

Storing Pesticides

As soon as pesticides arrive at their destination, they should be properly stored and the area immediately secured. This not only helps discourage theft, but also prevents access to the materials by pets, children, and other persons not trained to use pesticides. Always keep personal protective equipment (PPE) and a hazardous material spill kit. This includes chemical-resistant gloves, coverall and goggles; sorbent pads and absorbent material such as kitty litter; a plastic temporary storage container, and a rated fire extinguisher readily available in or near the pesticide storage area.

When storing pesticides on shelving, place liquid formulations on lower shelves and dry formulations above them. If a liquid formulation container leaks, the dry formulations will not be contaminated. Keeping the liquid containers on lower shelving also helps reduce the risk of accidental spills if the container is knocked off the shelf.

To prevent contamination or accidental use of the wrong chemical, store herbicides, insecticides and fungicides in separate areas within the storage unit. Dry formulations of insecticides or fungicides can become contaminated if stored with certain volatile herbicides and may cause plant injury when used. Treated baits (for rodents, insects, and birds) should not be stored near other chemicals because they can absorb odors and become repellent to the pest.

Always store pesticides in the original container with the label intact. Once a container is opened, the shelf life is considerably reduced. Never store pesticides, for even a short time, in any container other than the original. **Doing so is a violation of the law.** Pesticides in soft drink bottles, fruit jars, milk cartons, margarine tubs or glasses are a common cause of accidental poisonings. Store pesticides away from food, pet food, feed, seed, fertilizers, veterinary supplies and plants.

Check all stored pesticide containers (see *Pesticide Storage Checklist*) for any existing or potential problems, including leaks or spills. Transfer the contents of any leaking container into a container with exactly the same original formulation and label. When this is not possible, put the leaking container with the pesticide into a liquid-proof container and dispose of it at a Clean Sweep site as discussed under disposal of excess pesticides, page 9. If necessary, contact either the pesticide manufacturer or CHEMTREC (800-424-9300) for specific directions.

The pesticide storage location should be a cool, dry, well-ventilated area away from sources of heat or flame. See the pesticide label for specific storage recommendations. Some pesticides can be reduced in effectiveness if they are frozen or overheated. Expansion of pesticides caused by freezing or heating can cause containers to crack or break, resulting in potentially dangerous leaks or spills. Heat expansion of a liquid pesticide also may result in contents that are under pressure. When the container is opened, the pressure may cause an overflow and/or contamination of the user or storage site. Excessively high temperatures (120° F or higher) can also change the effectiveness of a pesticide and may produce dangerous fumes, making the storage area unsafe.

To prepare for pesticide applications, remove the pesticide containers from storage and take them to an open area. Always measure and mix pesticides in a well-lit, well-ventilated location. Regardless of whether they are partially or completely emptied, never leave pesticide containers open or unattended while the pesticide is being applied. Return all containers to storage prior to application to prevent accidental spills, ingestion, or exposure to people, pets, livestock or wildlife.

Mixing and applying pesticides requires detailed attention to label instructions, along with common sense and good judgment. So, too, does pesticide storage. **Being careless or using improper storage procedures is an open invitation to disaster.** While all pesticide labels have a section on their storage and disposal, the guidelines do not answer every question. If you have questions on pesticide storage, contact your local Michigan State University county Extension office.

Be Prepared for Pesticide Spills

Despite all safety precautions, accidents can happen. If a pesticide spills in a storage area, quick action is imperative. **Have a pesticide spill kit on hand** (similar to the hazardous pesticide spill kit described earlier). If a pesticide spill occurs on a public right-of-way, contact the Michigan Department of Agriculture's Agriculture Pollution Emergency Hotline at 1-800-405-0101.

If a pesticide is spilled on a person's body or clothing, the person should leave the area immediately. All contaminated clothing should be removed as

quickly as possible — this is no time for modesty! Wash affected areas of the body thoroughly with detergent or soap and water. In any pesticide contamination incident, follow the instructions given in the label's first-aid treatment guidelines. If the label is not available or if there are further questions, seek medical attention. If necessary, contact Poison Control at 1-800-222-1222.

If toxic fumes are present at the spill site, evacuate persons and animals from the immediate area. In addition, secure the area until qualified rescue personnel, with proper protective equipment, arrive at the scene. Except for a small, properly equipped cleanup crew, don't allow anyone to enter the area until it is thoroughly decontaminated.

