



Assessing Your Hazardous Waste Management

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The goal of this *Farm•A•Syst* factsheet is to help you protect and improve the groundwater that supplies your drinking water as well as the ponds, lakes, rivers, and streams that make Tennessee beautiful.

The following questions are designed to help you pinpoint potential problem areas on your farmstead.

These problem areas may contribute to the contamination of your drinking water if they are not managed properly.

If your answer to any of these questions is **YES**, or if you don't know the answer, you may have a high-risk situation in your home or on your farmstead. Refer

YES NO

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<input type="checkbox"/> | <p>1. Do you burn mixed trash (trash that includes not only easily combustible dry materials like paper or untreated wood, but also plastics, glass, metal, or chemicals) on your farm?</p> <p>2. Do you dispose of ashes from burning mixed trash within 100 feet of your well?</p> <p>3. Do you apply or dispose of building/woodworking products like adhesives, caulks, cleaners, strippers, paints, or stains within 100 feet of your well?</p> <p>4. Do you dispose of partially filled pesticide containers on your farm?</p> <p>5. Do you dispose of unused banned pesticides on your farm?</p> <p>6. Do you frequently flush vehicle-maintenance drips and spills onto your property within 100 feet of your well?</p> <p>7. Do you dispose of vehicle-maintenance chemicals such as used antifreeze, waste oil, solvent/parts cleaners, rust-removal products, or lead-acid batteries within 100 feet of your well?</p> <p>8. Do you store hazardous chemicals within 100 feet of your well, or in a place without good ventilation?</p> |
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to the fact section with the same number as that question (under the heading, “What you should know about . . .”) for more information.

Don’t be alarmed if you answered *YES* to many or even all of these questions. That does not automatically mean you have a water-quality problem. It may, however, tell you that change is needed to avoid potential problems. In the same way, answering *NO* to every question does not mean you are *not* at risk.

Why should you care?

Groundwater is the underground water that supplies wells and springs and recharges surface water bodies. It is the source of drinking water for many Tennesseans. Up to 20 million gallons of groundwater may be stored under the typical farmstead—stored within 100 feet below fertilizer and pesticide storage areas, fuel tanks, livestock pens, and septic systems, all potentially major sources of pollution. The management decisions you make on your farmstead can significantly affect the quality of your drinking water and your family’s health. These decisions can also affect your potential legal liability and the value of your property.

Surface water includes bodies such as ponds, lakes, rivers, and streams. Besides their aesthetic and recreational value, they are often an important source of drinking water for livestock.

Hazardous wastes are materials that can cause personal injury or illness during normal handling or use. They include flammable, corrosive, explosive, reactive, toxic, and radioactive substances. Labels on hazardous products will read *Caution*, *Warning*, or *Danger—Poison*, depending on the degree of the hazard.

Chances are, many products that you use around your home or farmstead are classified as hazardous, even though you may not consider them dangerous to your health. Common products such as paints, solvents, oils, cleaners, wood preservatives, batteries, adhesives, and pesticides are classified as hazardous because they require special considerations for safe disposal. Both minimizing the amounts of these substances used on the farm and disposing of them correctly reduce the chances of contaminating groundwater and harming your health.

Tennessee law does not regulate the disposal of household hazardous waste, but certain pesticides from farming activities must be disposed of with a licensed hazardous-waste contractor. For a list of materials classified as hazardous under Tennessee law, contact the hazardous-waste section of the Tennessee Department of Environment and Conservation, Division of Solid Waste, at (615)532-0780.

Improper storage and use of hazardous chemicals can cause leaks or spills which threaten both the purity of the groundwater supplying the area’s wells and the surface-water resources nearby. Improper disposal may not only pose a risk to surface and groundwater, but may also be illegal. Awareness of the potential hazards of these common products will help you to store, use, and dispose of them safely.

Farm•A•Syst is only for your own use and benefit. It is a voluntary program intended to provide general information about protecting and improving water quality. Information from a *Farm•A•Syst* assessment will not be collected by Extension or any other outside agency and should remain in your private records.

What you should know about . . .

1. Burning trash

Burning is a traditional way to dispose of trash on the farm. However, health and liability concerns about the consequences of burning waste make new approaches to trash disposal necessary.

While burning may destroy some toxic substances, others become concentrated in the resulting smoke, ash, and sludge, which can pollute groundwater. Repeated burning in the same location under similar weather conditions may cause the toxic substances in smoke (especially heavy metals such as lead, mercury, and arsenic) to accumulate in a concentrated area around the burn barrel. This can cause groundwater contamination. Spreading or burying ash and sludge also poses a risk to groundwater.

