CHAPTER 9

Emergency Response

Chapter 9

National Pesticide Applicator Certification

Core Manual

WASHINGTON STATE UNIVERSITY EXTENSION

CHAPTER 9

Emergency Response

This module will help you:

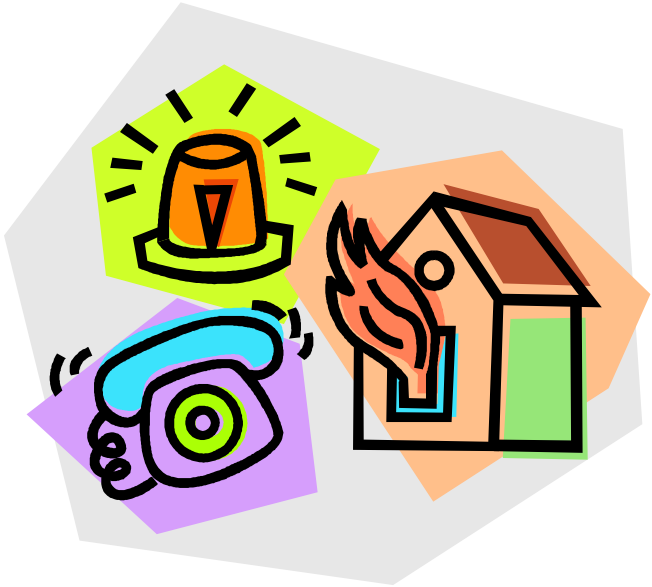
- Know how to implement and execute an emergency response plan
- Identify how unintended spills and fires can harm humans and the environment
- Understand how to clean up spills to reduce environmental impact
- Know how to dispose of contaminated items
- Be familiar with emergency response equipment

Emergency Response

- Be prepared
- You have responsibilities to protect employees, your community and the environment

What is a typical emergency?

