

Training for Pesticide Workers Should Emphasize Selecting PPE Based on Label Requirements and Product Use

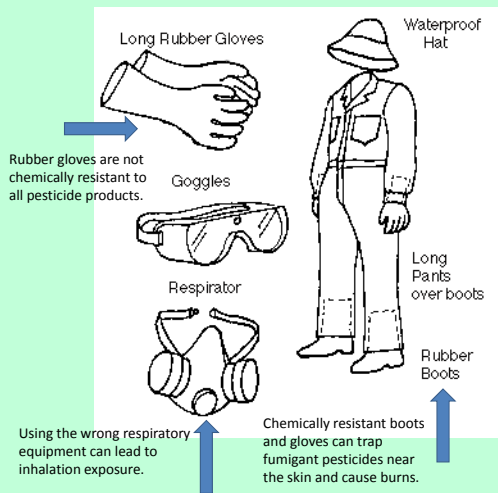
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Objective: Reduce the risk of pesticide exposure by ensuring that pesticide trainers emphasize how to properly select PPE in their training programs.

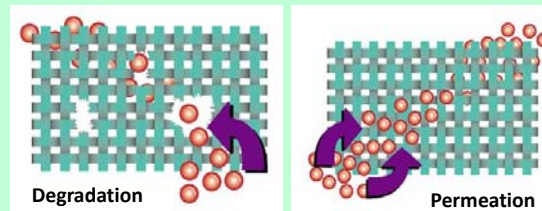
Background: The US EPA Worker Protection Standard requires that pesticide labels list the types of personal protective equipment that must be worn with each product. Because there are many pesticide products with varied toxicity levels, each with specific PPE requirements, proper selection of protective equipment can be difficult. Training for pesticide workers should emphasize that PPE should be selected based on specific product label requirements and how the product will be used.

Selecting Inappropriate PPE can Lead to Overexposure: No single general assembly of PPE as illustrated below should be used for all pesticides. Rubber gloves are not chemically resistant to all pesticide products. Chemically resistant boots and gloves can trap fumigant pesticides near the skin and cause burns. Some pesticide handling activities with higher risk of exposure require higher levels of protection. Using the wrong respiratory equipment can lead to inhalation exposure. Pesticide worker training should emphasize PPE selection be based on label requirements and product use.



Gloves: Not all glove materials protect equally against all classes of pesticides. Degradation and permeation can occur with incompatible materials. Pesticide workers should refer to the label to determine what type of glove to wear. The information may be found in the “Precautionary Statements” section of the label. More detailed information regarding recommended glove materials and PPE may be found by reading the product’s Material Safety Data Sheet (MSDS).

Refer to Table 3 in Chapter 10 of the EPA Label Review Manual when the PPE section of the pesticide label specifies chemical-resistance categories A through H (1). The table refers you to several materials from which to choose for each pesticide solvent category. It also tells how long you can expect the material to be resistant to the pesticide you are using.



An appropriate chemical resistant glove must demonstrate no significant degradation, a high breakthrough time and a low permeation rate upon contact with the pesticide product. An inappropriate glove can result in significant worker exposure and serious health effects, particularly when using pesticides which are readily absorbed into the bloodstream via the skin.

Product Use: Some pesticide handling activities, such as mixing and loading, increase the chance of exposure. The label may require higher levels of protection during these activities. Pesticides in concentrated form pose a greater risk to workers than ready-to-use or diluted forms. Additional step-mixing of the pesticide with water or other carriers increases potential for exposure from splashes or spills.

Label : 2,4-d Amine Weed Killer

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers, including persons repairing or cleaning equipment, must wear:

1. Coveralls over short-sleeved shirts and short pants. Waterproof gloves. Chemical-resistant footwear and socks.
2. Protective eyewear such as face shields or safety glasses (brow and temple protection recommended).
3. Chemical-resistant headgear for overhead exposure
4. A chemical-resistant apron should also be worn when cleaning equipment, mixing or loading.

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 and maintaining PPE. If no other instructions for washing, use detergent and hot water. Keep and wash all PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

For containers over 1 gallon but less than 5 gallons: Mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

Fumigants: While many pesticide labels require the use of chemical-resistant PPE, some fumigants prohibit the use of chemical-resistant PPE. Methyl bromide and other fumigant gases can become trapped inside chemical protective gloves or boots and can cause chemical burns to the skin. Contact with either liquid or high vapor concentrations can cause stinging pain, redness of the skin, and blisters characteristic of second-degree burns.



Fumigant Label: Methyl Bromide

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Loose-fitting or well ventilated long-sleeved shirt and long pants. Shoes and socks.
- Full-face shield or safety glasses with brow and temple shields (Do NOT wear goggles).

When the acceptable air concentration level is above 5 ppm and a respirator is required, protect the eyes by wearing a full-face respirator.

No respirator is required if the air concentration level of methyl bromide in the working area is measured to be 5 ppm or less.

A respirator is required if the acceptable air concentration level of 5 ppm is exceeded at any time. The respirator must be of the following types: (a) a supplied-air respirator (MSHA/NIOSH approval number prefix TC-19C) OR (b) a self-contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13P).

Conclusion: The type of PPE that should be selected for pesticides varies depending on the toxicity and application. Wearing inappropriate PPE can lead to overexposure. Training for pesticide workers should emphasize selecting PPE based on label requirements and product use.

References:

1. *Label Review Manual*. 2010. US EPA. Office of Pesticide Programs. Web site: <http://www.epa.gov/oppefed1/labeling/lrm/label-review-manual.pdf>
2. *National Pesticide Applicator Certification Core Manual*. 2008. NASDA Research Foundation. US EPA. Office of Pesticide Programs. Web site: <http://www.nasda.org/workersafety/>
3. *National worker safety trainer handbook: Pesticide Safety for Agricultural Workers*. 2008. NASDA Research Foundation. US EPA. Office of Pesticide Programs. Web site: <http://www.nasda.org/workersafety/>