Burning on the farm, when it is permitted by local ordinance, should be limited to crop residues and easily combustible dry trash like brush, paper, and clean wood. These should be burned outdoors or in a well-ventilated area to prevent the inhalation of smoke.

The burning of any other materials in the open air, including pesticide containers, requires a permit from your area's Air Pollution Control office.

It is illegal to burn tires or shingles in the open air in Tennessee. These materials should be burned in incinerators, boilers, or, occasionally, air-curtain destructors, depending on the situation.

2. Ash disposal

If you dispose of ash or sludge from burning mixed wastes within 100 feet of your drinking-water well, you face a serious risk of contaminating your water supply.

Ash from burning hazardous waste should be collected and disposed of at a licensed landfill or municipal incinerator. Only ash produced from dry combustibles can be safely spread on fields.

3. Building/woodworking-product disposal

Disposing of solvent-based wood cleaners or equipment-maintenance and building products (such as wood polishes, glues, cleaners, strippers, thinners, oil-based paints, stains, and finishers) in a septic system can damage the system by killing the organisms that break down waste. This results in chemicals moving directly into the soil, where they can **leach** (move *with water* through the soil) to groundwater. Dumping the chemicals on the ground, especially within 100 feet of your well, can also result in groundwater contamination.

The best way to dispose of these products is to use up the leftovers completely, or to share the unused products with others. Some leftover household products, such as paints or adhesives, can be evaporated in the open air. Some, such as paint thinners, can be filtered and reused. Any liquid or sludge that remains after using such methods should be stored and disposed of through a waste recycling program, a licensed landfill, or a waste contractor.

Because of the volume of building and equipment-maintenance products used on the farmstead, even small leaks or spills can accumulate and contaminate groundwater. Avoid using them within 100 feet of your well, and use some form of containment for leaks or spills.

4. Pesticide-container disposal

The on-site disposal of any partially filled container containing a potentially hazardous substance, whether it be a pesticide or an oil or a household cleaning product, poses a risk to groundwater. Discarded containers can leak. If you dispose of such containers within 100 feet of your well, you face a serious threat to your drinking-water supply.

Pesticides are hazardous substances for which only two acceptable management practices exist. One is to use the pesticide completely according to the label directions and dispose of the container properly; the other is to arrange for disposal of the leftover chemicals with a hazardous-waste contractor.

Pesticides come in both plastic and paper containers. Empty paper containers should be bundled and taken to a licensed solid-waste facility. Empty plastic containers should be returned, if possible, to the place of purchase for disposal or recycling. If your supplier does not provide such a service, triple-rinse the containers, return the rinse water to the spray tank, apply it to the appropriate crop, and take the rinsed containers to a licensed landfill.

5. Banned-pesticide disposal

The disposal of unused banned pesticides on your farm can not only contaminate groundwater, but can make you legally liable for the contamination. It is legal in some cases to use the leftover banned pesticide you have, but not in others. Ask your chemical supplier for information concerning a particular pesticide.

If it is legal for that particular chemical, use up all the leftover pesticide on the appropriate crop. However, when the EPA bans a pesticide, it often provides a buy-back and disposal program for a certain period of time. For more information, call the Tennessee Department of Agriculture, Division of Plant Industries, Pesticide Registration, at (615)360-0130. If you are unable to participate in such a program, use a hazardous-waste collection service to dispose of the excess chemical.

6. Vehicle-maintenance-chemical application and cleanup

The proper application and cleanup of vehicle-maintenance products—which include antifreeze, oil, grease, solvents, lubricants, rust-removers, oil-based paints, stains, finishers, thinners, brush/spray-gun cleaners, and lead-acid battery replacement—is the first

step in keeping them from contaminating your groundwater. If you use these products on a **permeable** (non-waterproof) surface near your well, or flush them frequently onto soil, you may cause contamination of your well water.

Use vehicle-maintenance products on a paved area more than 100 feet from your well. Dispose of applicators or drop cloths at a licensed landfill or municipal incinerator.

If you clean your equipment maintenance area by flushing it, you need a system to contain waste liquids so that they will not be flushed onto soil. Flush to an outdoor paved area if possible. Another alternative is to use a layer of absorbent material like sawdust to absorb drips and spills. Dispose of the absorbent material at a licensed landfill after allowing it to dry in the open air; never burn it.

7. Vehicle-maintenance-chemical disposal.

Vehicle-maintenance products should not be dumped near your well.

Good recycling opportunities exist for both solvents and waste oil. Consider contracting with a solvent recycler, who can give you new solvent for your old. To recycle waste oil, take it to an oil recycling center or contact a waste-oil contractor. Land-spreading of waste oil for dust or weed suppression should be avoided. For the location of the recycling center nearest you, call toll-free (800)287-9013.

