Use it or lose it:
Personal Protective Equipment (PPE) &
Weed Management

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Pesticide Safety Education Program
UC Statewide IPM Program
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California Invasive Plant Council Symposium
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Why **YOU** should wear PPE

55% of handler illnesses involved eye injury

28% of handler illnesses involved skin injury

32% of all handler pesticide illnesses were due to failure to wear PPE!

59% non-ag v 40% ag

35% non-ag v 19% ag
There are 4 routes of exposure
PPE can protect each of these routes of exposure.
Which way is it more common for pesticides to enter our body?
SKIN!
Personal Protective Equipment (PPE)
What is the MINIMUM Personal Protective Equipment (PPE) required in California?
How do you know what PPE to wear?

LABEL IS THE LAW

AND

DPR

LOCAL REGULATIONS
PERSONAL PROTECTIVE EQUIPMENT (PPE):
Applicators and other handlers must wear long-sleeved shirt and long pants and shoes plus socks. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate. Do not reuse them. Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash PPE separately from other laundry.

Long sleeved shirt
Long pants
Socks plus shoes
NO protective eyewear
NO chemical resistant gloves
3CCR Section 6738: PPE

- Protective eyewear
  - Z87.1 compliant
  - Front, side, and brow protection
- Chemical resistant gloves
Protective Eyewear - Z87.1
Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks.

Follow manufacturer’s instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or Viton® ≥ 14 mils
- Shoes plus socks
GEMPLERS Unlined Nitrile Gloves

Combine chemical resistance with excellent dexterity. 100% nitrile gloves provide excellent protection for handling most agricultural chemicals, solvents, acids and caustics. Nitrile resists snags, punctures, abrasions and cuts better than other glove polymers. A nonslip grip makes wet or slippery work easier, while an ergonomic shape enhances fit and comfort. Unlined gloves can be washed and reused and are for use with pesticides whose label refers to Category A, C, E or F on the EPA Chemical Resistance Category Selection Chart.

13", 15-mil Nitrile Gloves

The 13", 15-mil gloves offer increased dexterity that simplifies jobs like working with sprayer nozzles or other small parts. Sold by the pair, in packs of 12 pairs or in a convenient wall mount dispenser box with 36 pairs. Imported. See price chart below for available sizes: XS (S), S (M), M (L), L (XL) or XL (XXL).

19", 22-mil Unlined Nitrile Gloves

The 19", 22-mil gloves offer added protection to the forearm where chemical splashes may occur. The tapered wrist ensures a comfortable and natural fit. Pairs are individually bagged. Imported. Specify size: L (9) or XL (10).

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Size (XS, S, M, L, XL)</th>
<th>Item No.</th>
<th>Price</th>
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<tbody>
<tr>
<td>13&quot; 15-mil</td>
<td>1 pr.</td>
<td>XS, S, M, L, XL</td>
<td>727G</td>
<td>$3.00/pair</td>
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<td>13&quot; 15-mil</td>
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<td>13&quot; 15-mil</td>
<td>36 pr./box</td>
<td>S, M, L, XL</td>
<td>10212</td>
<td>$7.00/box</td>
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<tr>
<td>19&quot; 22-mil</td>
<td>1 pr.</td>
<td>L or XL</td>
<td>4455X</td>
<td>$1.00/pair</td>
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</table>

Purchasing 13", 15-mil Gloves:

- Pairs
- Dozen
- Box of 36 pair

Customer Favorite!

I am a state licensed applicator of herbicides, which I use on invasive plants. I consider these gloves essential personal protective equipment.

— Fred Richfield, OH

SAVE WITH OUR BOX OF 36 PAIR

Each pair individually bagged

Box can be hung on the wall

DISPOSABLE GLOVE LINERS

Fingerless, Disposable Cotton Glove Liners

100% natural, hypoallergenic cotton ribbed knit material allows air to circulate between your hand and the glove, keeping perspiration off your palm for all-day comfort. Unique, fingerless design retains tactile dexterity and reduces bulk inside the outer glove. Acceptable for food processing applications when used as a liner under an approved outer glove. 8½" "Ambidextrous" glove liners come 100 per box. One size fits all. Imported.

