PERC
Pesticide Educational Resources Collaborative

National Worker Protection Standard (WPS):
Training for Trainers of Agricultural Workers and Pesticide Handlers
Additional Hands-On Training Activities

These materials are an addition to the PERC/EPA training curriculum, "National Worker Protection Standard: Training for Trainers of Agricultural Workers and Pesticide Handlers". This set of materials contains hands-on training activities for selected Sections of the above training program.

Refer to the PERC website at http://pesticideresources.org/wps/ttt/pres/ for a PowerPoint presentation comprised of 170 slides and 12 Sections. When delivered in its entirety, it is an EPA-approved Train-the-Trainer course (Approval # EPA WPS W/H 00026) that qualifies a person to train workers and handlers.

The enclosed activities are ***optional*** additions to the training program:

Section 1: Activities for Rules and Regulations.pdf
Section 4: Activities for Encountering Pesticides.pdf
Section 5: Activities for Health Effects.pdf
Section 6: Activities for Reducing Pesticide Exposure.pdf
Section 9: Activities for Pesticide Labels.pdf
Section 11: Activities for PPE.pdf
Section 11: Handout PPE Inspection Checklist.pdf

Visit the PERC website for additional resources at http://pesticideresources.org/

Section 1. Activities for Rules and Regulations

Topic	Learning Objective	In Person Activity
Federal regulations. Pesticides- Worker Protection Standard Rule and benefits to workers	After completing this activity, the participants will be familiar with basic concepts about pesticides, what the Worker Protection Standard (WPS) is and who are protected under this rule. Participants will also review some important definitions like worker, handler, agricultural employer, early entry worker and immediately family member. Additionally participants will go over the three goals of the WPS - to provide the required protections, information and mitigation measures designed to reduce worker and handler's occupational pesticide exposure and illness. This could help to turn a potentially boring training topic into an interesting and enjoyable learning experience.	"Hot Potato" Or "Hot Fruit" Game

- **Props**
  Real or plastic fruit, potato, vegetable that participants will pass on.
  Any kind of music player. Could use the phone.
  Index cards with questions on one side and answer in the other side.
- **Time needed**
  15-20 minutes
- **Instructions**

"Hot potato" is a game that involves players gathering in a circle and tossing the potato or fruit to each other while music plays. The player who is holding the "hot potato" when the music stops will answer a question that will be take randomly from the pile. Play continues until all the questions are answered. The game can also be played without music where there is a designated leader who shouts out "hot!" and

the player holding the object needs to answer. If the person holding the object doesn't know the answer the leader could ask if anyone wants to answer or provide the correct answer as well. Prizes could be given as motivation for correct answers.

Some examples of questions and answer for this activity could be:

- **Question:** What is a pesticide?
- **Answer:** A pesticide is any substance used to prevent, destroy, repel, or mitigate insects, rodents, nematodes (certain types of worms), fungi (fungus), weeds, or any other organism considered a pest. Plant growth regulators, defoliants (EPA-registered pesticides that remove leaves from plants), desiccants (EPA-registered pesticides used for drying plant foliage), and insect repellents are also among the many substances regulated as pesticides.
- **Question:** Are fertilizers considered pesticides?
- **Answer:** Fertilizers are not pesticides; they are chemicals that serve as nutrients to help plants grow.
- **Question:** Why pesticides are used?
- **Answer:** Pesticides are important tools that help growers manage weeds, insects, and crop diseases.
- **Question:** Who is the federal agency that regulates pesticides?
- **Answer:** The federal agency that regulates the use of pesticides is the U.S. Environmental Protection Agency (EPA).
- **Question:** True or False. The users of restricted-use pesticides need to be certified as, or work under the direct supervision of, private or commercial applicators.
- **Answer:** True
- **Question:** When was the federal Worker Protection Standard (WPS) adopted into the Code of Federal Regulations?
- **Answer:** In 1992.
- **Question:** Why was the Worker Protection Standard (WPS) developed by the United States Environmental Protection Agency (EPA)?
- **Answer**: The WPS is a regulation developed by the United States Environmental Protection Agency (EPA) to protect agricultural employees from the harmful effects of pesticides and their residues.
- **Question**: Who is covered under the WPS?
- **Answer**: The WPS covers agricultural workers and pesticide handlers who are employed on any farm, forestry operation or nursery engaged in the outdoor or enclosed space production of agricultural plants.
- **Question:** Who is an Agricultural Employer?

Section 1. Activities for Rules and Regulations

- **Answer:** An agricultural employer is anyone who is an owner of, or is responsible for the management or condition of, an agricultural establishment, and who employs any worker or handler.
- **Question:** Mention three activities that workers do.
- **Answer:** Activities vary and include: harvesting, weeding, pruning, or irrigating for the production of agricultural plants.
- **Question:** Mention three activities that handlers do.
- **Answer:** Activities vary and include: mix, loads, or apply agricultural pesticides; dispose of pesticides; handle opened containers of pesticides, including emptying, triple-rinsing, or cleaning pesticide containers according to pesticide product labeling instructions, or disposing of pesticide containers that have not been cleaned; clean, adjust, handle or repair the parts of pesticide mixing, loading or application equipment that may contain pesticide residues; work as a flagger or otherwise assist with the application of pesticides.
- **Question:** True or False. An early-entry worker is anyone who enters an area after a pesticide application is completed, but before the Restricted-Entry Interval (REI) has expired.
- **Answer:** True
- **Question:** The employer's immediate family members must follow label instructions when handling pesticides, but are exempt from most requirements in the Worker Protection Standard. Mention five family members that are exempt under this provision.
- **Answer:** Spouse, parents, children, stepparents and stepchildren, foster parents, foster children in-laws, grandparents, grandchildren, brothers and sisters, aunts and uncles, nieces and nephews and first cousins.
- **Question:** What are the three major goals of the WPS?
- **Answer:** The WPS has three major goals: To protect agricultural employees from pesticide exposure while they are working; to mitigate or lessen the effects of any pesticide exposure that might occur, and to provide information to agricultural workers and pesticide handlers that can help them to avoid exposure.
- **Question:** Why is important to receive WPS training?
- **Answer:** Individuals who work in or near recently treated areas and areas where pesticides are stored or handled need information on how to avoid pesticide exposure and pesticide residues. Avoiding exposure to pesticides is very important because exposure may result in short-term (acute) and/or long-term (chronic) pesticide illnesses or injuries.
- **Question:** True or False. The WPS mitigates the effect of pesticide exposure by requiring agricultural employers to provide decontamination supplies at the worksite, emergency assistance to and, if needed, transportation to a medical care facility for emergency treatment for employees who get sick or are injured by pesticide exposure while working.
- **Answer:** True

Section 1. Activities for Rules and Regulations

• **Question:** Why is it in the best interest of employers to protect workers from workplace hazards? • **Answer:** A trained employee is much less likely to have a workplace accident that could result in lost work time, increased workers' compensation insurance, rates, and possible legal action.