- Overturned vehicle
- Ruptured hose
- Explosion or fire in storage area

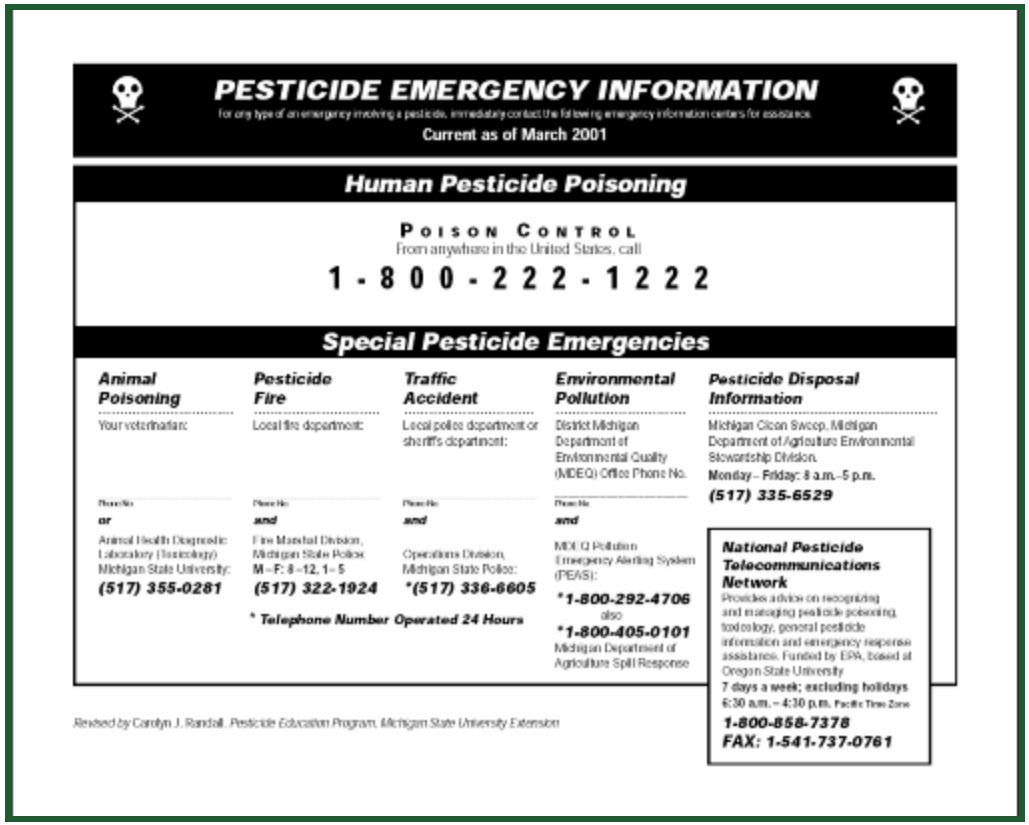


Why plan for an emergency response?

- Protects employees, community, environment
- How you respond, makes all the difference!

Develop a Plan

- Designate an emergency coordinator
- Maintain a list of emergency response agencies **for Minnesota call:**



PESTICIDE EMERGENCY INFORMATION

For any type of an emergency involving a pesticide, immediately contact the following emergency information centers for assistance.

Current as of March 2001

Human Pesticide Poisoning

POISON CONTROL
From anywhere in the United States, call
1-800-222-1222

Special Pesticide Emergencies

Animal Poisoning	Pesticide Fire	Traffic Accident	Environmental Pollution	Pesticide Disposal Information
Your veterinarian:	Local fire department:	Local police department or sheriff's department:	District Michigan Department of Environmental Quality (MDEQ) Office Phone No.	Michigan Clean Sweep, Michigan Department of Agriculture Environmental Stewardship Division. Monday – Friday: 8 a.m.–5 p.m. (517) 335-6529
Phone No.	Phone No.	Phone No.	Phone No.	
or	and	and	and	
Animal Health Diagnostic Laboratory (Toxicology) Michigan State University: (517) 355-0281	Fire Marshal Division, Michigan State Police M–F: 8–12, 1–5 (517) 322-1924	Operations Division, Michigan State Police: *(517) 336-6605	MDEQ Pollution Emergency Alerting System (PEAS): *1-800-292-4706 also *1-800-405-0101 Michigan Department of Agriculture Spill Response	

* Telephone Number Operated 24 Hours

National Pesticide Telecommunications Network
Provides advice on recognizing and managing pesticide poisoning, toxicology, general pesticide information and emergency response assistance. Funded by EPA, based at Oregon State University
7 days a week; excluding holidays
6:30 a.m. – 4:30 p.m. Pacific Time Zone
1-800-858-7378
FAX: 1-541-737-0761

Revised by Carolyn J. Randall, Pesticide Education Program, Michigan State University Extension