Full-finger Disposable Cotton Glove Liners

The EPA allows you to wear separable glove liners beneath chemical gloves for up to 10 hours or until contaminated. Wear inside rubber/chemical gloves to absorb perspiration. Cotton liners help to protect hands from dermatitis and other skin irritations. These liners are also excellent as a barrier from the cold when using for cold-weather applications. Sold in dozen pair packs. Available in Men's and Women's size. Imported.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Size</th>
<th>Price</th>
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<tbody>
<tr>
<td>24920</td>
<td>1-4</td>
<td>$0.195/box</td>
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<tr>
<td>19200</td>
<td>5-11</td>
<td>$0.20/box</td>
</tr>
<tr>
<td>19210</td>
<td>12+</td>
<td>$0.20/box</td>
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Full-finger

<table>
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<tr>
<th>Item No.</th>
<th>Size</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>66701</td>
<td>7½-8&quot; Men's</td>
<td>$10.00/box</td>
</tr>
<tr>
<td>66702</td>
<td>7½-8&quot; Women's</td>
<td>$10.00/box</td>
</tr>
</tbody>
</table>

NO MORE SWEaty HANDS
UNLINED CHEMICAL GLOVES

Value Master™ 12" Rubber Latex Gloves
- For diluted, low-toxicity pesticides
- Used by canneries and food processors

Low-cost, heavy-duty, unlined "Canter:" type gloves offer excellent dexterity and elasticity. USDA accepted, 18-mil thickness and 12" L. For use with pesticides having labels that refer to Category A on the EPA's Chemical Resistance Category Selection Chart. Light yellow color. Dozen pair. Imported. Specify Women's size S (7), M (8), L (9), or XL (10).

Item No. 1-4 5+ RLG02 $16.85/12oz. $15.50/12oz.

Ansell 12" Economical Neoprene Gloves

These unlined neoprene gloves offer excellent resistance to a wide range of chemicals, including acids, caustics and solvents. Gloves are case hardened to increase chemical and abrasion resistance and feature a textured finish to improve grip on slippery surfaces. Curved fingers and contoured palm for long-wearing comfort. For use with pesticides that have labels referring to Category A, C and E on the EPA's Chemical Resistance Category Selection Chart. Imported. Specify size S (7), M (8), L (9), XL (10) or 2XL (11).

Item No. 1-11 12+ $15.00/pr. $14.00/12pr.

Chloro-Flex™ II 18" Neoprene Gloves

Thick rolled cuff for easy on/off

30-mil, heavy-duty unlined neoprene gloves offer excellent protection against agricultural chemicals, oils, acids, resins, alcohols, caustics and other petroleum-based materials. Ideal for applications involving oil spills cleanup and gear assembly. For use with pesticides having labels that refer to Category A, C and E on the EPA's Chemical Resistance Category Selection Chart. Imported. Specify size L (9), XL (10) or 2XL (11).

Heavy Natural Rubber Gloves

Unlined natural rubber gloves feature a smooth grip and a rolled cuff to catch drips. Extra-long sizing fits big hands and open cuffs allow for easy on/off. For use with pesticides that have labels referring to Category A on the EPA's Chemical Resistance Category Selection Chart. Imported. Specify size XL (11) only.

Length Item No. 1-11 12+
18" 6028 $15.25/pr. $14.00/12pr.
24" 6024 $25.00/12pr. $23.00/12pr.

Honeywell 11" Butyl Gloves

For certain high-toxicity pesticides, fumigants and anhydrous ammonia

Gloves offer good dexterity and broad-spectrum ag chemical protection. 11" L; unlined; reach finish. For use with pesticides having labels that refer to Category A, B, C, D, or F on the EPA's Chemical Resistance Category Selection Chart. USA made. Specify size S (8), M (9), L (10) or XL (11).

Item No. 1-11 12+
6101 $23.00/pr. $21.95/12pr.

Ansell Barrier™ 16" Chemical-resistant Multi-hazard Gloves

Five-layer laminated Barrier™ unlined gloves resist permeation and breakthrough to the broadest range of chemicals when the chemical hazard is not clearly identified. Often used as a liner inside leather gloves where mechanical damage is suspected. 2.5-mil. 16" L. For use with pesticides having labels referring to Categories A, B, C, D, E, F, G, or H on the EPA's Chemical Resistant Category Selection Chart. USA made. Size large only.

Honeywell 13" unlined nitrile gloves offer improved touch sensitivity

Nitrile offers stronger wear resistance to cuts, snags and abrasions than other elastomers, resulting in dependable, long-lasting protection. These gloves also resist common solvents, oils and acids. Its flexible curved hand design improves dexterity and provides a natural fit. Suggested uses include food processing, chemical processing, parts cleaning and automotive assembly. USDA accepted for food handling. 13" L with 10-mil thickness. Imported. Specify size S, M, L, XL or XXL.

Item No. 1-9 10+ 11966 $2.70/pr. $2.50/12pr.

Save on every order with GEMPLEYER'S Shipping Saver! See order form for details
Glove Selection

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

All but Laminate and Polyethylene must be 14 mils or thicker
Glove Selection - Nitrile

<table>
<thead>
<tr>
<th>Label Code</th>
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<tbody>
<tr>
<td>A</td>
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<td>1: Laminate</td>
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<tr>
<td>B</td>
<td>1,2</td>
<td>2: Butyl</td>
</tr>
<tr>
<td>C</td>
<td>1,2,3,4,7,8</td>
<td>3: Nitrile</td>
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<tr>
<td>D</td>
<td>1,2</td>
<td>4: Neoprene</td>
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<tr>
<td>E</td>
<td>1,3,4,8</td>
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<tr>
<td>F</td>
<td>1,2,3,8</td>
<td>6: Polyethylene</td>
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</tr>
<tr>
<td>H</td>
<td>1,8</td>
<td>8: Viton</td>
</tr>
</tbody>
</table>

All but Laminate and Polyethylene must be 14 mils or thicker
Can you wear disposable gloves?