Topic	Learning Objective	In Person Activity
Where pesticides or pesticide residues may be encountered at work	After completing this activity, the participant will be familiar with where and in what forms pesticides may be encountered during work activities, and potential sources of pesticide exposure on the agricultural establishment. This includes exposure to pesticide residue that may be on or in plants, soil, tractors, application equipment, used PPE, irrigation water, drift and on an enclosed space production area air (greenhouse).	Pesticide Residue on Unwashed Fruits and Vegetables

- **Props**
  Germ Glo lotion or Flourescent mix (1/4 Tinopal® CBS-X plus 21/4 cups of water) Black light
  Extension cord or batteries as needed
  Fruits and/or leafy vegetables
  A place where light can be dimmed
- **Time needed**
  15-20 minutes
- **Instructions**

1. Ahead of time, lightly spray fluorescent tracer mix onto vegetables or smear a small amount of GloGerm™ lotion onto fruits (Do not put so much that it is obvious).
2. Practice ahead of time and make sure the tracer is visible in your training area.
3. Ask for a volunteer to pass out contaminated fruits and/or vegetables. Tell participants to imagine they are out in the field and plan on eating the fruit and vegetables without washing them first and without washing their hands before eating.

4. Ask participants to try to remove the pesticide residues and dirt from the fruits and vegetables. Do not have them actually eat the fruits and vegetables.
5. Shine black light on participants' hands and clothing.
   - Discuss with participants: There might be pesticide residues on freshly harvested or fresh store-bought fruits and vegetables.
   - *Where could pesticide residues on the fruits and vegetables end up if we don't wash them before eating?*
   - *Do you have pesticide residue on your hands? What places can these residues be transferred to?*
   - *How could the residue end up in your eyes?*

Source:
University of Washington Pacific Northwest Agricultural Safety and Health Center. Fluorescent Tracer Manual: An Education Tool for Pesticide Educators. University of Washington. Washington State, 2007. Page 14.

Topic	Learning Objective	In Person Activity
Pesticide Routes of Entry into the Body	After completing this activity, the participant will be familiar with the four routes through which pesticides can enter the body.	Pesticide Routes of Entry into the Body Exercise

- **Props**
  A human body handout for each participant and one for the trainer (make sure that eyes, nose, mouth and skin can be easily identified)
  PowerPoint Slide showing the handout (if desired)
  Markers or pencils

- **Time needed**
  10-15 minutes

- **Instructions**

1. Tell participants that pesticides can enter the body by four main routes, and that these four routes where the pesticide can enter the body are called "pesticide routes of entry."
2. Tell participants that if they get exposed, pesticides or pesticide residues can enter the blood stream through any of these four routes of entry; and some pesticides can harm internal organs.
3. Ask the participants to mark with an "X" where they think the pesticides four routes of entry into the body are in their handout.
4. After the participants finish marking their handout, ask them to give you one route of entry at a time.
5. With a marker, mark an "X" in each one of the four routes of entry when the participants give you the right answer, so that they can see it on your own copy of the handout. Encourage participants to correct their copy if they missed a route. (A PowerPoint slide that shows the human body can be easily developed for this activity. If you use the Animation Trigger feature, you can trigger the routes of entry to appear (in any order participants give you) when you click on the route of entry).
6. Encourage participants to give you examples of exposure scenarios for each one of the routes on entry. At the end, explain to students that once the pesticide is ingested, absorbed or inhaled, it penetrates the bloodstream.
7. Review with participants the four routes of entry.

Source:
Washington State Department of Agriculture Farmworker Education Program. Hands-on Pesticide Safety Training for Pesticide Handlers Program: Personal Protective Equipment Module. Pesticide Management Division. Washington State, 2009.

Topic	Learning Objective	In Person Activity
Pesticide Routes of Entry into the Body	After completing this activity, the participant will be familiar with the four routes through which pesticides can enter the body.	Story Telling

- **Props**
  None

- **Time needed**
  10-15 minutes, but it depends on how many stories you allow.
- **Instructions**

  1. Ask participants to share any pesticide exposure story they know. Lead a discussion afterward.
     - How could your/his/her exposure have been prevented?
     - Do you have suggestions for how we could help others prevent a similar problem?

Section 5. Activities for Pesticide-Related Health Effects

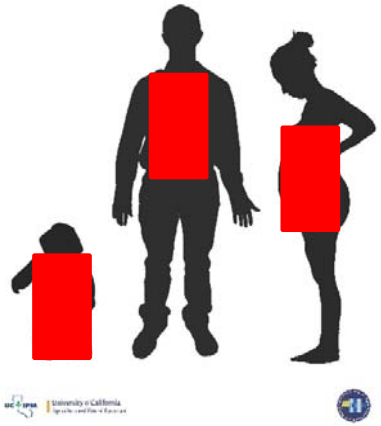
Topic	Learning Objective	In Person Activity
Pesticide-Related Health Effects	After completing this activity, participants will be familiar with the potential hazard to children and pregnant women from pesticide exposure.	Potential hazards to children and pregnant women from pesticide exposure

- **Props**
  A photo of a man, a child, and a pregnant woman. The pictures need to be proportional in size to one another 3 equally sized sticky notes
- **Time needed**
  10-15 minutes
- **Instructions**
  1. Discuss the following.

Activity	Materials

Section 5. Activities for Pesticide-Related Health Effects

1. Discussion question: Are there people that you think are more susceptible to the effects of pesticides?
   Potential Answers:
   - *Children – because their bodies and organs are small and are still developing.*
   - *Pregnant women – because there's a risk of exposing the fetus/baby*
   - *People with chronic diseases like diabetes, asthma, etc. – because their bodies are weakened and because the medication they take could impact how pesticides affect them.*
   - *Older people – because their bodies are not as strong.*
2. Imagine that these red rectangles represent a dose of pesticides or pesticide residue. The rectangle only covers a small portion of the man's body. Notice how the same dose covers almost the entire body of the child. And with the same dose, we've completely covered the baby in the pregnant woman's womb with pesticide residue.
3. Pesticide exposure can be extremely hazardous for pregnant women and may result in miscarriage or cause harm to their unborn child.
4. Children are also susceptible to the effects of pesticides as their bodies and internal organs are still developing and may be negatively impacted by exposure.



Topic	Learning Objective	In Person Activity
Ways to reduce pesticide exposure	After completing this activity, participants will be aware of things they can do to reduce exposure to pesticides including recognizing posting signs, reducing take-home exposure, how to protect themselves when working in treated areas and/or near on-going pesticide applications. Additionally, they will learn how to protect their children and non-working family members from pesticide exposures.	Brain Storming and Group Discussion

- **Props**
  Flip chart paper (self-sticking)
  Different color markers
- **Time needed**
  15-20 minutes
- **Instructions**

1. Divide the group into four smaller groups of 6 to 8 people. Give each group a number for identification purposes (example: group 1, group 2, etc.)
2. Provide two pieces of flipchart paper to each group and two markers.
3. Ask each group to come up with at least two ideas on how to reduce pesticide exposure and write them on the flip chart paper. Note: if participants do not feel comfortable writing, trainer can write the ideas for them.
4. Place the flipchart paper on the wall.
5. Generate a group discussion – Address each of the ideas they came up with written on the flipchart papers ask them to give you examples of how those ideas can help reduce pesticide exposure.
6. Reinforce information with power point presentation that goes along with this section.
7. Ensure that at least the following points and information get covered

- **How to recognize and understand the meaning of the posted warning signs used for notifying workers of restrictions on entering pesticide treated areas on the establishment.**

  Explain to field workers and pesticide handlers that whenever they see the sign (shown a picture of the sign) it means that there may be pesticides or pesticide residues in the area – they should keep out of the area. Let them know that, under certain circumstances, employers are required to post warning signs in pesticide treated areas to indicate Restricted Entry Intervals (REI).
  Signs are required to be posted when the pesticide applied outdoors has an REI greater than 48 hours, and when posting is specified in the Agricultural Use Requirements portion of the pesticide label. If the REI is 48 hours or less, employers must at least provide oral warning for workers who are near the areas to be treated with pesticides or are under an REI. Employers must provide both types of notifications when pesticide label specifically requires it.
  For applications in enclosed spaces like greenhouses, signs are required to be posted when the pesticide applied has an REI greater than 4 hours and when posting is specified in the Agricultural Use Requirements portion of the label; for REIs of 4 hours or less, employers must provide at least an oral warning.