Antifreeze may be disposed of in a municipal sewer system if it is not prohibited by a city ordinance; contact the city before disposing of your antifreeze this way. Never dump antifreeze down your own drain if you have a septic tank. It can kill the organisms that break down waste in the system. The best disposal solution is always to take the antifreeze to a recycling center.

If you paint a lot of vehicles or farm equipment, consider using a paint booth, which is often structured to collect excess paint and spray-gun cleaners for later disposal by a solvent recycler. Filters used with a paint booth must be handled as hazardous waste when discarded.

All other vehicle-maintenance products should be disposed of through a hazardous-waste recycler or taken to a licensed landfill.

8. Hazardous-chemical storage.

If it is not possible to use up all hazardous products yourself or share them with others, then they have to be stored. Be sure to locate any chemical storage area at least 100 feet from your well. Dike the area to prevent well contamination from spills if the volume of the stored products exceeds ten gallons.





The floor of the storage area should be concrete or asphalt, but keep in mind that spilled solvents can penetrate either surface and should be cleaned up immediately. Rags used to clean up solvent spills may be a fire hazard and should be disposed of by allowing the liquid to dry and then burning the rag. Depending on the amount of material to be burned, this may require a permit.

If a storage area is not adequately ventilated, not only can you damage your health by breathing the chemical fumes, but you also increase the risk of igniting highly flammable chemicals. A fire in a chemical storage area, besides posing immediate dangers to you and your family, presents the additional risk of groundwater contamination from chemical runoff. Generally, if you can smell the chemicals, ventilation in your storage area is inadequate. Flammable chemicals should also be kept out of direct sunlight.

Be sure the storage area provides space to separate flammables, poisons, and corrosive wastes in order to avoid chemical interactions.

Hazardous wastes should be stored in closed containers until they can be disposed of properly. The containers should be labeled "hazardous waste," followed by the name of the waste and the date you store it.

Remember:

-  Use hazardous products at least 100 feet from your well, downhill when possible, even when all spills and drips will be contained.
-  Use spilled chemicals or excess products instead of disposing of them.
-  Limit burning on the farm to dry combustibles like brush, paper, and building materials.
-  Do not burn tires on the farm.

- On the farm site itself, dispose only of organic wastes that will decompose.
- Take plastic, glass, or metal trash to a recycling facility. If one is not available, take this kind of trash to a licensed landfill or municipal incinerator.
- Dispose of household hazardous wastes (plastic wraps and containers, spot removers, nail polish, shoe polish, lawn chemicals, air fresheners, etc.) through a hazardous-waste collection program, if possible.
- Use up leftover products or share unused portions with others.
- Return pesticide containers to the place of purchase or dispose of them through a hazardous-waste contractor.
- Never dump any hazardous waste down your drain.
- Building / woodworking chemicals and vehicle-maintenance chemicals should be either recycled or disposed of through a waste-collection program, a licensed landfill, or a hazardous-waste contractor.
- If you flush your maintenance area, flush to a *paved* outdoor area.
- Use sawdust to soak up spills during the application of chemicals, and then dispose of the sawdust at a licensed landfill.
- Store hazardous chemicals in a well-ventilated area away from flames at least 150 feet from your well.
- Keep chemicals separate and labeled.

If you want more information . . .

Contact:

- Your county Extension office
- Tennessee Department of Environment and Conservation
Division of Solid Waste
401 Church Street
L&C Tower, 5th Floor
Nashville, TN 37243-1535
(615)532-0780

- Tennessee Department of Agriculture
Division of Plant Industries, Pesticide Registration
(615)360-0130
- Tennessee Environmental Lead Hazard Reduction Program
(lead paint removal / disposal)
(615)532-8011
- Used Oil Collection Program Hotline
(800)287-9013
- Air Pollution Control Hotline
(800)511-7991

Read:

Proper Disposal of Used Motor Oil. SP 268-J.

This publication is available from your University of Tennessee Agricultural Extension Service county office.

Download:

These sites on the World Wide Web (WWW) are good places to start when browsing the Internet for information about water quality:

- <http://funnelweb.utcc.utk.edu/~utext>
(University of Tennessee Agricultural Extension Service)
- <http://www.epa.gov>
(U.S. Environmental Protection Agency)
- <http://www.usda.gov>
(U.S. Department of Agriculture)
- <http://h2o.usgs.gov>
(U.S. Geological Survey)
- <http://www.dtnsh.er.usgs.gov>
(Tennessee division of USGS)
- <http://hermes.ecn.purdue.edu:8001/server/water/water.html>
(National Extension Water Quality Database Website, Purdue University)

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Agricultural Extension Service

Billy G. Hicks, Dean