... when chemical-resistant gloves are used 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, as specified in (a) and (b) above, and only be used for a **maximum of 15 minutes**. Such gloves may only be **used once** for such specific tasks and must be discarded and not reused after the task is accomplished.
Glove Liners
Personal Protective Equipment (PPE)
Some materials that are chemical-resistant to this product are: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥14 mils. If you want more options, follow the instructions for Category A on an EPA Chemical Resistance Category Selection Chart. Mixers, Loaders, Applicators and other handlers must wear: Coveralls over short-sleeved shirt and short pants or coveralls over long-sleeved shirt and long pants; Chemical-resistant gloves; Chemical-resistant footwear plus socks; Protective eyewear; Chemical-resistant headgear for overhead exposure; Chemical-resistant apron when cleaning equipment, mixing, or loading; and Face shield when mixing or loading. Exception: After this product has been diluted to 0.50% Harvester or less in water (i.e., the labeled rate for some spot applications), applicators for AQUATIC SURFACE APPLICATIONS must, at a minimum, wear (Note: Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section): Long-sleeved shirt and long pants; Shoes plus socks; Waterproof gloves; and Protective eyewear. Exception: At a minimum, applicators for AQUATIC SUBSURFACE APPLICATIONS must wear (Note - Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section): Short-sleeved shirt and long pants; Waterproof gloves; and Chemical-resistant footwear plus socks. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate. Do not reuse them. Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Coveralls over long-sleeved shirt and long pants
Chemical resistant gloves
Chemical resistant footwear plus socks
Protective eyewear
Is This a Respirator?

YES!

YES!

YES!
This IS a Respirator!

• **NIOSH** → certifying agency
• **N, R, P** → resistance to oil degradation
• **95, 99, 100** → filter efficiency
Respirators – Change Out Schedule

<table>
<thead>
<tr>
<th>Respirator Type</th>
<th>Restriction</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Type</td>
<td>NO OIL IN MIX: Dispose End of Day</td>
<td></td>
</tr>
<tr>
<td>R Type</td>
<td>OIL IN MIX: Dispose After 8 Hours Per Day</td>
<td></td>
</tr>
<tr>
<td>P Type</td>
<td>OIL IN MIX: Dispose End of Day</td>
<td></td>
</tr>
<tr>
<td>Organic Vapor</td>
<td>Dispose End of Day</td>
<td></td>
</tr>
</tbody>
</table>

Always follow label directions and permit conditions.

For more information contact your local Agricultural Commissioner or the California Department of Pesticide Regulation Worker Health and Safety (916) 445-4222

http://www.cdpr.ca.gov

May 2014
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND
DOMESTIC ANIMALS

CAUTION: Harmful if inhaled. Harmful if swallowed.
Causes moderate eye irritation. Avoid breathing
spray mist. Avoid contact with eyes, skin or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some materials that are chemical-resistant to this
product are made of waterproof material. If you want
more options, follow the instructions for category “A”
on an EPA chemical-resistance category selection
chart. Applicators and other handlers must wear
coveralls over long-sleeved shirt and long pants, pro-
tective eyewear, chemical resistant gloves, chemical
resistant footwear plus socks, chemical resistant
headgear for overhead exposure and a chemical
resistant apron when cleaning equipment, mixing
or loading; and a dust/mist filtering respirator with
NIOSH approval number prefix TC-21C.
Respirator must be worn when required by:
- The pesticide label
- Permit conditions
- Regulation
- Employer Policy
When to Wear a Respirator

• If you wear a respirator you must first complete the following:
  • Respirator training
  • Annual Fit test
  • For tight-fitting respirators
  • Medical evaluation before a fit test
Selection and Use of PPE

• Always follow the pesticide label

AND

• Always remember that CA requirements are generally **stricter** than label requirements
Take-Home Messages

• Wear protective eyewear and chemical resistant gloves for all handling activities
• Check manufacturer’s specifications for thickness, uses, lining type, etc.
• Wear coveralls when handling DANGER and WARNING pesticides
• Filtering facepieces (often called “dust masks”) are respirators!

PPE - USE IT & keep your sight, your model-like hands pretty, your capacity for creating romantic moments and procreating .... or lose it!
Resources for You

http://ipm.ucanr.edu

http://anrcatalog.ucanr.edu/
Questions?

Contact:
Maria Alfaro
Community Educator
Pesticide Safety Education Program
pesticidesafety@ucanr.edu
ucanr.edu/trainme

@PesticideSafeUC
@PSEPUC