-piece seal, (facial hair, heavy stubble, drooping mustache, long sideburns, beards). Other types of non-face-sealing respirators, if adequate for mitigating the hazard, may be chosen.
  - In accordance with 3CCR § 6739(o), air-purifying elements (chemical cartridges, filters, canisters and dust masks) will be discarded daily, absent directions from the equipment manufacturer or the pesticide labeling.
  - Air-purifying respirators shall not be worn when an oxygen-deficient atmosphere (less than 19.5% oxygen by volume) is known or suspected, or in environments where high concentrations of air contaminant may be present.
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**IDLH atmospheres**

Fumigant confined structures are considered an Immediately Dangerous to Life or Health (IDLH) atmosphere unless proven otherwise by appropriate measuring devices. If employees may be working in an IDLH atmosphere, they must be trained in the procedures [3CCR § 6739(g)] necessary to ensure their safety and proper selection [3CCR § 6739(c)(2)(A-C)] of a respirator for these conditions.

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**Medical evaluation**

Verify that each employee that uses a respirator completed the required Medical Evaluation Questionnaire and that they have an understanding of the purpose of the questionnaire. 3CCR § 6739(q). Employee's ability to use a respirator before they are fit tested or required to use the respirator in their workplace. 3CCR § 6739(d)

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## Respirator Requirements, Continued

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### Medical evaluation (continued)

Employer has obtained a Medical Recommendation Form on each employee that wears a respirator and that the form has been reviewed and signed by either a physician or other licensed healthcare professional (PLHCP)[3CCR § 6739(s)].

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### Voluntary respirator provisions

An employee voluntarily wears a respirator according to the provisions provided in 3CCR § 6739(b).

The employer or the employee supplies the respirator.

If the respirator is supplied by the **employee**:

- The employer must display the Voluntary Respirator Provision Information given in 3CCR § 6739(r). Is the employee aware of this information?
- The respirator use will not create a hazard.

If the respirator is supplied by the **employer**:

- the Voluntary Respirator Provision Information given in 3CCR § 6739(r) must be displayed with the PSIS A-8 or N-8.
  - Training and medical evaluations is provided at no cost to the employee.
  - The employee is medically able to use that respirator except for the voluntary use of **filtering face-pieces (dust masks)**.
  - PLHCP recommendation documentation is maintained.
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### Questions

Please refer any questions regarding respiratory protection for pesticide handling and use to DPR's Worker Health and Safety Branch at 916-445-4222.

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# Respiratory Protective Equipment Guidance

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## **Respirator testing and certification numbers (TC)**

Pesticide labels will often specify the type of respirator to use when handling and/or applying a particular pesticide using its 'TC-XXX' designation. This designation number (considered an approval number) is based on the testing and certification criteria established by the National Institute for Occupational Safety and Health (NIOSH). NIOSH currently has exclusive authority over the testing and certification criteria for respirators as codified in 42 CFR 84. The 'TC-XXX' designation applies to the respirator assembly including the face-piece and any air-purifying elements. Prior to 1998, regulations contained within 30 CFR 11 (42 CFR 84 superseded 30 CFR 11) required that these 'TC' approval numbers be marked on chemical cartridges and filters (Examples: TC-21C or TC-23C). However, 42 CFR 84 approved respirator cartridges and filters are no longer marked with a 'TC' approval number but with "NIOSH," the manufacturers name and part number and an abbreviation (such as 'OV' for organic vapor) to identify the cartridge type. Chemical cartridges are also color coded to indicate the cartridge type and filtering elements [filters, prefilters or particulate filtering (dust masks) facepieces] will include their efficiency ratings as described in the next two sections. **See the labeling statement and substitution guidance table below.**

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## **Filter efficiency and selection**

42 CFR 84 created three levels of filter efficiency and three categories of resistance to filter efficiency degradation. The three levels of filter efficiency are 95%, 99% and 99.97% (labeled as 100%). The three categories of resistance to filter degradation are N, R and P.

**N** for Not resistant to oil;

**R** for Resistant to oil;

**P** for oil **P**roof.

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## **N R P use determinations**

If no oil particles (such as from Volck or refined oil dormant sprays) are present in the work environment, N, R, or P series filters may be used. If oil particles are present, R or P series filters may be used. If oil particles are present and the filter is to be used for more than 8 hours, only a P series filter may be used. Example: Packaging of a 42 CFR 84 particulate filtering respirator will list certification numbers in this manner, TC-84A-XXX where "-XXX" is the series and efficiency rating. For instance, a TC-84A-N95 particulate filtering respirator provides a filter efficiency of 95 % for a non-oil containing pesticide formulation.