  Additional information for Handlers
  Ensure handlers know not to remove signs before the required time.

- **How to follow directions and/or signs about keeping out of pesticide treated areas subject to a restricted-entry interval and application exclusion zones.**

  The significance of the posted signs – if a field is posted, it means that there are pesticides or pesticide residues. The importance of obeying oral and posted warning signs – they should obey the signs in order to protect their health.
  As long as the signs remain posted, they must not enter the area even if the date on the sign indicates that the REI has expired. Only properly trained and equipped early entry workers and handlers can enter those areas, early entry workers and pesticide handlers must be at least **18 years of age** to perform any pesticide related task in treated areas.
  In outdoor production: Do not enter treated areas or application exclusion zone, which ranges from 0 to 100 Ft. surrounding the equipment during pesticide applications.

  Additional information for handlers
  Pesticide handlers should always communicate to their supervisor and fieldworker crew supervisors about known REI's in effect and on-going pesticide applications.

- **When working in pesticide treated areas, wear work clothing that protects the body from pesticide residues and wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.**

  Use clothes that protect their skin when working in treated areas. Clothes such as long sleeve shirt, long pants, shoes plus socks and a hat.
  Stay away from areas indicated by their supervisor or that are being treated with pesticides.
  If workers and handlers feel they are being drifted on, they must inform their supervisor and leave the area immediately.
  Wash with soap and water after working in fields that have been treated with pesticides before they put anything in their mouth and before they used the bathroom.

- **Wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible after working in pesticide treated areas.**

  Wash their body with plenty of soap and water after applying pesticides or working in treated fields.
  Change into clean clothes as soon as possible after applying pesticides or working in treated fields.
  Avoid bringing pesticide residues home – it could be very complicated to get rid of them once they are inside. Avoid contaminating vehicles with pesticides or pesticide residues – Handlers can transport significant amounts of pesticides on their work shoes that can heavily contaminate their vehicles. Workers can transfer pesticide residues to their vehicles from contaminated work clothes and work boots.
  Handlers – Do not carry contaminated PPE in vehicles or take it home.

- **After working in pesticide treated areas, remove work boots or shoes before entering your home, remove work clothes and wash or shower before physical contact with children or family members.**

  Remove contaminated work boots or shoes before entering your home – As previously explained, significant amounts of pesticide can be carried in work boots and shoes, especially those worn by pesticide handlers. It is highly recommended to remove them before entering vehicles and entering your home.
  Remove work clothes and shower before having physical contact with children and other family members. Handlers – if there are shower facilities at work, handlers should take showers before leaving the work area.

- **Wash work clothes before wearing them again and wash them separately from other clothes.**

  Pesticide residues that remain on clothing can be a source of pesticide exposure for workers and their families. There are several ways workers can avoid these hazards:

  a. Wash work clothes after each use.
  b. When removing work clothes that may contain pesticide residues, keep them separate from other clothing to prevent potential cross contamination.
  c. Wash work clothes separately from other clothing.
  d. Inform whoever washes the worker's clothes that it may be contaminated with pesticide residues and that these residues may be hazardous.
  e. Have at least two sets of work clothes to avoid wearing potentially contaminated clothes before they are washed.

- **Do not take pesticides or pesticide containers used at work to your home.**

  Never take any pesticide from work because they are not safe for use around the home.
  Never take any pesticide containers home, even empty ones. Pesticide containers are never completely free of pesticide residue and can never be safely used for any other purpose.
  Agricultural pesticides, for the most part, are more concentrated and should never be used at home.
  Do not pour pesticides from their original containers into drinking containers - Pouring pesticides from their original container into drinking containers is dangerous and illegal. Some unsuspecting person can mistake it for something edible.

- **Keep children and nonworking family members away from pesticide treated areas.**

  Do not allow minor children to enter into pesticide treated areas.
  At home, keep pesticides out of reach of children.
  Nonworking family members should stay out of areas under a Restricted Entry Interval or areas that have been recently treated with pesticides.

Source:
Washington State Department of Agriculture (WSDA) Farmworker Education Program. Worker Protection Standard Train the Trainer Manual. WSDA Pesticide Management Division. Washington State 2014.

Topic	Learning Objective	In Person Activity
Pesticide Label Information	After completing this activity, participants will be familiar with basic components of a pesticide label.	Pesticide Label Activity

- **Props**
  Two pesticide labels - use 2 of the following: Knock 'em down (a fictitious product; see label on pages 5-6), Daconil (EPA Registration Number 50534-209-100), or Lime Sulfur (EPA Registration Number 61842-30-48813). You can find copies of labels for training purposes at http://www.cdms.net/Label-Database.
  Sticky dots
- **Time needed**
  15-20 minutes
- **Prep**
  Print two pesticide labels on poster-sized vinyl paper and tape them to a wall.
- **Instructions**

1. Assign each group to answer 3-4 of the following questions.
2. Instruct them to find the answer to the same question for each pesticide label, and write it down on the paper they are given.
3. Instruct each group to put a sticky dot with the question number onto the vinyl label in the place where they found the answer.
   - The sticky dots allow the entire group to see that most safety information on a pesticide label is concentrated at the beginning of the label, but specifically in certain sections, such as the precautionary statements, first aid, and agricultural use requirements. The questions were chosen purposely to reiterate some previously covered content (e.g., pesticide type, active ingredient, liquid vs. solid formulations), and to introduce some new concepts that will be discussed after the activity.
4. After the groups have finished answering all the questions, tell them to keep the answer sheet.
5. Discuss the answers to each question.
   - You may use PowerPoint slides and/or handouts for support.

