

OKLAHOM*A*SYST

Home*A*Syst Home Assessment System



Some commercial products commonly used at home can be harmful to your health and the environment. This worksheet will help you identify product hazards and minimize your risks. It covers safe management of products from purchase to disposal.

1. Purchase and Use

- Product selection
- Quantities purchased

2. Safe Storage

- Child safety
- Containers and spill protection
- Ventilation

3. Disposal

- What to do with leftovers

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences
and Natural Resources
Oklahoma State University

Managing Hazardous Household Products

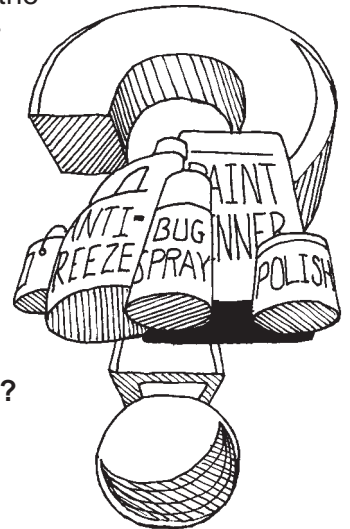
Assessment Worksheet #5

Why should I be concerned?

Some products used around the home contain ingredients that can pose threats to your health or the environment if not handled properly. Fumes from paint thinner and other solvents can be hazardous to breathe. If poured on the ground, products such as motor oil or pesticides may contaminate drinking water or nearby streams.

For each chemical or product, there are many questions to consider:

- Which product best meets my needs?
- What is the best way to store it?
- How do I dispose of leftovers?
- Can it contaminate the environment?
- How can I use it safely?
- Is it dangerous to human health?



This worksheet helps you make choices that will reduce risks to your family and your water resources. Remember, it is up to you to assure safe use and disposal of any products you use.

What does the word hazardous mean?

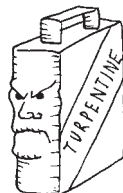
Common household products are considered hazardous if they pose dangers to human health and the environment when handled improperly. Not every product in a category of products is hazardous. For example, there are nonhazardous paints and paint strippers. To be safe, learn which products are harmful and which are not. It is also important to know the difference between hazards to health and hazards to the environment.

1. Human health hazards

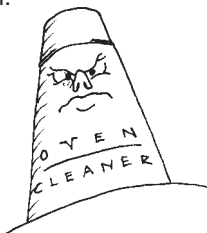
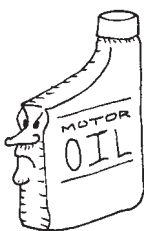
Health problems can be caused by chemicals contained in some of the products in your home, especially if product warnings are not followed. Effects can range from minor problems such as irritated skin or allergies, to serious problems such as poisoning or burns.

You can be exposed to a hazardous ingredient by 1) accidental drinking or ingestion, 2) breathing dust, fumes, or inhalation, or 3) skin or eye contact. The amount of harm from exposure to hazardous chemicals depends on:

- The type of chemicals in the product.
- How much chemical exposure occurred.
- Your size, weight, and health.



Some harmful effects appear immediately. Typical symptoms are nausea, skin irritation, burning eyes, dizziness, and headaches. Other effects, such as damage to lungs or kidneys, may take more time to develop. Long-term effects are usually associated with frequent use without proper safety precautions or ventilation.



2. Environmental hazards

Ingredients in some household products can be hazardous to plants and animals in natural environments. For example, pesticides washing into a stream may kill fish or aquatic insects. Human health can also be threatened if the food we eat, the water we drink, or the air we breathe becomes contaminated through improper use or disposal of household products.

Once released into the environment, some chemicals last a long time and have many different effects. Some can remain in an organism's system and be passed through the food chain when one organism is eaten by another. Accumulation of a toxic chemical may harm an organism's ability to reproduce, damage its nervous system, or impair the function of organs like the liver or kidneys.

Most chemicals used commercially in large quantities are regulated by federal law, but there are no laws to regulate the small quantities used by homeowners. For this reason, everybody needs to do their part to minimize the environmental impact of use and disposal. Examine your cleanup and disposal practices. Even old habits that seem harmless have potential risks.

To protect the environment . . .

- Do not dump oils, paints, or pesticides on the street, driveway, or down storm sewers.
- Do not dump waste in a wetland or stream.
- Do not wash chemicals like oil or antifreeze off the driveway with a water hose. Soak it up instead.
- Do not pour chemicals into a drain that leads to a septic tank.
- Do not spray pesticides on windy days.
- Do not burn trash or hazardous products in an outdoor fire.

How can you tell which products are hazardous?