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## Respiratory Protective Equipment Guidance, Continued

### Chemical cartridges, filters and pre-filters

The majority of the pesticide labeling that requires the use of a respirator will specify that it should be NIOSH approved with either an organic vapor-removing (OV) cartridge with the approved pre-filter (specified by N, R, or P), a dust/mist filtering respirator, or in some cases both.

### Chemical cartridge color-coding

All manufacturers use the same color-coding for gas/vapor protection. The table below describes the color-code system.

Cartridge Use	Cartridge Use
Organic Vapors	Black*
Acid Gas & Organic Vapor	Yellow
Particulate Filter Cartridge (HEPA) [A HEPA is a particulate filter; all others are used for gases and/or vapors]	Magenta (red)-also called P100 or HE
Ammonia Gas	Green
Acid Gas	White

\* Most pesticide labeling that requires the use of respirators will require an organic vapor-filtering cartridge.

### Index card for respirator restrictions

The wallet-sized index card for Respirator Restrictions contains the following text. These restrictions appear on the opposite side of the Glove Category Selection Key card.

Respirator Restrictions	
N Type	No Oil in Mix: Dispose End of Day
R Type	Oil in Mix: Dispose After 8 hours Per Day
P Type	Oil in Mix: Dispose End of Day
Organic Vapor	Dispose End of Day
Always follow labeling directions and permit conditions. For more information, contact your local agricultural commissioner or the California Department of Pesticide Regulation Worker Health and Safety Branch at (916) 445-4222	

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## Respiratory Protective Equipment Guidance, Continued

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### High efficiency filters HE

"HE" stands for "high efficiency particulate aerosol" and refers to a category of filter sometimes found on various types of air-purifying respirators such as powered air-purifying respirators (PAPR). Neither U.S. EPA nor DPR require pesticide applicators or other handlers to use "HE" filters. However, since they provide a higher level of protection, they may be used as a substitute for required filters or pre-filters.

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### Respirator pesticide labeling statement substitutions

When labeling requires a dust/mist filtering respirator (MSHA/NIOSH approval number TC-21C) or a respirator with an organic-vapor removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number TC-23C), it is referring to testing and certification numbers from the obsolete respirator regulations contained within 30 CFR 11. When 42 CFR 84 replaced 30 CFR 11, testing and certification criteria revised the requirements for 'TC-21C' and 'TC-23C' respirators.

42 CFR 84 makes dust/mist filtering respirators obsolete under 'TC-21C.' However, PAPRs continue to be certified as 'TC-21C' respirators. All non-powered particulate filtering respirators are now commercially available under the approval number 'TC-84A.' However, current pesticide labeling does not specifically require a 'TC-84A' respirator by name even though it replaces the old 'TC-21C' designation. New testing and certification criteria from 42 CFR 84 have also revised respirators with the approval number 'TC-23C.' Under 42 CFR 84, a 'TC-23C' designated respirator is still necessary when organic vapor filtering cartridges are required for use on the pesticide label. However, when this type of chemical cartridge is required, it must be accompanied by the proper 'TC-84A' designated particulate filter designed to be resistant to degradation from oil (designated by N, R or P). Currently, pesticide labeling that requires the use of respiratory protection may provide both 30 CFR 11 and 42 CFR 84 respirator designations. See the Labeling statements table below for substitution guidance.

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## Respiratory Protective Equipment Guidance, Continued

### Labeling statements

The following table matches common respirator statements found on pesticide labeling with guidance on their relevance.