1. What kind of pesticide is this?
   a. Daconil – fungicide
   b. Lime sulfur – fungicide
   c. Knock'em down – herbicide

2. What is the EPA Registration number for this product?
    a. Daconil – 50534-209-100
    b. Lime sulfur – 61842-30-48813
    c. Knock'em down – 000-000

3. What is the active ingredient of this pesticide?
    a. Daconil – chlorothalonil
    b. Lime sulfur – calcium polysulfide
    c. Knock'em down – paraquat dichloride

4. What is the signal word?
    a. Daconil – caution
    b. Lime sulfur – danger
    c. Knock'em down – Danger Poison

5. What is the Restricted Entry Interval (REI) in agricultural areas?
    a. Daconil – 12 hours
    b. Lime sulfur – 48 hours
    c. Knock'em down – 12 hours or 24 hours

6. Does a warning sign have to be posted during the Restricted Entry Interval (REI)?
    a. Daconil – no
    b. Lime sulfur – yes
    c. Knock'em down – no

7. Do workers have to be notified orally when this product is applied?
    a. Daconil – yes
    b. Lime sulfur – yes
    c. Knock'em down – yes

8. What is the required personal protective equipment (PPE) for early-entry workers?
    a. Daconil – coveralls, chemical resistant gloves made of any waterproof material, shoes plus socks, protective eyewear
    b. Lime sulfur – coveralls over long-sleeved shirt and long pants, chemic-resistant gloves, chemical-resistant footwear plus socks, goggles or face shield, chemical resistant headgear for overhead exposure, and chemical resistant apron when mixing, loading or cleaning equipment spills.
    c. Knock'em down – coveralls, shoes plus socks, protective eyewear (goggles, face shield, or safety glasses), chemical resistant gloves category A

9. What is the first aid for someone who has spilled this pesticide on their skin?
    a. Answer is the same for all pesticides: take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Poison Control Center or doctor for treatment advice.

10. What is the first aid for someone who has splashed this pesticide in their eye?
    a. Answer is the same for all pesticides: hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.

11. What is the first aid for someone that has swallowed some of this pesticide?
    a. Daconil and Lime sulfur –
        i. call poison control immediately;
        ii. have a person sip a glass of water if able to swallow, do not induce vomiting unless told to do so by a poison control center or doctor, do not give anything by mouth to an unconscious person.
    b. Knock'em down –
        i. call poison control center or doctor IMMEDIATELY for treatment advice.
        ii. SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an absorbent such as activated charcoal, bentonite, or Fuller's Earth.
        iii. Have person sip a glass of water if able to swallow
        iv. Do not induce vomiting unless told to do so by a Poison Control Center or Doctor
        v. Do not give anything by mouth to an unconscious person

12. What is the first aid for someone who has inhaled this pesticide?
    a. Daconil and Lime sulfur –
        i. Move person to fresh air.
        ii. The odor of this product is from the stanching agent, which has been added, not from the paraquat.
        iii. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
        iv. Call a Poison Control Center or doctor for further treatment advice.
    b. Knock'em down –
        i. Move person to fresh air.
        ii. The odor of this product is from the stanching agent, which has been added, not from the paraquat.
        iii. If person is not breathing, call 911 or an ambulance.
        iv. then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a Poison Control Center or doctor for further treatment advice.

Source:
UC Statewide IPM Program

RESTRICTED USE PESTICIDE

DUE TO ACUTE TOXICITY

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

Knock 'em down 3SL

Herbicide By ToxiK™

A weed, grass, and harvest aid desiccant/ defoliant herbicide.

Active Ingredients:

Paraquat dichloride (tetrachloroisophthalonitrile)	43.2%
Other Ingredients:	**56.8%**
Total:	**100.00%**

Group 22 Herbicide

Water Soluble Liquid

Contains: 3.0 pounds paraquat cation per gallon as 4.14 pounds of dichloride salt per gallon. Contains emetic and stench (odor), and dye

EPA Reg. No. 000-000 EPA Est. 000-XX-000

SCP 1364A-L1 0411 343162

Net Contents 2.5 gallons

KEEP OUT OF REACH OF CHILDREN.

DANGER/PELIGRO

POISON/VENENO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

Contains Paraquat, a Bipyridylium Herbicide

If swallowed:

- Call a poison control center or doctor IMMEDIATELY for treatment advice.
- SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an absorbent such as activated charcoal, bentonite, or Fuller's Earth.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

If inhaled:

- Move person to fresh air.
- The odor of this product is from the stanching agent, which has been added, not from the paraquat.
- If person is not breathing, call 911 or an ambulance.
- Call a poison control center or doctor for further treatment advice.

If in eyes:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

If on skin or clothing:

- Take off contaminated clothing.
- IMMEDIATELY wash with soap and water and rinse for 15-20 minutes. Prolonged contact will cause severe irritation. Contact with irritated skin or a cut or repeated contact with intact skin may result in poisoning.
- GET MEDICAL ATTENTION. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN:

Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Do not use supplemental oxygen. Eye splashes from concentrated material should be treated by an eye specialist after initial treatment. With the possibility of late onset corneal ulceration, it is advised that patients with paraquat eye injuries be examined by an eye specialist the day after first presentation. Use treatment that is appropriate for chemical burns. Intact skin is an effective barrier to paraquat however contact with irritated or cut skin or repeated contact with intact skin may result in poisoning.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER: For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-000-0000

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER/PELIGRO

POISON/VENENO

May be fatal if swallowed. Fatal if inhaled. Corrosive. Causes irreversible eye damage. Wear protective eyewear. Do not breathe spray mist. Wear a dust/mist respirator. Do not get in eyes or on clothing. Harmful if absorbed through skin. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

IMPORTANT: Inhalation is an unlikely route of exposure due to low vapor pressure and large spray droplet size, but mucosal irritation or nose bleeds may occur. Prolonged contact with this concentrated product can irritate your skin.

Personal Protective Equipment (PPE) Applicators and other handlers (other than Mixers and Loaders) must wear:

- Long-sleeve shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton®)
- A dust/mist NIOSH-approved respirator with any N, R, P, or HE filter. The respirator should have a NIOSH approval number prefix TC-84A.

Mixers and Loaders must wear:

- Long-sleeve shirt and long pants
- Shoes plus socks
- A dust/mist NIOSH-approved respirator with any N, R, P, or HE filter. The respirator should have a NIOSH approval number prefix TC-84A.
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton)
- Chemical-resistant apron
- Face shield

PRECAUTIONARY STATEMENTS (CONT.)

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.

Engineering Controls: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards: This product is toxic to wildlife. DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Paraquat dichloride is toxic to nontarget crops and plants if off-target movement occurs because it desiccates all green plant tissue. Extreme care must be taken to ensure that off-target drift is minimized to the greatest extent possible. Refer to the local state laws, regulations, guidelines, and spray drift information contained in the Directions for Use section for proper application to avoid off-target movement. Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or crops that would be rendered unfit for sale, use, or consumption. Do not apply when weather conditions favor drift from treated areas. To avoid drift, do not make aerial application during periods of thermal inversion.

Physical or Chemical Hazards: This product is mildly corrosive to aluminum and produces hydrogen gas which may form a highly combustible gas mixture. Do not mix or store in containers, spray tanks, nurse tanks, or such systems made of aluminum or having aluminum fittings. This product is compatible with high density polyethylene and rubber lined steel containers.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Knock 'em down 3SL must be used only in accordance with recommendations on this label or in separately published TOXIK supplemental labeling recommendations for this product.

DO NOT apply this product in a way that will contact workers or other persons or pets either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

DO NOT USE AROUND HOME GARDENS, SCHOOLS, RECREATIONAL PARKS, GOLF COURSES, OR PLAYGROUNDS. (Directions for Use continued on supplemental labeling)

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

For Chemical Fallow, Early Postemergence Broadcast in Peanuts, and Dormant Season Applications, and "Between Cutting" Applications in Alfalfa:
DO NOT enter or allow workers to enter treated areas during the restricted entry interval (REI) of 12 hours.