911 if lives or property are in danger

Then

Minnesota Duty Officer 651-649-5451
1-800-422-0798

Information to be included in an emergency notification call

Keep them with the phone number list

Name of reporting person: _____

Date and location of incident: _____

Description of incident: _____

_____

_____

Name of chemical: _____

Quantity of chemical: _____

Classification: _____

Extent of injuries: _____

_____

_____

Potential effects on environment and community: _____

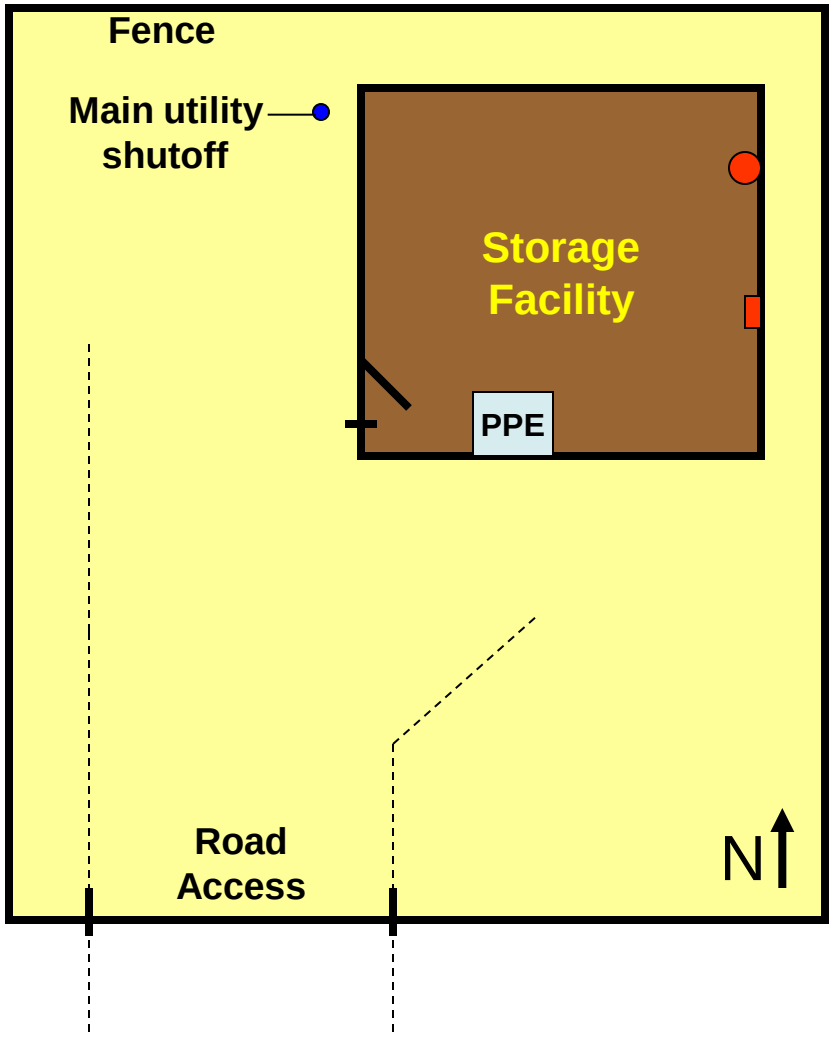
_____

_____

_____

Map Your Facility!

- Map should include:
  - layout of storage areas or buildings, and bulk storage tanks
  - access roads, fences
  - main shutoffs for utilities
  - location of fire alarms, extinguishers, and protective clothing
- Send updated copies to emergency response agencies whenever changes are made!



Provide an Area Map Too!

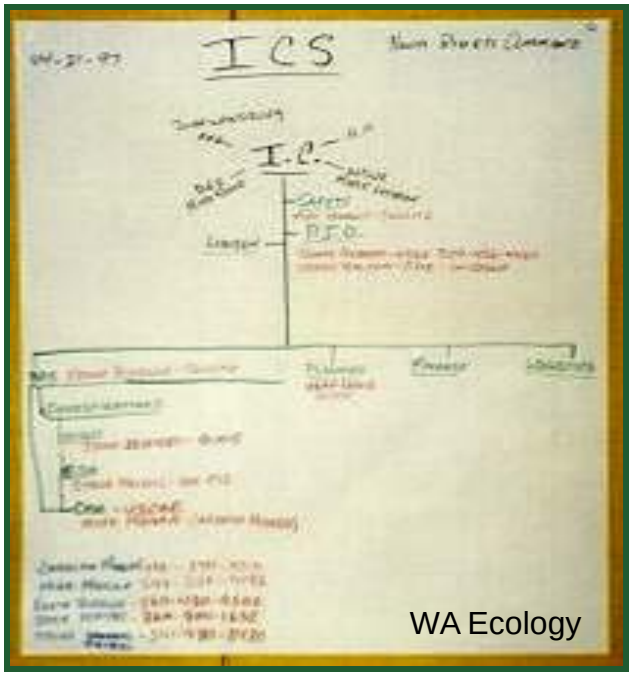
Fire, police, paramedics can’t waste time trying to find your facility!