Labeling Statements for Respirators	Guidance
<p><b>Example for an oil based pesticide</b></p> <p>“Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any R, P, or HE filter.”</p>	<ul style="list-style-type: none"> <li>• Substitute a TC-84A, NIOSH approved filtering facepiece (dust mask) respirator with proper filter efficiency designation for old TC-21C certification number.</li> <li>• The certification number TC-84A may not be printed on the respirator but “NIOSH”, the filter type (R, P, or HE) and the level of efficiency (95%, 99% or 100%) will be.</li> <li>• Examples: R95 or P100.</li> </ul>
<p><b>Example for a non-oil based pesticide</b></p> <p>“Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P, or HE filter.”</p>	<ul style="list-style-type: none"> <li>• Substitute a TC-84A, NIOSH approved filtering facepiece (dust mask) respirator with proper filter efficiency designation for old TC-21C certification number.</li> <li>• The certification number TC-84A may not be printed on the respirator but “NIOSH”, the filter type (N, R, P, or HE) and the level of efficiency (95%, 99% or 100%) will be.</li> <li>• Examples: R95 or P100.</li> </ul>

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## Respiratory Protective Equipment Guidance, Continued




Labeling statements  
(continued)

Labeling Statements for Respirators	Guidance
<p><b>Example for an oil based pesticide.</b></p> <p>“Respirator with an organic-vapor removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE pre-filter.”</p>	<ul style="list-style-type: none"> <li>• Substitute a respirator approved for pesticides with a black organic-vapor removing cartridge with a pre-filter approved for pesticides or a canister approved for pesticides (TC14G) to a NIOSH approved respirator with an organic-vapor (OV) cartridge or canister with any R, P, or HE pre-filter.</li> <li>• Organic-vapor cartridges are black and specify organic vapor or (OV) in white letters.</li> <li>• TC-14G respirators remain the same but require the labeling specified pre-filter.</li> <li>• An N pre-filter is not allowed.</li> </ul>
<p><b>Example for a non-oil based pesticide.</b></p> <p>“Respirator with an organic-vapor removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE pre-filter.”</p>	<ul style="list-style-type: none"> <li>• Substitute a respirator approved for pesticides with a black organic-vapor removing cartridge with a pre-filter approved for pesticides or a canister approved for pesticides (TC14G) to a NIOSH approved respirator with an organic-vapor (OV) cartridge or canister with any R, P, or HE pre-filter.</li> <li>• Organic-vapor cartridges will have “OV” in white letters on a black background.</li> <li>• TC-14G respirators remain the same but require the labeling specified pre-filter.</li> </ul>

# Respirator Descriptions

**Respirator descriptions**


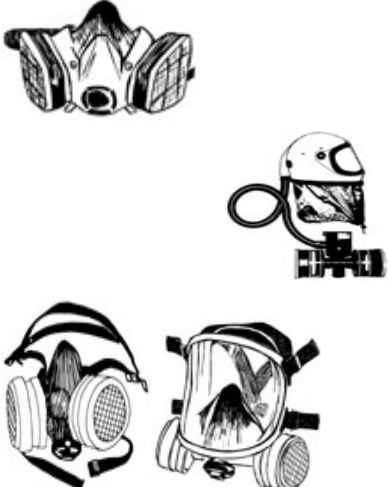

Certification number, descriptions and examples of 42 CFR 84 NIOSH approved respirator types are shown in the following table.

Certification number /Description	Examples
<p><b>TC-13F: Self-Contained Breathing Apparatus (SCBA)</b> for entry or escape.</p>	
<p><b>TC-14G: Gas Masks with Canisters:</b> With or without High Efficiency (HE) filters that meet gas mask canister requirements. <b>Filter Self-Rescuers (FSR)</b>, gas mask respirators with or without N, R, or P rated filters, and tight fitting.</p>	
<p><b>TC-19C: Supplied Air Respirators (SAR)</b>, Type C and CE, pressure-demand. This type of respirator is rarely used for pesticide handling.</p>	

*Continued on next page*

## Respirator Descriptions, Continued

Respirator descriptions continued

Certification number /Description	Examples
<p><b>TC-21C: Powered Air-Purifying Respirators (PAPR)</b> with chemical cartridges or combination chemical cartridges with High Efficiency (HE) filters.</p>	
<p><b>TC-23C: Half-mask</b> (disposable and reusable types) and <b>Full-face</b> dual chemical cartridge only respirators and <b>Powered Air-Purifying Respirators (PAPR)</b> with chemical cartridges or combination chemical cartridges with High Efficiency (HE) filters and combination chemical cartridges.</p>	
<p><b>TC-84A: Non-powered particulate filtering</b> (N, R, or P rated) respirators (dust masks) and <b>combination dual chemical cartridge/particulate filtering</b> (N, R, or P rated) respirators.</p>	