For Harvest Aid and Desiccation Applications, Preplant or Preemergence (Broadcast or Banded), and Postemergence Directed Spray: DO NOT enter or allow workers to enter treated areas during the restricted entry interval (REI) of 24 hours

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Protective eyewear (goggles, face shield, or safety glasses)
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or Viton)

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.Pesticide Storage: Store at temperatures above 32°F.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Handling [less than 5 gallons]: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-000-0000, day or night.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials, or other influencing factors in the use of the product, which are beyond the control of TOXIK, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold TOXIK and Seller harmless for any claims relating to such factors.

(Warranty information continued on supplemental labeling)

FIGURE 11-3

This example of a pesticide label illustrates the important sections; these sections are described in the text.

1 **RESTRICTED USE PESTICIDE**

DUE TO ACUTE TOXICITY

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

Group	22	Herbicide

2 # Knock 'em down 3SL

Herbicide By ToxiK™

A weed, grass, and harvest aid desiccant/ defoliant herbicide.

3 **Active Ingredients:**

4 Paraquat dichloride

5 (tetrachloroisophthalonitrile) 43.2%

Other Ingredients:.....56.8%

Total: 100.00%

6 **Water Soluble Liquid**

Contains: 3.0 pounds paraquat cation per gallon as 4.14 pounds of dichloride salt per gallon. Contains emetic and stench (odor), and dye

7 **EPA Reg. No. 000-000 EPA Est. 000-XX-000**

SCP 1364A-L1 0411 343162

8 **Net Contents 2.5 gallons**

KEEP OUT OF REACH OF CHILDREN.

9 **DANGER/PELIGRO**

POISON/VENENO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

10 **©2016 ToxiK, LLC, YourTown, YourState, 01234**

11

FIRST AID

Contains Paraquat, a Bipyridylium Herbicide

If swallowed:

- Call a poison control center or doctor IMMEDIATELY for treatment advice.
- SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an absorbent such as activated charcoal, bentonite, or Fuller's Earth.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

If inhaled:

- Move person to fresh air.
- The odor of this product is from the stanching agent, which has been added, not from the paraquat.
- If person is not breathing, call 911 or an ambulance.
- Call a poison control center or doctor for further treatment advice.

If in eyes:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

If on skin or clothing:

- Take off contaminated clothing.
- IMMEDIATELY wash with soap and water and rinse for 15-20 minutes. Prolonged contact will cause severe irritation. Contact with irritated skin or a cut or repeated contact with intact skin may result in poisoning.
- GET MEDICAL ATTENTION. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN:

Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Do not use supplemental oxygen. Eye splashes from concentrated material should be treated by an eye specialist after initial treatment. With the possibility of late onset corneal ulceration, it is advised that patients with paraquat eye injuries be examined by an eye specialist the day after first presentation. Use treatment that is appropriate for chemical burns. Intact skin is an effective barrier to paraquat however contact with irritated or cut skin or repeated contact with intact skin may result in poisoning.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER: For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-000-0000

12

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER/PELIGRO

POISON/VENENO

May be fatal if swallowed. Fatal if inhaled. Corrosive. Causes irreversible eye damage. Wear protective eyewear. Do not breathe spray mist. Wear a dust/mist respirator. Do not get in eyes or on clothing. Harmful if absorbed through skin. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

IMPORTANT: Inhalation is an unlikely route of exposure due to low vapor pressure and large spray droplet size, but mucosal irritation or nose bleeds may occur. Prolonged contact with this concentrated product can irritate your skin.

Personal Protective Equipment (PPE) Applicators and other handlers (other than Mixers and Loaders) must wear:

- Long-sleeve shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton®)
- A dust/mist NIOSH-approved respirator with any N, R, P, or HE filter. The respirator should have a NIOSH approval number prefix TC-84A.

Mixers and Loaders must wear:

- Long-sleeve shirt and long pants
- Shoes plus socks
- A dust/mist NIOSH-approved respirator with any N, R, P, or HE filter. The respirator should have a NIOSH approval number prefix TC-84A.
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton)
- Chemical-resistant apron
- Face shield

12

PRECAUTIONARY STATEMENTS (CONT.)

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.

Engineering Controls: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards: This product is toxic to wildlife. DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Paraquat dichloride is toxic to nontarget crops and plants if off-target movement occurs because it desiccates all green plant tissue. Extreme care must be taken to ensure that off-target drift is minimized to the greatest extent possible. Refer to the local state laws, regulations, guidelines, and spray drift information contained in the Directions for Use section for proper application to avoid off-target movement. Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or crops that would be rendered unfit for sale, use, or consumption. Do not apply when weather conditions favor drift from treated areas. To avoid drift, do not make aerial application during periods of thermal inversion.

Physical or Chemical Hazards: This product is mildly corrosive to aluminum and produces hydrogen gas which may form a highly combustible gas mixture. Do not mix or store in containers, spray tanks, nurse tanks, or such systems made of aluminum or having aluminum fittings. This product is compatible with high density polyethylene and rubber lined steel containers.

13

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Knock 'em down 3SL must be used only in accordance with recommendations on this label or in separately published TOXIK supplemental labeling recommendations for this product.

14 **DO NOT** apply this product in a way that will contact workers or other persons or pets either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

DO NOT USE AROUND HOME GARDENS, SCHOOLS, RECREATIONAL PARKS, GOLF COURSES ,OR PLAYGROUNDS. (Directions for Use continued on supplemental labeling)

15

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

For Chemical Fallow, Early Postemergence Broadcast in Peanuts, and Dormant Season Applications, and "Between Cutting" Applications in Alfalfa:

16 **DO NOT** enter or allow workers to enter treated areas during the restricted entry interval (REI) of 12 hours.

For Harvest Aid and Desiccation Applications, Preplant or Preemergence (Broadcast or Banded), and Postemergence Directed Spray: DO NOT enter or allow workers to enter treated areas during the restricted entry interval (REI) of 24 hours

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Protective eyewear (goggles, face shield, or safety glasses)
- Chemical-resistant gloves - Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or Viton)

17

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.Pesticide Storage: Store at temperatures above 32°F.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Handling [less than 5 gallons]: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-000-0000, day or night.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

18

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials, or other influencing factors in the use of the product, which are beyond the control of TOXIK, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold TOXIK and Seller harmless for any claims relating to such factors.

(Warranty information continued on supplemental labeling)

FIGURE 11-3

This example of a pesticide label illustrates the important sections; these sections are described in the text.

What Pesticide Labels Contain

Refer to the corresponding numbers on the sample pesticide label (Fig. 11-3) for examples of the following pesticide label sections.