Keep an Inventory!

- Product names, volumes, and locations
- Keep copies of labels, MSDS, protective equipment
- Keep a set of documents away from storage area
- Emergency equipment:
  - tools for diking, trenching, pumping, vacuuming
  - containment and cleanup materials
  - fire extinguishers, personal protective equipment

Outline your Actions

- Plan step-by-step procedures according to each possible emergency: fire, spill or leak, transport accident, etc.
- Designate responsible personnel beforehand



- Write down **everything** that happens!
- Share the outline with local responders

Pesticide Fires

How to Avoid a Pesticide Fire

- Assess the flammability and storage hazards of pesticide products
- Look on the label for "Do not use or store near heat or open flame"
- Fires usually involve oils or petroleum solvents

Pesticide Fires
Potential Problems

- Pesticides may give off highly toxic vapors or smoke that may harm firefighters, nearby residents, animals, or plants
- Residues may be present in debris and soil
- Runoff from the fire site may be highly toxic

Take Precautions to Reduce Fire Hazards!

- Put storage facility far from people, animals
- Always keep storage locked!
- Clearly post warning signs

Take Precautions to Reduce Fire Hazards!

- Store combustibles away from heat sources
- Do not store containers in sunlight, especially glass!
- Install fire alarms
- Keep foam-type fire extinguishers approved for chemical fires available

Take Precautions to Reduce Fire Hazards!

- Notify the fire department of the location and contents of the storage facility
- Develop an emergency plan and train workers to execute it
- Keep an up to date inventory of all pesticides in storage

If there is a chemical fire:

1. **Evacuate** the area!
2. **Call 911**, and tell what chemicals are involved **then Call the Minnesota Duty Officer**
3. Keep people away; establish a perimeter and protect downwind
4. Have MSDS notebook ready!

TRI-CITY HERALD.COM

Visit the Tri-City Herald

Grandview fire didn't contaminate surrounding area

This story was published Thursday, March 31st, 2005

By Jeff St. John, Herald staff writer

The fire that destroyed the Wilbur-Ellis Co. farm chemical warehouse in Grandview in late January did not contaminate the surrounding area with pesticides or other dangerous chemicals.

That finding is based on air samples taken by the state during the first two days of the fire and on surface, ground and water tests taken afterward.

If the fire is small...