## Inspecting Respirators 3CCR § 6739(h), (i), (j)

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### **Cleaning, sanitizing and storage**

- Employers must assure that respirators, and any filters/cartridges, are clean, sanitary (using procedures recommended by the respirator manufacturer), in good working order and stored in a manner that protects the respirator from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals.
  - Respirators should be packed or stored (such as in a re-sealable plastic bag) to prevent deformation of the face-piece and exhalation valve.
  - Are emergency use respirators being stored immediately accessible to the work area? Are the storage compartments clearly marked for emergency use? 3CCR § 6739(i).
- 

### **Routine maintenance and inspection**

#### **Verify routine maintenance and inspection of respirators:**

- Are respirators inspected before and after each use, as well as when it is cleaned for any wear or deterioration and defective respirators or respirator parts are removed from service.
  - Are single-use respirators properly disposed and not reused?
  - When are the cartridges/filters changed?
    - According to the manufacturer's pesticide-specific recommendation or,
    - Absent a manufacturer recommendation, at the end of each day.
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*Continued on next page*

## Inspecting Respirators, Continued

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**When SCBA is required**  
3CCR §  
6739(j)

- Routine Use: Are air cylinders recharged when tank pressure falls below 80% of capacity? (Do we add the three tank rule that is in in Volume 8)
  - Emergency Use: Are air cylinders maintained at 100% of capacity?
  - Air in the tank 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?
  - Is the regulator working properly?
  - Is there a low-pressure warning device?
- 

**Routine use inspection**

**Straps** – inspect for wear and functioning adjustments.

**Hoses** – inspect for wear, cracks and deformities.

**Facepiece** - inspect for wear, warp, and proper seal.

**Valves** - inspect for wear, warp and function.

**Exhaust port cover** - inspect for wear, obstruction and function.

**Gaskets** - inspect for wear, warp, cracks, tears, and elasticity.

**Cartridge/canister/filters** – should be replaced each workday.

The following graphics are provided to illustrate the typical respirator parts to inspect.

**Straps**



**Hoses**



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# Inspecting Respirators, Continued

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Routine use inspection  
(continued)

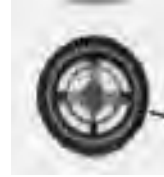
## Respirator Body Parts



*Facepiece*



*Valves (Diaphragms)*



**Exhaust port cover**



*Gaskets*

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## Cartridge/Canister/Filters





## Exceptions and Substitutions (Engineering Controls)

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### **PPE vs engineering controls**

Engineering controls, when designed and utilized appropriately, provide a higher level of protection than PPE. Approved engineering control substitutions and exceptions apply to both regulatory and labeling required PPE and to both employees and non-employees. (See the definition to **Use in conflict** from labeling in 3CCR § 6000.)

Approved engineering control substitutions and exceptions may be found throughout 3CCR § 6738.4.

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### **PPE immediately available**

Engineering control substitutions and exceptions for PPE. When closed systems and enclosed cabs are used, all regulatory and labeling required PPE must be immediately available to the handler. PPE must be stored in such a way as to prevent contamination of the enclosed cab. Closed system (40 CFR 170.607(d)(v)), and enclosed cabs 170.607(e)

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### **Fieldworker early entry PPE exception**

The exception for early entry PPE requirements may be found in 3CCR § 6770(d).

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### **Inspection notations**

When utilizing allowed engineering controls, and labeling and regulatory PPE is immediately available check “YES” for the PPE requirements and describe the type of engineering control utilized in the “Remarks” section

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## Closed Systems 3CCR § 6738.4(c) and (d) and § 6746

### What is a closed system

Closed mixing systems are engineering controls used to protect workers from dermal hazard when mixing liquid formulations of pesticides with high acute dermal toxicity, “Fatal if absorbed through skin” or other comparable language. The dermal toxicity of a pesticide is determined by the precautionary statements on the label. Language such as “causes skin irritation” or “allergic reactions”, “harmful if absorbed through skin”, does not require a CMS. See ENF 16-14.