1. **Statement of Use Classification.** The U.S. EPA classifies pesticides as either general-use or restricted-use. Federal restricted-use pesticides have a special statement printed on the label in a prominent place (such as the one shown in Figure 11-5). Pesticides that do not contain this statement are general-use pesticides, except where special state restrictions apply. For information, check the DPR list, "California Restricted Materials," which is available from county agricultural commissioners. Some labels have restrictive statements indicating that they are for agricultural or commercial use only. A restrictive statement is different from a statement of use classification.
2. **Brand Name.** A brand name is the name the manufacturer gives to the product. This is the name used for all advertising and promoting. It is also commonly referred to as the product's trade name.
3. **Ingredients.** Pesticide labels list the percentage of active and other ingredients by weight. Other ingredients are all components of the formulation that do not have pesticidal action. Even if they are not considered active, these ingredients may still be toxic, flammable, or pose other safety or environmental hazards. Some, however, are relatively harmless, such as clay. If a pesticide contains more than one active ingredient, the label will state the percentage of each. Manufacturers do not usually individually identify the names or percentages of other ingredients in the pesticide.
4. **Common Chemical Name.** Chemical names of pesticide active ingredients are often complicated. Therefore, manufacturers give most pesticides common, or generic, names. For example, 0,0-diethyl 0(2-isopropyl-6-methyl-4pyrimidinyl) has the common name diazinon. Common names and brand names are not the same, and not all labels list common names for the pesticide.
5. **Chemical Name.** Labels must list all chemicals having pesticidal action (active ingredients) in the product. Chemical names describe the active ingredients' chemical structure and are based on international naming rules.
6. **Formulation.** Labels usually list the formulation type, such as emulsifiable concentrate, wettable powder, or soluble powder. Manufacturers may include this information as a suffix in the brand name of the pesticide. For example, in the name Princep 80W, the "W" indicates a wettable powder formulation. Table 3-6 in Chapter 3 lists definitions for many suffixes used with brand names.
7. **Registration and Establishment Numbers.** The U.S. EPA assigns registration numbers to each pesticide. You need this U.S. EPA number if you are reporting the use of the pesticide. In addition, an establishment number identifies the site of manufacture or repackaging. If the product requires registration in California (but not with U.S. EPA), the Department of Pesticide Regulation will assign a California registration number.
8. **Contents.** Labels list the net contents, by weight or liquid volume, contained in the package.
9. **Signal Word.** An important part of every label is the signal word (Fig. 11-3). The words DANGER and POISON (with a skull and crossbones) indicate that the pesticide is highly toxic. The word DANGER used alone indicates that the pesticide poses a dangerous health hazard. WARNING indicates moderate toxicity, and CAUTION means low toxicity (see "Pesticide Toxicity Categories" in Chapter 3). During the registration process each pesticide is assigned a toxicity category (Category I, DANGER, to Category IV, no signal word required). The level of hazard determines the signal word manufacturers must use on their labels.
10. **Manufacturer.** Pesticide labels always contain the name and address of the manufacturer of the product. Use this address if you need to contact the manufacturer for any reason.
11. **First Aid.** The first aid statement provides emergency information. It tells what to do to decontaminate someone who becomes exposed to the pesticide. It describes the emergency first aid procedures for swallowing, skin and eye exposure, and inhalation of dust or vapors. This section tells you when to seek medical attention.
12. **Precautionary Statements.** Precautionary statements describe the pesticide hazards (Fig. 11-3). Read and follow the instructions given in a precautionary statement. The statement includes as many as three areas of hazard. The most important hazards are those to people and domestic animals.

    The first part of a precautionary statement explains why the pesticide is hazardous, lists adverse effects that may occur if people become exposed, and describes the type of PPE to wear while handling containers and while mixing and applying the product.

The second part of a precautionary statement describes environmental hazards. It tells you whether the pesticide is toxic to nontarget organisms such as honey bees, fish, birds, and other wildlife. Here is where you learn how to avoid environmental contamination.

The third part of the precautionary statement explains special physical and chemical hazards. These include risks of fire or explosion and hazards from fumes.

13. **Directions for Use.** The directions for use are an important part of the pesticide label. It is a violation of the law if you do not follow these instructions. The only exceptions are cases where federal or state laws specify acceptable deviations from label instructions. The directions for use list all the target pests that manufacturers claim their pesticides control. It also includes the crops, plant species, animals, or other sites to which you can apply the pesticides (Fig. 11-3). Here is where you find special restrictions that you must observe. These include crops that you may or may not plant in the treated area (plant-back restrictions, also called rotational crop restrictions). They also include restrictions on feeding crop residues to livestock or grazing livestock on treated plants. These instructions also tell you how to apply the pesticide (including allowable application methods) and provide methods to help you prevent drift. They specify how much pesticide to use, where to use the material, and when to apply it (Fig. 11-4). The directions include the harvest intervals (or preharvest intervals) for all crops whenever appropriate. A harvest interval is the time, in days, required after application before you may harvest an agricultural crop.
14. **Misuse Statement.** The misuse statement reminds users to apply pesticides according to label directions.
15. **Agricultural Use Requirements.** This special statement appears in the Directions for Use section on labels of pesticides approved for use in production agriculture, commercial greenhouses and nurseries, and forests. It refers to the Worker Protection Standard (40 CFR 170). You must use the pesticide according to this standard as well as the requirements on the pesticide label. It provides information on the personal protective equipment (PPE) required for early-entry workers. It also gives the restricted-entry interval for workers (see no. 17, below).
16. **Restricted-Entry Statement.** Usually a period of time must elapse before anyone can enter a treated area unless they are wearing PPE. This period is the restricted-entry interval. Restricted-entry intervals may vary according to the toxicity and special hazards associated with the pesticide. The crop or site being treated and its geographic location also influence the length of this interval. Some pesticide uses in California require longer restricted-entry intervals than those listed on the pesticide label. Check with the local agricultural commissioner for this information.
17. **Storage and Disposal Directions.** This section contains directions for properly storing and disposing of the pesticide and empty pesticide containers. Proper disposal of unused pesticides and pesticide containers reduces human and environmental hazards. Some pesticides have special storage requirements because improper storage causes them to lose their effectiveness. Improper storage may even cause explosions or fires.
18. **Warranty.** Manufacturers usually include a warranty and disclaimer on their pesticide labels. This information informs you of your rights as a purchaser and limits the liability of the manufacturer.

BRASSICA LEAFY VEGETABLES CROPS AND TURNIP GREENS

All members of the Brassica Leafy Vegetable Group 5, plus Turnip greens, including: Broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip greens

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Flea beetles Harlequin bug Leafhoppers	1/2 to 1	Repeat applications as needed up to a total of 4 times per year but not more often than once every 7 days.
Armyworm Aster leafhopper Corn earworm Diamondback moth Fall armyworm Imported cabbageworm Lygus bugs Spittle bugs Stink bugs Tarnished plant bug	1 to 2	

FIGURE 11-4

Many pesticide labels have tables like this one, which shows application rates and directions to control listed pests on specified crop(s). These tables are found in the "Directions for Use" section of the pesticide label.