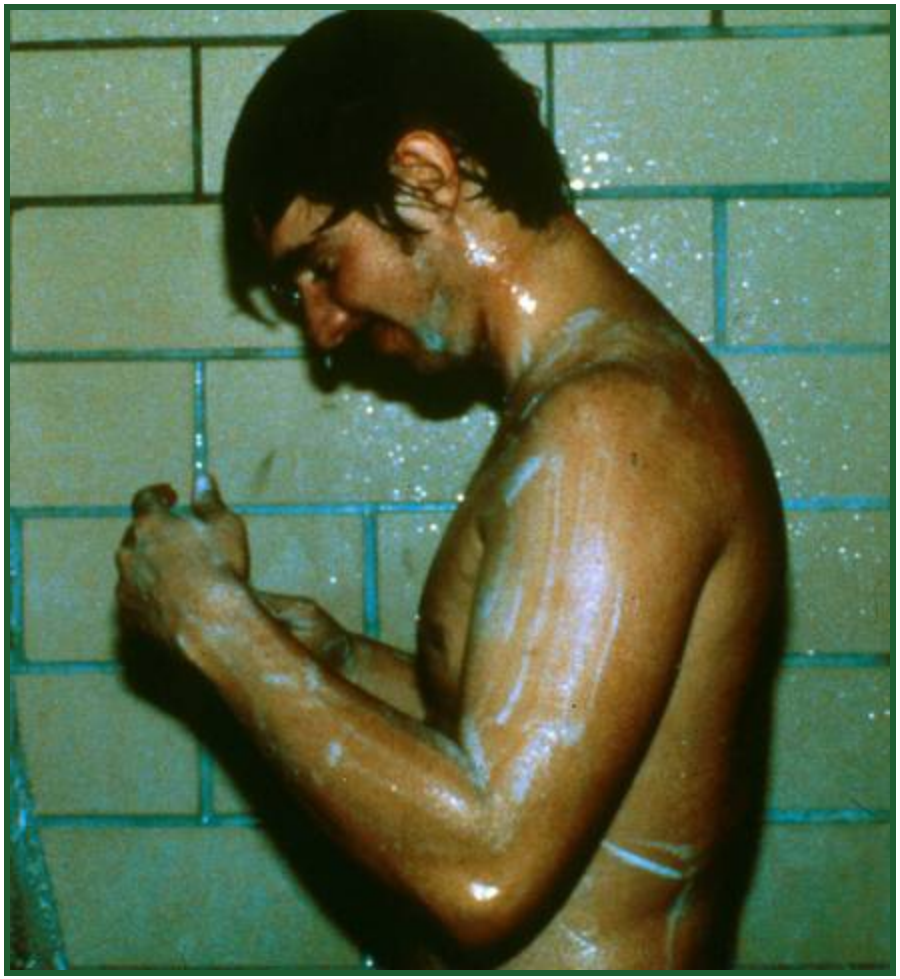
- **Contain** with fog, foam, or dry powder
- If only water is available:
  - use as fine spray or fog, don't over-wet
  - Caution: water jets can break bags, glass
    - **may spread contamination**
  - **Contain** the water and spilled chemicals

If the fire is large...

- Consider withdrawing and letting it burn -- using water may lead to widespread contamination
- Build dikes to contain water if necessary

After the fire...

- Clean or dispose of all clothing
- Everyone involved should shower
- Do not clean up or salvage until area has cooled



Pesticide Spills

Emergency Notification

- **If you spill a hazardous material or a petroleum product in Minnesota, you must call:**
- **Local Authorities 9-1-1 FIRST, when there is a threat to life or property**
- **The Minnesota Duty Officer If there is a public safety or environmental threat and/or if a**
- state agency notification for reportable spills is required.

Pesticide Spills

- The **Minnesota Duty Officer Program** provides a single answering point for local and state agencies to request state-level assistance for emergencies, serious accidents or incidents, or for reporting hazardous materials and petroleum spills. This includes pesticide spills.
- The duty officer is available 24 hours per day, seven days per week.
  - **Minnesota Duty Officer 651-649-5451 1-800-422-0798**

Pesticide Spills

- Protect yourself and others first (PPE), and administer first aid
  - Different spill = different hazards
- Then respond to the spill, which may be very small to very large

The 3 C's

Control - Contain - Clean up

Control the Spill

- Always wear PPE!
- FIRST stop the leak or spill - CONTROL
  - Upright equipment so it no longer spills
  - Put smaller containers into larger containers
  - Try to plug larger leaks -- get help!

Control the Spill

- Have a cell phone handy!
- Have the label and MSDS available for responders

For Large Spills...

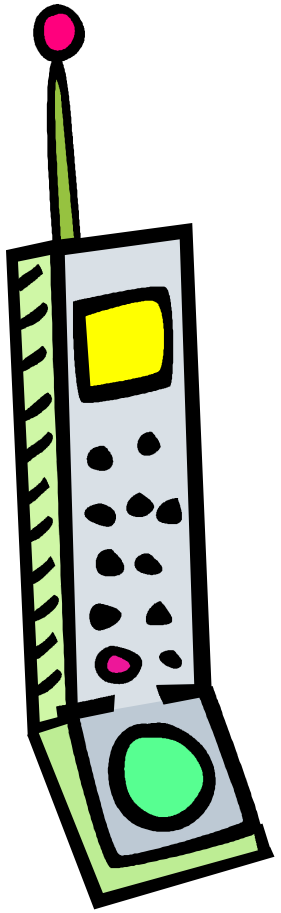
- Send someone to get help
- DON’T leave the site unattended!