It is often difficult to find out what is hazardous, to whom, and how hazardous it is. Learn as much as you can about household products and their potential hazards. Labels contain important information and often tell if a product is hazardous. You can avoid many health problems by carefully following directions for use and safety. Remember, absence of a warning on a product label does not mean the product is safe. Use all chemical products with care and caution.

What can product labels tell us?

Household consumer products that are hazardous or contain hazardous substances are required by law to have human safety information or warning labels. Pesticide labels must also provide detailed information on use, storage, and disposal. As you read this section, look at the labels on products in your home.

Required Information

Hazardous product labels must contain the following information:

- Brand name, common, and/or chemical name.
- Amount of contents.
- Signal word (DANGER, WARNING, CAUTION, POISON).
- Instructions for handling or usage.
- Name and address of manufacturer, distributor, packer, or seller.
- Description of hazard, necessary precautions for safe handling, and first aid.

Make sure all of this information is on the label before buying the product!

Signal words: *Caution, Warning, Danger*

Labels on hazardous products contain signal words and symbols that give information about product safety. Learn what these words mean, so you can know the risks associated with using a hazardous product. The signal words CAUTION, WARNING, and DANGER draw attention to important safety information. However, they can mean different things, depending on the product. Labels on pesticides provide information about the toxicity of the pesticide. On household products, labels describe

immediate health impacts resulting from improper use.

DANGER appears on any product that is extremely flammable, corrosive, or toxic. It means the product could be deadly to humans if less than a teaspoonful is consumed. The symbol on the container is a skull and crossbones and/or the word **DANGER**. In addition to causing health problems, products labeled **DANGER**, **FLAMMABLE**, **POISON**, **VAPOR HARMFUL**, or **FATAL IF SWALLOWED** may contain ingredients which could cause environmental damage.

The signal word **WARNING** means the product is moderately toxic but can be deadly to humans if a teaspoonful to a tablespoonful is consumed.

The word **CAUTION** appears on products that are low in toxicity and may even be nontoxic when consumed in small amounts. These products may be deadly to humans if an ounce to a pint is ingested. Some of these products are not lethal, but may cause illness when consumed in any amount.

Some terms on labels are not helpful and may actually be misleading. The Federal Trade Commission has provided manufacturers with guidelines about environmental terms such as "ozone safe" and "environmentally friendly," but their use is not regulated on any products except pesticides.

Look for the least hazardous product when choosing brands. Manufacturers are aware of consumer safety issues, and many offer a range of products. Read the labels to learn which will meet your needs most safely.

If you need more information about a product than is provided on the label, request information from the manufacturer. Most manufacturers provide a phone number on their product labels and are willing to answer questions by phone.

In Case of Emergency

Poison Control is a national computer data network that provides emergency health information about most products. In Oklahoma, the telephone is: **1-800-522-4611**.

For information about spills of hazardous products, call the Department of Environmental Quality. The DEQ hotline number is: **1-800-522-0206**.

Do you buy only what you need?

If you buy more than you need, hazardous products will accumulate and create storage problems. Containers may become damaged and leak. The products may change chemically and not be effective when you finally try to use them. Some products such as pesticides may have been restricted or banned since they were originally purchased. If that occurs, safe and legal disposal becomes much more difficult. Avoid these problems by purchasing and using only what you need.

Can a homemade product do the job?

You may be buying hazardous products when a common or homemade product would work. If you decide to make your own cleaning products, be careful. They may not be safe. Always follow published recipes. Never try to make your own combinations of household products. Some combinations are dangerous to humans.

When you consider alternatives, make sure they are safe or safer than the product replaced. Homemade products do not contain preservatives that prevent bacterial growth. They also do not have basic instructions for safe storage and disposal.

If you are going to make your own cleaning products, be aware of the following:

- Do not reuse empty cleaning product or food containers for homemade cleaning products. There may be a residue left in the bottle that could react with your homemade cleaning product.
- Call the ingredients' manufacturers if you are not sure where to get safety information. They can tell you whether it would be dangerous to mix their products with another product.
- If you store a homemade product, make sure it is labeled with its contents, date, directions for use, disposal information, and human safety information.
- Mix only as much as you need. This eliminates the problem of storage and stability of the product. The product may be less effective after it has been stored.
- Never use food products (like milk or vegetable oil) in a homemade cleaning product. Food can be a breeding ground for bacteria and may actually cause more harm than good.
- Treat your homemade cleaning product with the same care that you would a commercial cleaning product. It may be safer than a commercial product, but that does not mean it is completely safe. Always store the container out of reach of children, making sure you close the container after each use and store it in a dry place away from food.



Part 1: Product Selection and Purchase

Your choice of products is the first step in reducing your risk. By carefully selecting the product needed for the job, you can control the degree of hazard you bring into your home or property. Use the assessment table below to evaluate your risks due to product choice and use.