Section 11. Activities for Personal Protective Equipment

Topic	Learning Objective	In Person Activity
Personal Protective Equipment	After completing this activity, participants will be able to select the correct personal protective equipment listed on a pesticide label for the task they will perform	Selecting Personal Protective Equipment

- **Props**
  Two or three different pesticide labels – you can find copies of labels and Safety Data Sheets for training purposes at: http://www.cdms.net/Label-Database.
  Various types of personal protective equipment listed on the labels that you have pre-selected for this activity
- **Time needed**
  20 minutes
- **Instructions**

1. Divide the class into three groups, and provide each group with a different pesticide label, flipchart paper and pens.
2. Instruct them to each take a role for this activity. They will need a person to read the PPE section of their label aloud, another person will write the PPE items on the flipchart paper, the third person will select and dress up in the PPE listed on their label. The fourth person will present their findings to the rest of the class while referring to the list they created on the flipchart paper and their model "pesticide handlers."
3. Ask participants to locate the PPE section of their labels and decide what PPE is required to be worn when handling the pesticide.
4. If they find that the label contains different PPE for different tasks (i.e., overhead spraying, cleaning equipment, etc.) ask them to just select one and specify the activity when they present it to the class.
5. Place personal protective equipment on a table so they are easily accessible for the trainees.
6. Instruct the groups to look through the PPE and to select those PPE items that are listed on their label.
7. One person should get dressed up in the PPE or set it aside to hold up during the presentation.

8. At the end of this activity, have the trainees present what they selected based on the label instructions for their chosen pesticide handling task.
9. The instructor should know the correct PPE so they can point out where what the trainees are wearing is different than what the label indicates is required.

Topic	Learning Objective	In Person Activity
Routine and emergency decontamination procedures, including emergency eye flushing techniques	After completing this activity, participants will be familiar with the principle of "Clean to Clean; Dirty to Dirty" to help remember how to properly remove personal protective equipment (PPE); know the proper steps for removing and washing PPE, including the respirator; and understand the importance of personal hygiene and laundering clothes worn underneath PPE.	Personal Protective Equipment (PPE) Decontamination

- **Props**

Site Requirements
- Outdoors or indoors with floor drain Water
- Hose with hand gun sprayer
- Dark area

Dark Area
- Black light
- Extension cord/batteries *(as needed)* Flashlight
- Dark fabric
- Tape

Safety Materials
- Emergency eyeflush
- water SDS for Tinopal®

CBS-X SDS for rubbing alcohol UV-A safety glasses

PPE

1 chemical-resistant suit *(jacket & pants)*
1 pair rubber boots
1 rain gear hat or chemical-resistant brimmed hat 1 half-respirator
2 organic vapor cartridges
2 filters
1 pair of chemical-resistant goggles
1 gallon-sized sealable plastic bag for respirators

Cleaning PPE

2 dish basins
Paper towels
Liquid detergent *(non-fluorescent)* Bucket for cleaning supplies Scrub brushes
Sponges
Table

Tracer Recipe

½ teaspoon Tinopal® CBS-X
1¼ cups water
1½ cups rubbing alcohol *(70% isopropanol)*
32 oz. spray bottle
Measuring spoons & cups

- **Time needed**
  25 minutes

- **Prepare**

  Make tracer recipe:

  Mix ½ teaspoon Tinopal® CBS-X, 1¼ cups water, and 1½ cups rubbing alcohol in spray bottle.
  Close spray bottle and shake to mix well.

  Prepare decontamination station:

  Mix detergent and water in a bucket. Put brushes and sponges in bucket and place on table.

  Construct a dark area:

  Use dark fabric to block out light and cover bright objects, if necessary.
  Check to make sure area is dark enough to view tracer under black light.
  Turn black light on and check to make sure that PPE does not shine.

  Instruct volunteer:

  Ask for one volunteer to put on in full-gear PPE required to spray pesticides.
  Provide volunteer with chemical-resistant suit (jacket and pants), nitrile gloves, boots, respirator, and goggles.
  Ask volunteer to listen after putting on the PPE.

- **Instructions**

1. Introduce yourself, review learning objectives, and tell participants you need their active participation. As the instructor, lead a discussion but do not lecture; ask participants direct open-ended questions and let participants spend a few minutes talking about their answers.
2. Inform participants this activity uses a black light and fluorescent tracer to see contamination. For the short duration of this training, both are safe to use. Black lights can be found in dance clubs and fluorescent tracers are common ingredients in laundry detergents, soaps, and paper. Advise participants not to look directly into the black lights because that may cause discomfort. When using rubbing alcohol (isopropanol), take extra precaution to avoid eye and skin contact.
3. Tell participants they will hear some terms throughout the training. For each term below, ask a participant, *what does the word mean to you?*

   decontamination

   - Proper removal and washing of personal protective equipment (PPE) with soap and water
   - Should be done before the applicator takes any break or at the end of the application day
   - Includes personal hygiene practices, like washing hands with soap and water before eating or going the bathroom

pesticide exposure

• Being in contact with pesticides or pesticide residues

pesticide residue

• Pesticides that remain on surfaces of crops, application equipment, and PPE

• Pesticide handlers can come into contact with pesticide residues left on contaminated crops, PPE, and equipment.

4. Ask and discuss with participants:

Why is it important to decontaminate your PPE?

• To remove pesticide residues that could remain on the PPE after an application.

• To prevent pesticide contamination of work clothes and ultimately the skin when PPE is not washed or not washed well. *Note: Liquid formulations, especially oil-based pesticides, are absorbed through the skin more quickly than dry pesticides.*

• To prevent the respirator from malfunctioning when unwashed respirator valves do not seal properly. This may put the pesticide handler at risk for exposure.

• To reduce allergic skin reactions, irritation, or contact dermatitis that may occur when certain pesticides get on the skin.

Why is it important to avoid pesticide exposure?

• To prevent pesticide illness.

• Long-term health effects associated with exposure to certain pesticides include: cancer, inability to become pregnant (infertility), spontaneous abortion, birth defects in the children of exposed parents, nervous system damage, damage to specific organs such as the lungs or liver and damage to the immune system among other conditions.

Why is it important to perform personal hygiene?

• Handlers might have pesticide residues on some unprotected parts of their bodies such as their necks, parts of their faces, and hands. These pesticide residues might be taken home and transferred to other family members and furniture. Practice good personal hygiene and decontamination steps before leaving the worksite to prevent further absorption of pesticides into the skin and transfer of pesticides to others at home.

DEMONSTRATION

1. After the volunteer has properly dressed in PPE, spray tracer on the entire PPE suit, gloves, and back of hood. Gently spray on side of respirator and goggles. Do NOT spray directly on face.

2. Ask and discuss with participants:

   Do pesticide droplets land on your PPE when you are spraying?

   • Many of the pesticide handlers will answer "yes" unless they spray in an enclosed cab. Discuss the possibilities for exposure when pesticide handlers get out of enclosed cab and what they need to do.

   When must you decontaminate PPE?

   • PPE must be decontaminated each time it is used and taken off. It should never be worn or taken home. It must be inspected for wear and tear and if there is wear and tear, it should be replaced.
3. Tell participants the volunteer needs their help on the proper steps to remove and wash chemical-resistant full-gear PPE. (When the pesticide label does not require full-gear, adjust the steps to fit with the PPE they will be wearing.)
4. Ask the volunteer to take off the contaminated PPE items. Have him give the items to a different participant to wash.
5. Tell participants to think **"Clean to Clean; Dirty to Dirty"** to remind them that clean gloves should only touch clean areas and dirty gloves should only touch dirty areas on the outside of the PPE.
6. Ask and discuss with participants:

   What is the first thing you do before taking off your PPE?

   • Use a hose or shower head to rinse entire PPE suit while you are still wearing it.

   Why do you need to do this step?

