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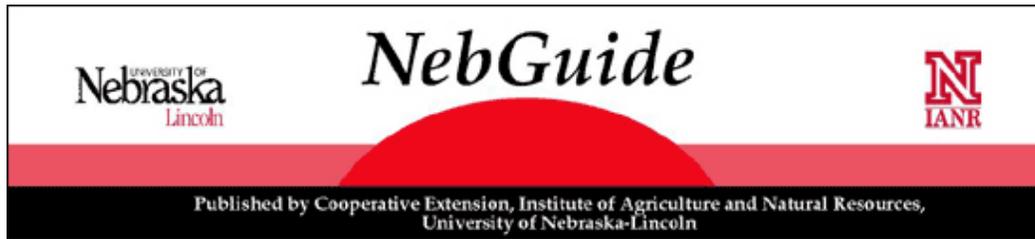


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Hazardous Waste Management Requirements for Pesticide Applicators

This NebGuide is to inform Nebraska pesticide applicators about selected provisions of federal and state hazardous waste laws and regulations.

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- [Pesticides¹ currently on List I \(EPA-designated "P" List\)](#)
- [Pesticides on List II \(EPA-designated "U" List\)](#)

Congress passed the Resource Conservation and Recovery Act (RCRA) because of widespread indiscriminate disposal of hazardous chemicals. Under provisions of that law, the U.S. Environmental Protection Agency (EPA) has established national standards for proper management of hazardous wastes. "Management," as EPA uses the term, includes generating, transporting, storing, treating and disposing of hazardous waste.

The EPA has defined hazardous waste as "...any solid, liquid, or contained gaseous material that you no longer use, and either recycle, throw away, or store until you have enough to treat or dispose of." Clearly, many pesticides come within the scope of that definition. Any chemicals, including pesticides, that might cause injury or death or pollute air, land or water, are therefore regarded as being hazardous. Applicators who use such pesticides may be affected by RCRA and related EPA and state regulations. The Department of Environmental Control is responsible for administering and enforcing hazardous waste laws and regulations for the State of Nebraska.

EPA designates as "hazardous waste" any chemical that has one or more of these four characteristics: ignitability, corrosivity, reactivity or toxicity. Most pesticides categorized by EPA as hazardous waste are so classified because of their toxicity. A second way a chemical can be brought into the hazardous waste regulatory system is by listing -- i.e. EPA makes an administrative decision that the chemical may pose an unreasonable risk to health or the environment.

Two hazardous waste lists published by the EPA in the Code of Federal Regulations pertain to pesticide applicators. Chemicals on List I are identified as "acute hazardous wastes." Each has a hazardous waste number having the prefix "P." Chemicals on List II are referred to in federal regulations as "toxic wastes." The hazardous waste numbers of chemicals on this list have the prefix "U."

Use all pesticides safely. Read the pesticide label completely and comply with all directions. Failure to do so may subject you to sanctions or penalties provided by federal and/or state laws.

Pesticides¹ currently on List I, the "Acute Hazardous Waste" list (EPA designated "P" List), are:

- Acrolein
- Aldicarb (Temik)
- Aldrin
- Allyl alcohol
- alpha-Naphthylthiourea
- Aluminum phosphide (hydrogen phosphide)
- Arsenic acid
- Arsenic pentoxide
- Arsenic trioxide
- Avitrol (4-alpha-aminopyridine)
- Calcium cyanide
- Carbon bisulfide
- Carbon disulfide
- Cyanides
- Cyanogen chloride
- Dieldrin
- Dimethoate
- Dinoseb
- Disulfoton
- Endosulfan
- Endothal
- Endrin
- Famphur
- Fluoroacetamide (1081)
- Fluoroacetic acid (1080)
- Heptachlor
- Hexaethyl tetraphosphate
- Hydrocyanic acid
- Hydrogen cyanide
- Isodrin
- Methomyl
- Methyl parathion
- Octamethylpyrophosphoramide (Schradan)
- Parathion
- Phenylmercury acetate
- Phorate
- Phosphine
- Sodium azide
- Sodium cyanide
- Strychnine (and salts)
- Tetraethylpyrophosphate (TEPP)
- Thallium sulfate
- Thiofanox
- Toxaphene
- Warfarin > 0.3%
- Zinc Phosphide > 10% (zinophos)

¹The official list of hazardous waste pesticides is published in the Code of Federal Regulations (40 CFR Part 261) and Title 128, Chapter 15 of the Nebraska State Regulations. The list is subject to periodic change. For more detailed information on provisions of the EPA and state hazardous waste regulations and current lists of pesticides identified as hazardous waste, please contact the Nebraska Department of Environmental Control, 301 Centennial Mall South, P.O. Box 94877, Statehouse Station, Lincoln, Nebraska 68509, (402) 471-2186.