Tier 1 Closed Mixing System	Tier 2 Closed Mixing System
<p>Capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers. Each emptied pesticide container must be rinsed and drained as required by the pesticide product label or §6684, and while still connected to the closed mixing system. 3 CCR §6746(b)</p>	<p>Capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers. 3 CCR §6746(c)</p>
<p>Bearing the statement (or comparable language):</p> <ul style="list-style-type: none"> <li>• “Fatal if absorbed through skin.” 3 CCR §6746(b)</li> </ul>	<p>Bearing the statement (or comparable language):</p> <ul style="list-style-type: none"> <li>• “May be fatal if absorbed through skin.” 3 CCR §6746(c)</li> <li>• “Corrosive, caused skin damage” 3 CCR §6746(c)</li> <li>• “Corrosive. Causes severe skin burn.” See ENF 16-14.</li> <li>• “Skin blistering.” ENF 16-14</li> <li>• “Corrosive to flesh because of its caustic alkaline nature.” See ENF 16-14.</li> </ul>

## Closed Systems 3CCR § 6738.4(c) and (d) and § 6746

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### Closed system requirements

- Persons using a closed system must have all PPE required by pesticide labeling immediately available.
- Persons using a closed system must wear protective eyewear (3CCR §6746(e) in addition to the PPE listed in 3CCR § 6738.4(c) or (d).
- Persons mixing pesticides packaged in sealed and intact water-soluble packets are considered to be using a closed system.
- When using also apply to water-soluble packets, refer to pesticide product labeling.
- All PPE required by the required by the pesticide product label, restricted material permit conditions, or regulation must be at the worksite during operation of the closed system. 3CCR § 6746 (e).
- Employee must have written operating instructions (3CCR § 6746 (g)).

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### Questions

Please refer any questions regarding closed systems to DPR's Worker Health and Safety Branch at 916-445-4222.

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## Closed Systems 3CCR § 6738.4(c) and (d) and § 6746,

Continued

### Substitution table

The following table describes the personal protective equipment (PPE) pesticide handlers may use in place of PPE required on pesticide product labeling when using closed systems or water-soluble packaging.

If they use:	They may use:	Notes:
Closed system for pesticides with pesticide labeling “Danger” or “Warning”	Coveralls, chemical-resistant gloves, chemical-resistant apron, eye protection	Pesticides in water-soluble packages that are intact are considered a closed system..
Closed system for pesticides with “Caution”	Protective eyewear and work clothing in place of labeling required PPE	

### Closed Systems Design/Performance Criteria (Rev. 01/01/2016)

To meet California's requirements for mixing liquid pesticide products , with the statement "Fatal if absorbed through skin" or other comparable language shall use a closed system meeting the requirements in 3CCR § 6746(f).

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## Enclosed Cabs 3CCR § 6738.4

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### What is an enclosed cab

A chemical resistant barrier that completely surrounds the occupant(s) prevents dermal contact with pesticides being applied outside of the cab.

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### Enclosed cab requirements

- Employees working in an enclosed cab shall have all exempted PPE available at the worksite.
  - 3 CCR § 6701 states worker safety regulations should be as strict as and consistent with the Worker Protection Standards in 40 CFR part 170. 40CFR 170.607(e)(2) all of the PPE required by product labeling for applicators must be immediately available. All PPE is to be stored in a sealed container to prevent contamination.
  - Labeling-required PPE shall be worn if it is necessary to work outside the cab and contact pesticide treated surfaces in the treated area.
  - Once PPE is worn in the treated area, it shall be removed and stored in a chemical resistant container, such as a plastic (sealable) bag, before reentering the cab.
- 

### Substitution table

Pesticide handlers maybe able use in work clothing place of PPE required on pesticide product labeling when using an enclosed cab. If filtering facepiece or dust/mist filtering respirator is required by the pesticide labeling, no respirator is required to be worn inside the enclosed cab. Other types of respiratory is required by the labeling, the respirator must be worn inside the enclosed cab. 6738.4(c)

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### Recommendations for use of enclosed cabs

1. Applicators should enter and exit the cab outside the treated area.
  2. If an applicator must exit the cab within the treated area, upon reentry, PPE shall be removed and stored in a chemical – resistant container prior to reentering the cab.
  3. The cab doors and windows are kept closed.
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### Maintenance verification

When the use of an enclosed cab is observed during an inspection, you should determine that the employer and employees are properly using and maintaining the equipment. This is required to assure that enclosed cabs are functioning as the equivalent to personal protective equipment for dermal exposure.

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