   • To remove as much pesticide residue as possible.
7. Instruct volunteer to demonstrate the first step.

   BEFORE TAKING OFF PPE

   ➢ **Step 1: Rinse entire PPE suit with a hose or showerhead.**

This removes as much pesticide residue as possible to minimize further contamination. *Note: This step does not apply if gloves are worn outside of sleeves during overhead application.*

WSDA

8. Instruct volunteer to demonstrate the following steps. Discuss with participants how they do it at their workplace. Ask participants: What do you do next?

➢ **Step 2: Take off hood or hat by grabbing it from contaminated outside part.**

Dirty Gloves ⇨ Dirty Outside Hood or Hat

Handlers naturally want to take off PPE around their heads and faces early because of practicality, heat, and nuisance issues. Removing the hood or hat must be done first in order to remove the respirator and goggles.

➢ **Step 3: Take off respirator by grabbing it from the canister or cartridges and gently pull it forward and up.**

Dirty Gloves ⇨ Dirty Cartridges

Wearing a respirator can restrict movement and vision. The respirator is removed to make it more comfortable to take off other PPE. With gloves still on, grabbing the cartridges is easier than

unhooking the respirator straps. Handlers may be tempted to take off gloves too early if they unhook the respirator straps. If a full-face respirator is used, separate eye protection will be needed for the next steps.

➢ **Step 4: When dirty goggles block vision:**

1- wash gloves while wearing them
2- remove goggles
3- wash and dry goggles
4- put goggles back on or replace with clean goggles

Since eye protection must be worn for the next steps, handlers must have clear vision in order to minimize further contamination. Gloves must be washed before taking off goggles so that the face does not get contaminated.

➢ **Step 5: Take off jacket by carefully unbuttoning or unzipping jacket without touching clothes underneath. Dirty Gloves ⇨ Dirty Outside Jacket**

Even if gloves have been washed, they could become re-contaminated while unbuttoning the jacket, therefore, avoid touching clothes underneath.

➢ **Step 6: Remove pants:**

Clean Foot ⇨ Clean Inside Pants

1- take one foot out of the boot
2- pull off pant leg from that foot
3- return foot back into the boot
4- repeat procedure with other foot

If PPE pant legs are removed while wearing PPE boots, the inside of the pant legs will become contaminated, making the pants harder to clean. Pants need to come off before boots because boots are required to be worn while washing the PPE items later. Wearing boots will prevent a handler's work shoes from contact with contaminated water.

9. Ask and discuss with participant
10. Instruct participants holding a dirty PPE item to wash it according to steps on the following page. Discuss with participants how washing is done at their workplace. Tell them to imagine that they are wearing gloves, eye protection and boots as they practice cleaning PPE.

WASHING PPE WITH SOAP & WATER: RESPIRATOR, SUIT, BOOTS, GOGGLES, GLOVES

➢ **Step 7: Wash outside of gloves while wearing them.**

➢ **Step 8: Wash respirator:**

1- remove cartridges and throw out filters; throw out cartridges used for 8 hours
2- wipe cartridges with less than 8 hours of use with a wet towel
3- dry cartridges with single-use paper towels and then store in a sealable plastic bag
4- take apart respirator and wash parts in warm soapy water with soft sponge
5- rinse respirator parts under running water
6- air dry or wipe dry with single-use towels
7- after parts are dry, inspect, reassemble, and store in a sealable plastic bag separate from cartridges
8- store respirator in a cool, dry area of locker or rubber container to prevent damage

➢ **Step 9: Wash PPE suit (outside/inside) on flat surface:**

1- scrub side-to-side with soapy water to minimize splashing
2- rinse under running water
3- hang dry in clean area
4- store in lockers, if available

➢ **Step 10: Wash boots while wearing them.**

Boots are washed after washing all PPE items taken off earlier.

➢ **Step 11: Remove, wash and dry goggles.**

➢ **Step 12: Rewash gloves.**

1- remove gloves
2- wash hands with soap and water

11. Instruct volunteer on the last steps.

LAST STEPS: INSPECTION& STORAGE

➢ **Step 13: Inspect and discard damaged PPE.**

➢ **Step 14: Go to clean area to remove and store boots. Put work shoes back on.**

➢ **Step 15: Remove, dry, and store gloves.**

DARK AREA

1. Give volunteers UV-A shielding goggles.

2. Shine the black light on PPE to see if tracer remained after washing.
3. Ask and discuss with participants the importance of washing properly to reduce pesticide residues.

Why could it be difficult to clean PPE?

- Hard-to-clean areas (seams)
- Oil-based pesticides harder to remove
- Not enough time
- Late or tired at end of shift
- Not having an appropriate flat surface place to clean PPE
- Not having proper cleaning supplies and tools

4. Shine the black light on skin of volunteers. Compare what uncontaminated skin and contaminated skin look like under the black light. **Make the connection to the importance of practicing good personal hygiene and laundering work clothes.**
5. Ask and discuss with participants:

When should pesticide handlers wash themselves?

- Pesticide handlers should take a shower at the end of the pesticide application or as soon as possible after the application. If facilities are available at the worksite, take a shower and put on clean clothes before leaving to avoid taking pesticide residues home. It is important to wash your body and scalp thoroughly with soap and water and to scrub your nails.

Why is it important to take a shower and put on clean clothes as soon as possible after the application?

- Even though a pesticide handler might wear the PPE correctly during pesticide handling, a significant amount of pesticide residues could accumulate on his or her face and neck.
- Pesticide handlers can still become contaminated from pesticide residues on work clothes worn under chemical-resistant suits.
- Pesticide residues can penetrate the skin and might cause skin irritation and other health problems.

Why must you launder your work clothes? How?

- Even when PPE is properly worn, work clothes can still become contaminated with pesticide residues.
- It is important to change out of and wash contaminated work clothes as soon as possible after an application. If used for repeated applications, unwashed work clothes can accumulate pesticide residues.
- To protect handlers' families from being exposed to pesticides, it is important to wash and store work clothes separately from family laundry and other clothes.

Source: WSDA, WSH, PNASH. Originally developed by Ofelio Borges, for the Washington State Department of Agriculture Farmworker Education Program's Hands-on Handler Training.

PPE Inspection Checklist

- ☐ Inspect boots or chemical-resistant shoe coverings for holes, tears, or weak spots.
- ☐ Inspect re-usable gloves for damage, such as holes, cracks, tears, areas that have become bubbled or spongy, and any discoloration.
- ☐ Check coveralls and chemical-resistant suits for rips, tears, holes or separation along seams and zippers.
- ☐ Make sure that the coveralls or chemical-resistant suit is the correct size for optimal protection and not interfering with movement.
- ☐ Check apron material for holes or damage. Make sure apron strings are in good condition and enable you to wear the apron securely.
- ☐ Inspect protective eyewear for scratched or cracked lenses and replace if needed.
- ☐ If you use goggles, check the elastic parts for fraying, tears, wear, or loss of elasticity and replace if worn.
- ☐ If you use overhead protection, check the protective headwear for cracks, holes, and worn adjustable fittings.
- ☐ Faceshields and protective headgear often have adjustable fittings for a secure fit and to prevent them from slipping or falling off. Inspect these fittings to make sure that they are working properly.