For Major Spills, CALL…

Minnesota Duty Officer

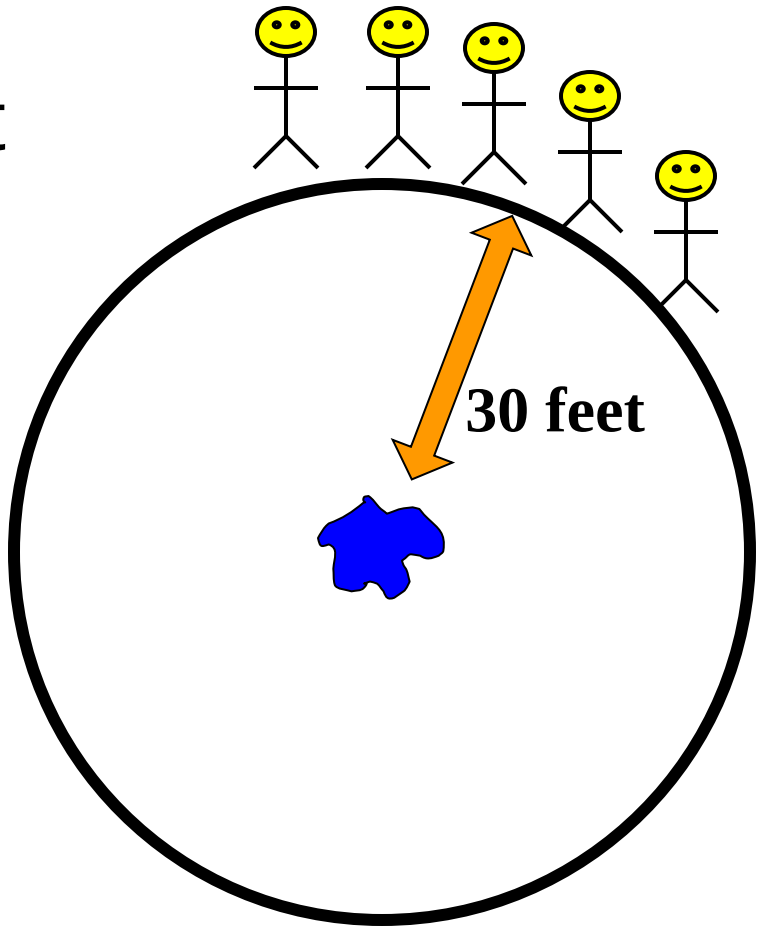
651-649-5451

1-800-422-0798



Control the Spill

- Rope off the area and keep people out!
- Create perimeter > 30 feet away
- Avoid contact with drift, fumes
- Do not use flares if spilled material is flammable!
- Evacuate people from downwind areas



Contain the Spill

- Do everything possible to prevent its spread
- Build a dike or dam
- The spill MUST NOT get into any body of water (including sewers and drains)!!!

Contain the Spill

- If a water body is contaminated, contact the appropriate state agencies immediately!
- Notify local emergency planning coordinator
- DO NOT DELAY-- downstream users must be notified quickly!

Contain the Spill

- Spread absorbent materials over entire spill; absorbent flakes, fine sand, vermiculite, clay, pet litter
- Avoid using sawdust on strong oxidizers
- Pillows, tubes, or pads: offer easy method, but must be disposed of properly
- May be able to apply at labeled or lower rate, no waste generated