Pesticides on List II (EPA-designated "U" List) are:

- Acrylonitrile
- Amitrol
- Cacodylic acid
- Carbon Tetrachloride
- Chlordane
- Chlorobenzene
- Chloroform
- Creosote
- Cresols
- Cresylic acid
- Cyclohexanone
- Cyclophosphamide
- 1,2-Dibromo-3-chloropropane (DBCP)
- DDD (TDE)
- DDT
- Diallate
- Formaldehyde
- Hexachlorobenzene
- Hexachlorophene
- Kepone
- Lindane (hexachlorocyclohexane)
- Maleic hydrazide
- Mercury
- Methoxychlor
- Methyl alcohol
- Methyl bromide
- Methyl chloride
- Methylchloroform (trichloroethane)
- Methylene chloride
- Naphthalene
- Pentachloronitrobenzene (PCNB)
- Pentachlorophenol (PCP)

- o-Dichloroberzene
- m-Dichlorobenzene
- p-Dichlorobenzene
- Dichloroethyl ether
- 2,4-Dichlorophenoxyacetic acid
- 1,3-Dichloropropene
- Dimethyl phthalate (DMP)
- Ethyl 4,4'-dichlorobenzilate (chlorobenzilate)
- Ethylene dibromide
- Ethylene dichloride
- Ethylene oxide (oxirane)
- Phenol (carbolic acid)
- Pronamide (Kerb)
- Propylene dichloride
- Silvex
- Tetrachloroethylene
- Thiram
- Warfarin < 0.3%
- Zinc phosphide < 10%
- 2,4,5-Trichlorophenoxyacetic acid
- 2-(2,4,5-Trichlorophenoxy) propionic acid

Pesticide wastes composed of chemicals on both Lists I and II are regarded as hazardous. However, EPA considers pesticides on List I ("P" list) to be so dangerous in small amounts that they are regulated the same way as are larger amounts of List II ("U" list) wastes. A pesticide applicator can fall into one of the three categories of "hazardous waste generator" depending on the **type** and **amount** of hazardous waste generated (accumulated or disposed of) in any given calendar month.

Most private applicators and some commercial applicators will be "conditionally exempt small quantity generators." Persons and firms in this category can generate (i.e. accumulate for disposal or dispose of) no more than 220 pounds (100 kg or 25 gallons) of List II ("U" list) hazardous waste and no more than 2.2 pounds (1 kg or approximately one quart) of List I ("P" list) acute hazardous waste in any calendar month.

To comply with federal and Nebraska hazardous waste laws, "conditionally exempt small quantity generators" must fulfill three requirements:

1. Identify all hazardous waste you generate.
2. Send this waste to a landfill or other facility approved by the state for industrial or municipal wastes, or to a hazardous waste facility.
3. **Never** accumulate more than 220 lbs (200 kg) of hazardous waste on your property.

The EPA has established a separate category for those who generate more than 220 lbs but less than 2,200 lbs of List II ("U" list) hazardous waste in a calendar month. (This equates to approximately 25-250 gallons of liquid waste.) Persons and firms in this "100-1,000 kg/mo" category must NOT generate more than 2.2 lbs of List I ("P" list) acute hazardous waste during the calendar month or they are fully regulated. Federal and Nebraska hazardous waste management rules for this category require that you observe the following procedures:

1. Determine the type and amount of hazardous waste you generate.
2. Complete and return a Notification of Hazardous Waste Activity to the Nebraska Department of Environmental Control to be assigned a DEC/EPA identification number.
3. Store your hazardous waste in properly labeled, closed containers and inspect the containers weekly pending disposal; dispose of the waste within 180 days.
4. Complete a Hazardous Waste Manifest (federal Office of Management and Budget Form No. 2050-0039) before shipping your hazardous waste. (Both transporter and receiver of the waste also must be registered with DEC and EPA.)
5. Submit an annual report to DEC and keep copies for three years.
6. If you have employees, familiarize them with proper waste handling and emergency procedures and designate one as an emergency coordinator in case of fires or spills.
7. Maintain your "Small Quantity" generator status by **never** accumulating more than 2,200 lbs (1,000 kg or approximately five full 55-gallon drums) of List II ("U" list) hazardous waste at any time and no more than 2.2 lbs (1 kg) of List I ("P" list) acute hazardous waste in any calendar month.

