

OKLAHOM*A*SYST

Home*A*Syst Home Assessment System



This assessment helps you identify risks to the environment and to your family's health due to storage and handling of fuels.

Portable Fuel Containers

Fuel stored in portable containers and in the gas tanks of gas-powered machines is a potential risk to ground water and surface water. If you own any of the following machines or items listed below, this assessment applies to you.

- Lawn mower
- Snowmobile
- Motorcycle
- Weed trimmer
- Indoor space heater
- Auxiliary generator
- Snow blower
- Chain saw
- Camp stove
- Yard blower
- Space heater
- Motor boat

Large Fuel Tanks

*Larger tanks pose greater risks. If your home or business has above-ground, basement, or underground fuel tanks or inactive tanks, turn to the Farm & Ranch*A*Syst worksheet #4.*

Liquid Fuels: Safe Management of Gasoline, Diesel, and Other Fuels

Assessment Worksheet #4

What are the environmental and health concerns?

You may not have thought much about how you store gasoline and other fuels on your property. If you are like most people, you have at least one fuel-burning device, such as a lawn mower, and you probably keep fuel in portable containers. You also may have larger quantities of fuel kept in underground, basement, or above-ground storage tanks.

Fuels are hazardous materials. Spillage and leakage can pollute the water you drink and the air you breathe. It is critical to prevent repeated spills and leaks. Fuel leakage can quickly contaminate ground water with toxic compounds such as benzene, which is known to cause cancer. You cannot depend on taste or smell to alert you about fuels in your drinking water. Sources may not be obvious, particularly forgotten underground tanks on the property.

Contaminated soil and water can rob your property of its value, trigger environmental liability and costly cleanups, and drive away lenders and property buyers. Fuel vapors can ignite fires or collect underground and explode. A ground water leakage plume can extend for great distances.

Storing fuel in large tanks can pose a greater risk of contamination than small quantities stored for power equipment. Fuel storage in any amount increases the environmental risks around your home.

This worksheet can help you evaluate liquid fuel management practices, identify areas of risk, and develop an action plan to reduce or eliminate potential problems. Improving fuel storage and management has many payoffs. It protects the health of your family, your community, and the environment. Improved management can also safeguard your biggest investment—your home.

How much fuel do you buy and use?

Purchasing and storing small amounts of fuel and limiting the duration of storage is best. This means buying the smallest quantity needed for use in a lawn mowing season (6 months or so). Do you have more than a gallon of leftover fuel at the end of a season? Next time, buy less and pour the excess into your car's gas tank or give it to someone who can use it. Dilute one part old fuel with at least five parts new fuel to protect your engines.

Do you store fuels only in approved containers?

It is important to use only safe, approved containers for fuel storage. Containers that are UL-approved (red for gasoline, blue for kerosene and diesel) can be purchased in places as convenient as your local hardware store. The container should be clearly labeled to identify its contents and fitted with a spout or other device to allow pouring without spilling. Storing fuels in uncovered or unapproved containers is dangerous. For an extra measure of spill protection, fuel containers can be kept inside a bucket to contain any leaks.

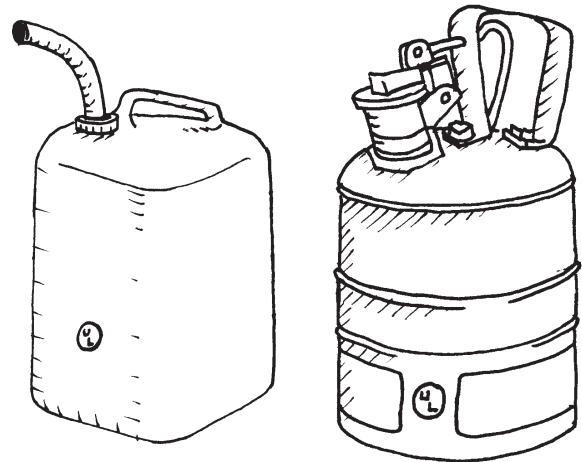
Are containers kept in a well-ventilated, safe place?

To avoid fuel vapors which pose as a health hazard and fire danger, keep fuel containers and fuel-powered devices in secure, well-ventilated places. Storage in an unattached shed or garage is safer than storage in a garage attached to your home

or in a basement. Keep containers off the floor where they can be damaged by your car. Keep them out of reach of children and make sure the lids are tight to prevent easy access.

Do you check on your fuels or machinery regularly?

Periodically check for leaks from storage containers and fuel-driven devices, especially if they have not been used for some time. A small leak can add up over time. You can keep on top of things with regular inspection and maintenance. Always recycle or safely dispose of engine maintenance products. (See *Worksheet #5, Managing Hazardous Household Products.*)



Assessment 1

Check all the places where you store fuels, such as a garage, basement, or shed, and examine how they are stored. Use the chart below to evaluate your practices. Some choices may not match your situation exactly, but answer the best you can. Write the number (1, 2, or 3) of your choice in the column labeled *Your Risk*. Refer to Part 1 above if you need more information to complete this chart.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Container safety	UL-approved container.		Non-approved containers (fuel stored in glass or open containers).	
Storage location	Unattached garage or shed away from house. Well ventilated.	Garage attached to house. Poorly ventilated area.	Inside the home or in basement.	
Quantities stored	Moderate amounts purchased. Fuel stored for less than six months.	Fuel kept more than six months before use.	Excess quantities purchased. Fuel kept more than 12 months.	
Management and disposal	Used up in devices.	Stored on site indefinitely or evaporated (weather permitting).	Poured down house drain or storm drain, poured on ground.	