Containing Dust, WP, and Granule Spills

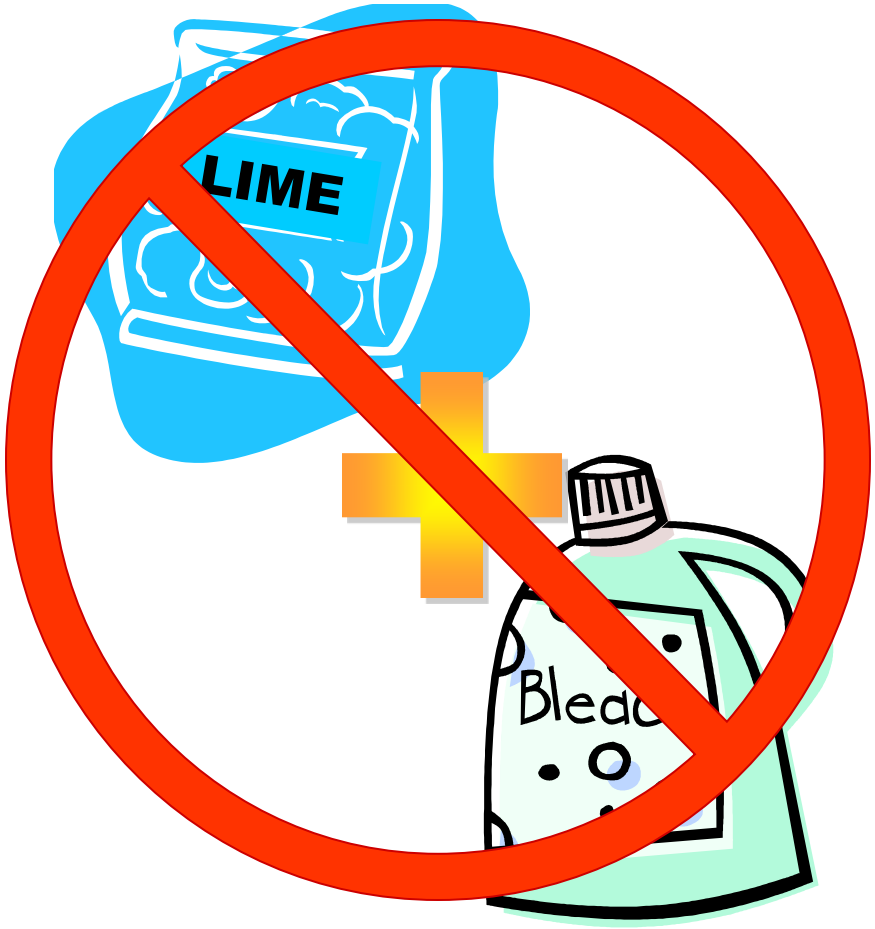
- Lightly mist with water to contain
- Cover with plastic to contain

Clean Up the Spill

- Add absorbent material, sweep it up, and put into a lined drum
- Use 30% bleach or hydrated lime to neutralize the area
- Use a coarse broom to work it into the area

Clean Up the Spill

- Wear protective equipment!
- Do not use lime and bleach together!
- Repeat as necessary!



If soil is contaminated:

- Remove top 2-3 inches of soil
- Dispose of as hazardous waste if you can't dilute it with clean soil and apply to a labeled site
- Cover with 2 inches of lime, then fresh topsoil
- Activated charcoal may be effective for minor spills

Clean Contaminated Equipment

- Wear protective equipment
- Use 30% bleach in water or alkaline detergent
- Do not mix bleach and detergent!

Clean-up

- Discard brooms, shoes, cloth hats
- Don’t save disposables and highly-contaminated clothing
- Wash yourself thoroughly with soap and water

Write Everything Down!