Spilled pesticides must be contained. If the pesticide starts to spread, contain it by diking with soil or sorbent materials, if this can be done safely without contacting the pesticide or breathing the fumes. Never hose down a contaminated area. This will cause the pesticide to spread and infiltrate into the soil, possibly reaching ground water. If the spill is liquid, use activated charcoal, absorptive clay, vermiculite, pet litter, or sawdust to cover the entire spill area. Sufficient absorbing materials should be used to completely soak up the liquid. The material then should be swept or shoveled into a leakproof drum. Dispose of this material as you would the pesticide involved.

Always refer to the product label and, if necessary, contact either the Michigan Department of Agriculture's Agriculture Pollution Emergency Hotline at 1-800-405-0101 or the chemical manufacturer for information about the appropriate neutralizing materials to be used following a pesticide spill. As a precaution, it is wise to read all product labels thoroughly at the time of purchase and/or delivery to be able to deal quickly and safely with any pesticide emergency.

Pesticide Storage and Spill Reporting

The Superfund Amendments and Reauthorization Act (SARA) amended the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). One part of the provisions, the Community Right-to-Know Act (Title III), established new lists

of "Extremely Hazardous Substances" (EHS) and "Toxic Chemicals" for additional notification and reporting requirements. It also added new reporting requirements for the CERCLA list of "hazardous substances." Michigan State University Extension Bulletin E-2575, Emergency Planning for the Farm, helps farmers comply with SARA Title III.

SARA Title III established threshold planning quantities (TPQ). Any facility that produces, uses or stores these Extremely Hazardous Substances (EHS) in amounts equal to or in excess of the threshold planning quantities has reporting and notification obligations under section 302 of SARA Title III (40 CFR Part 355). If the facility produces, uses or stores hazardous chemicals or Extremely Hazardous Substances exceeding the designated amounts (10,000 pounds for hazardous chemicals and either 500 pounds or the threshold planning quantities, whichever is lower, for Extremely Hazardous Substances), they must submit specific information to state and local officials as defined in sections 311 and 312 of the Act (40 CFR 370).

In addition, owners and operators of most business facilities must report spills or releases of CERCLA hazardous substances and Extremely Hazardous Substances to state and local authorities (section 304, 40 CFR 355). If the spill occurs while in transport, the notification can be made either by the owner or the operator of the motor vehicle. Report spills and releases to the Michigan State Patrol (517-336-6605) or the 911 emergency operator.

Pesticide Storage Site Selection

Several points must be considered when selecting the site for pesticide storage. One of these factors is well location. Pesticide storage sites must have an isolation distance of 150 feet from wells and 200 feet from surface water (Michigan Clean Water Act). Locating storage facilities away from dwellings and livestock facilities will minimize possible contamination.

The site also should be in an area where flooding is unlikely. It should be where runoff can be diverted and drainage from the site cannot contaminate surface or ground water.

The drainage system for a pesticide storage facility must not be connected to the wastewater sewer or septic tank. Pesticides that may be present in tank rinsate, spills, seepage from storage and heavy runoff must be controlled in the event of fire or flooding. Dikes, collecting pools, and washing slabs with sumps provide a proper drainage system. All of the collected runoff water should be treated as a surplus pesticide and disposed of properly.

Storage Area

Depending on inventory size, a separate building, room or enclosure may be best for pesticide storage. If the inventory is not large enough to warrant a separate facility, enclose the storage area on the first floor of an existing building. In either case, store pesticides and pesticide containers in a fire-resistant structure having good ventilation and a sealed, concrete floor that drains into secondary containment.

Weatherproof signs, stating “Danger - Pesticides - Keep Out - No Smoking” or a similar warning, should be posted on each door and in any windows of the facility. In some cases, it may be advisable to post the warning signs in one or more languages in addition to

English. The name, address and phone number of an emergency contact person also should be posted at the primary entrance of the storage area. Regardless of whether it is a cabinet, room or an entire building, the pesticide storage area should be lockable to prevent unauthorized entry and should only be used for pesticides and pesticide equipment.

An electrically shielded exhaust fan may be needed in a confined storage area to reduce the temperature and concentrations of toxic fumes. The fan should be installed so that fumes can be vented outdoors without endangering people, animals or plants in the area.

Whenever large quantities of pesticides must be stored, it is strongly recommended that fire detection sensors and fire-fighting equipment be provided. It is also a good idea to provide the local emergency response coordinator with a floor plan, records related to the storage location, and an annual inventory of the pesticides and containers in storage.

Wooden pallets or metal shelves must be provided for storing granular and dry formulations packaged in sacks, fiber drums, boxes or other water-permeable containers. If metal pesticide containers are stored for a prolonged period, they should be placed on pallets, rather than directly on the floor, to help reduce potential corrosion and leakage.



Danger! Pesticide storage sign.