Responding to Risks—Your goal is to lower your risks. Record the medium- and high-risk practices you identified on the Action Checklist on the next page. Use the Low Risk category in Part 1 above to help you plan actions to reduce your risks.

Action Checklist

For each risk you identified, write down the improvements you plan to make. To help you decide what to do, use recommendations from this worksheet as well as information from other resources. Pick a target date that will keep you on schedule for making the changes. You don't have to do everything at once, but try to eliminate the most serious risks as soon as you can. Often it helps to start with inexpensive actions.

High and medium risks	Action to reduce risk	Target date for action
SAMPLE: Gas for lawn mower stored in a glass jug.	Buy a UL-approved container from the hardware store.	One week from today: May 15, 1997

Who to contact for more information about fuel management

For information about fuels stored in underground, above ground, and basement storage tanks, consult the Oklahom*A*Syst Farm & Ranch*A*Syst worksheets. Worksheet #4 contains information about improving fuel tank storage. Contact your local Cooperative Extension office for more information about the Farm & Ranch*A*Syst series.

For information about petroleum product storage, contact the Oklahoma Corporation Commission (OCC), Fuel Division - Storage Tanks, Jim Thorpe Bldg., 2101 Lincoln Blvd., Oklahoma City, OK 73105, or call **405-521-3107**.

For information about petroleum product spills contact the OCC (see above) or call the Oklahoma Department of Environmental Quality (DEQ) at **800-522-0206**.

Other Oklahom*A*Syst publications

The Oklahom*A*Syst assessment system includes worksheets for owners of farms and ranches. The Farm & Ranch*A*Syst worksheet topics include:

1. Drinking Water Well Condition
2. Pesticide Storage and Handling
3. Fertilizer Storage and Handling
4. Petroleum Product Storage
5. Hazardous Waste Management
6. Household Wastewater Treatment
7. Swine, Dairy, and Beef Cattle Waste Management
8. Poultry Waste Management

For more information about Farm & Ranch*A*Syst, contact your local Cooperative Extension Office.

Home*A*Syst Cares About Your Safety

This Home*A*Syst assessment does not cover all potential risks related to fuel management which could affect health or environmental quality. There are other worksheets available on a variety of topics to help homeowners examine and address their most important environmental concerns.

This worksheet was adapted from Richard Castelnuovo, staff attorney, National Farm*A*Syst office, Madison, Wisconsin, and Dean Solomon, District Extension Natural Resources Agent, Kellogg Biological Station, Michigan State University Extension.

This publication, Home*A*Syst: An Environmental Risk Assessment Guide for the Home, NRAES-87, is available from National Regional Agricultural Engineering Services. Please contact NRAES for more information about the publication or about pricing and quantity discounts.

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Oklahom*A*Syst Assessment Programs

Home*A*Syst and Farm & Ranch*A*Syst

Oklahom*A*Syst was created to help Oklahomans control the level of risk associated with their environment. The Farm & Ranch*A*Syst and Home*A*Syst assessments are designed to help you identify, understand, and reduce risks in and around your home, farm, and ranch. Both programs contain worksheets that evaluate activities common to homes, farms, or ranches that can pose a threat to water quality and provide suggestions for reducing those risks. Oklahom*A*Syst assessment programs are confidential assessments that you can use on your own or by consulting an expert. You decide what to do with the results of your assessment and keep your action plan in your private records.

Farm & Ranch*A*Syst

Farm & Ranch*A*Syst uses step-by-step worksheets that rank each farm or ranch activity or structure that could cause ground water contamination. The rankings and companion fact sheets help you develop an overall action plan for protecting your drinking water. Oklahoma Farm & Ranch*A*Syst also provides information on technical, educational, and financial assistance for carrying out your plan.

The Farm and Ranch*A*Syst worksheet topics include:

1. Drinking Water Well Condition
2. Pesticide Storage and Handling

3. Fertilizer Storage and Handling
4. Petroleum Product Storage
5. Hazardous Waste Management
6. Household Wastewater Treatment
7. Swine, Dairy, and Beef Cattle Waste Management
8. Poultry Waste Management

Home*A*Syst

Many household activities can threaten your family's health and the environment. Home*A*Syst is designed to help homeowners understand and reduce the potential risks to water quality in and around their home. Like Farm & Ranch*A*Syst, Home*A*Syst includes a site assessment, to help homeowners locate potential hazards by drawing a map of their homesite.

The Home*A*Syst worksheet topics include:

1. Site Assessment
2. Drinking Water Well Maintenance
3. Septic Systems
4. Liquid Fuels
5. Household Hazardous Waste

For more information about these programs, contact your local Extension office.



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