It’s for your own legal protection

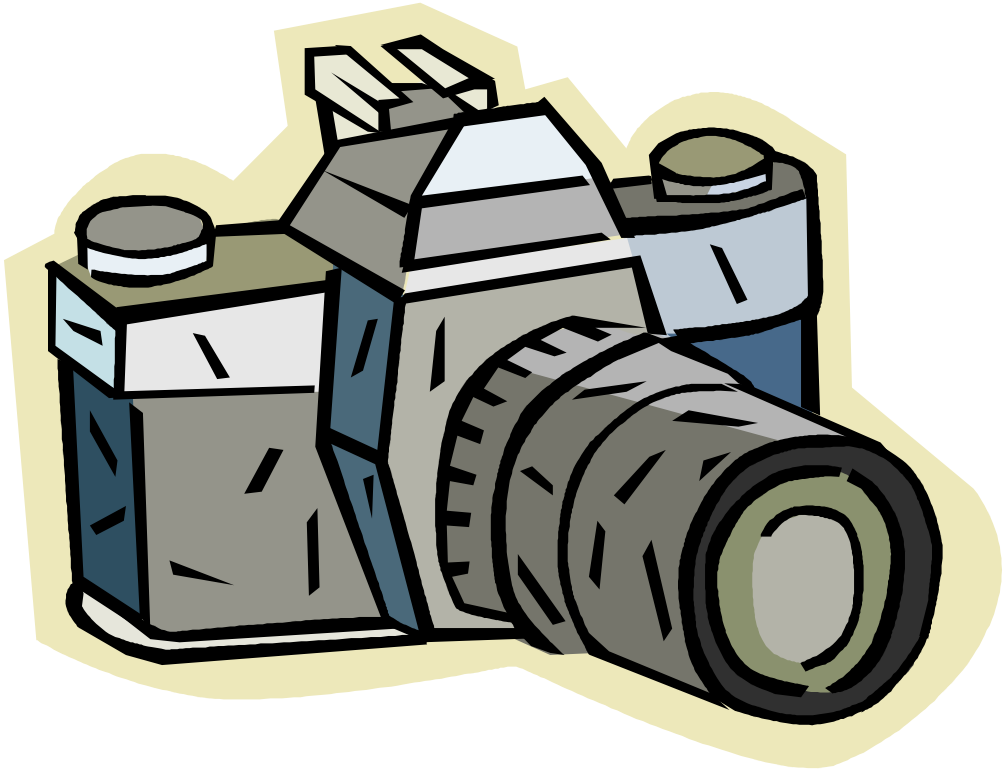
Write Everything Down!

Keep records of activities during the emergency and conversations with regulatory authorities, emergency personnel, and general public

Good documentation is critical

Take photographs!

Capture any damage, as well as the cleanup process



Prevent Spills First

- Inspect and maintain vehicles and equipment
- Understand your spray system thoroughly
- **Be a safe driver!**

Keep a Spill Kit Nearby!

whenever you are handling pesticides, including in storage areas and transport vehicles

A Spill Kit Should Include:

- emergency phone numbers
- personal protective equipment
- absorbent materials: pillows, containment tubes, clay, sawdust, pet litter, activated charcoal, vermiculite
- shovel, broom, dustpan, sweeping compound
- fire extinguisher rated for many chemical fires
- large, sturdy plastic drum

Summary

- Develop an emergency response plan; thoroughly train all employees in its details
- Some pesticides are highly flammable--respond to fires appropriately
- Respond to pesticide spills with the **3 C's**: **C**ontrol, **C**ontain, and **C**lean up spills
- Prevention is the best solution
- Keep spill kits handy!

CHAPTER 9

Q1. When responding to an emergency, the notification call should include what information?

1. Name and callback number of the person reporting the incident
2. Precise location of the incident
3. The exact name, quantity, and classification
4. The extent of any injuries

A. 1 only	C. 1, 2, and 3 only
B. 1 and 2 only	D. 1, 2, 3, and 4

Q2. Concerns from pesticide fires include all of the following except one option. Which option is not a concern with fires?

A. Highly toxic vapors downwind of fire
B. Contaminated runoff from the fire site
C. Back-siphoning into a water supply
D. Pesticide residues in the debris or soil after a fire

Q3. Which of the following should be the first action in response to a pesticide spill?

A. Dispose of contaminated absorbent material
B. Spread absorbent material over the spill
C. Decontaminate the area where the spill occurred
D. Stop the leak or spill