(**Note:** Limitations in Nebraska on the amount of hazardous waste which an applicator can accumulate are more stringent than the limitations provided in federal laws and regulations. Laws in some other states also may vary from federal standards on weight accumulations, time limits, and other provisions. Pesticide applicators who operate in other states should therefore check with regulatory officials in those states to be certain they remain in compliance.)

If within a calendar month you generate -- i.e. accumulate for disposal or dispose of -- 2,200 lbs (1,000 kg or 300 gallons) or more of List II ("U" list) hazardous waste, you are required to comply with all applicable hazardous waste management rules. Those same rules apply if you generate more than 1 kg of List I ("P" list) acute hazardous waste in any calendar month.

To comply with all hazardous waste management regulations, a "generator" must fulfill all the requirements listed above for generators of 100-1,000 kg/mo. In addition, there are three additional requirements:

1. Provide all employees with a training program conducted under the direction of a person trained in hazardous waste management procedures.
2. Prepare for possible emergencies such as fires or explosions by installing emergency alarms and equipment and arranging with local officials to ensure they'll be able to respond to an emergency.
3. Prepare a contingency plan to be implemented in case of an emergency.

Combinations of two or more hazardous/toxic materials from either List I or II may also be a concern for pesticide applicators. For example, if the combined weight of three List I ("P" list) acute hazardous waste chemicals exceeds 2.2 lbs (1 kg), the waste must be disposed of in full compliance with EPA and state regulations.

Once an applicator exceeds the allowable weight exclusion for **either** List I or List II waste, any additional amount of waste accumulated or disposed of is subject to the more restrictive regulation regardless of the list on which it appears.

Some pesticides may be hazardous wastes either by themselves or in combination with other substances that are not normally hazardous. Combinations of hazardous with nonhazardous materials are mixtures. Accumulations of waste mixtures including soil and cleanup materials that equal or exceed specified concentrations and 220 lbs in a single month are considered hazardous waste. The total weight of the mixture must be considered in determining the amount for disposal. Examples of specified concentration limits are shown below:

<i>Chemical</i>	<i>Concentration</i>
Endrin	0.02 ppm*
Lindane	0.40 ppm
Toxaphene	0.50 ppm
Silvex	1.00 ppm
2,4-D	10.00 ppm
Methoxychlor	10.00 ppm

*parts per million

Combinations of pesticides other than the hazardous/nonhazardous materials may also be regulated. If you are managing waste that contains a combination of pesticides, contact the Nebraska Department of Environmental Control for proper disposal procedures.

Regulated disposal also may be required if a List I hazardous waste chemical is accidentally spilled. The regulations apply whenever the combined weight of the pesticide residue, absorbants used in cleanup, and contaminated soil and/or water equals or exceeds 220 lbs.

A farmer is excluded from this law when he buys for his own use, uses, and disposes of hazardous materials on his farm. It is the farmer's responsibility to ensure that all of the pesticide remains on his property and does not make its way to either ground or surface water or neighboring farms. A private applicator (farmer) may not dispose of someone else's pesticide waste unless a disposal permit is obtained.

A commercial applicator who applies a pesticide for a farmer is allowed to dispose of waste pesticide on the property of the farmer for whom the application was made. The rinsate must be applied to a site for which the pesticide is listed. In addition, the rinsate must be disposed of after each individual job. Specifically, it would be a violation to apply a pesticide for Farmer Smith, proceed to the property of Farmer Jones, and apply the same pesticide and then apply pesticide waste on the property of Farmer Jones.

All pesticide containers that are not combustible should be triple rinsed using sufficient quantities of water to insure thorough cleansing. Rinsates should be used in accordance with label directions for the pesticide or disposed of properly. Triple-rinsed containers are not hazardous waste, but their disposal should follow the guidelines for all pesticide containers.² The new labels on pesticides that are hazardous chemicals provide instructions for proper disposal of decontaminated containers. Even though pesticide residues and containers may not be considered hazardous under provisions of the federal law, they should still be disposed of in accordance with Nebraska's rules and regulations pertaining to the management of waste. You will not be regulated by the federal hazardous waste law if you comply with one or more of the following guidelines listed below.

1. Do not use a pesticide on the hazardous list.
2. Do not accumulate for disposal, or dispose of, a quantity that exceeds the limits established by the EPA or the State of Nebraska, and follow proper procedures for disposal of small quantities.
3. Triple rinse noncombustible containers with ample quantities of water.
4. Apply any excess pesticide and rinsate according to label instructions.
5. Properly store unused pesticides in the original containers for application later.
6. Mix pesticides carefully so all will be applied without any excess.

²For more information, see NebGuide G79-472, *Disposal of Pesticide Containers*.

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