Assessment 1

The risk categories found in this assessment table and the others that follow apply to hazardous products in general. For

some products, there will be management options that are not covered. If you are not sure what to do, do not take chances. Find out what is safe.

Use the following table to rate your risks from household products. For each question, put the risk-level number (1, 2, or 3) in the column "Your Risk." Some choices may not be exactly like your situation, so choose the response that fits best. Refer to Part 1 above if you need more information to complete this table.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Product selection	Read labels before purchasing product. Choose least hazardous products.		Do not consider the hazard level of products purchased.	
Quantities purchased	Buy only what is needed and use it up within a few months.	Buy excess product and store it from year to year. Eventually use it up.	Buy more than is needed, then purchase additional products without checking on current supplies.	

Responding to Risks: Your goal is to lower your health risks and reduce potential harm to the environment. Turn to the Action Checklist on page 8 to record the medium- and high-risk practices you identified. Use the Low Risk category above to help you plan actions to reduce your risks.

Part 2: Safe Storage

Leftover or used chemicals such as strippers, paint, waste oil, used antifreeze, and solvents may need to be stored until their next use or disposal. How you store hazardous products determines how much risk may be present. Consider the following when you fill out the assessment table at the end of this section.

Are your storage locations and containers safe?

If you can smell a product while it is in storage, the lid may be loose or ventilation may be inadequate. Be sure to separate corrosives like acids or lye from other hazardous products to prevent dangerous chemical reactions. Reactions occur when corrosives leak from their containers and drip or flow to other products. Routinely check areas where you store hazardous products (under the kitchen sink, in the basement or garage) to make sure containers are closed tightly, not leaking, and the sides are not bulging.

Are all products stored:

- Out of the reach of children and pets, preferably in a locked, secure area?
- In their original containers?
- Clearly dated and labeled if in alternative containers (listing ingredients, directions for use, and human safety information)?
- Tightly sealed and dry?
- At least 100 feet from a well or waterway?
- In well-ventilated areas and away from sources of ignition?
- Stored in an area shaded from direct sunlight, especially batteries and chemicals?
- Clearly marked with a warning symbol for small children and persons who cannot read?

Assessment 2

Use the following table to rate your risks from product storage. For each question, put the risk-level number (1, 2, or 3) in the column "Your Risk." Some choices may not be exactly like your situation, so choose the response that fits best.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Child safety	Hazardous products stored in a locked cabinet or other location not accessible to children.	Products kept out of direct reach of children (on a high shelf), but still accessible.	Products are easily accessible to children (unlocked cabinet, lower shelf).	
Containers, storage location, spill protection	Leftovers stored in original containers and properly sealed. Products stored by type. Storage area is protected from spills.	Original containers stored in a disorganized way. No protection against leaks or spills.	Leftovers transferred to other containers such as used milk jugs or glass jars. No protection from leaks and spills.	
Ventilation	Volatile products (like solvents and petroleum-based fluids) stored in places with good ventilation.	No attention to storage location, but each container is in good shape and tightly sealed.	Products stored in areas with poor ventilation such as basements, closets, or crawl spaces. Containers damaged or left open.	

Responding to Risks: Your goal is to lower your risks. Turn to the Action Checklist on page 8 to record the medium- and high-risk practices you identified. Use the Low Risk category above to help you plan actions to reduce your risks.

Part 3: Product Disposal

Unless a product is used up, you will have to dispose of it. For some products that are especially hazardous, like pesticides, even the product container will have to be disposed of properly. Complete the assessment table at the end of Part 3, using the information below.

What is the best way to dispose of leftover hazardous products?

Disposal should be your last option because there is no completely safe means of disposal. Avoid the disposal dilemma by buying and using only what you need, using up your leftovers, or recycling. Give leftover products to a neighbor who needs them and turn a potential waste problem into a cost-saving opportunity. Some communities sponsor swap programs to encourage sharing, and options for recycling are increasing. Used motor oil and antifreeze are accepted at recycle centers in many communities and some automobile repair shops. Some pesticide containers may be returned to the store where they were purchased for safe disposal.

Some cities and communities sponsor hazardous waste collection programs. Because only certain products will be ac-

cepted, contact the city or call the DEQ Public Information Line (see the Helpful Phone Numbers section at the end of this worksheet) to learn exactly what materials are accepted. Some products can be safely sent to a landfill after special treatment. Things like paint, shoe polish, and nail polish can be placed in the trash after they have been evaporated to dryness (if regulations permit). Leave these products out in a safe, well-ventilated area until they are hardened and dry. Then, wrap them in newspaper and place in the trash. When these products are in solid form, they are less likely to mix with other chemicals or leak into the water supply. If you are not in an area where there is a regular collection event, the safest way to dispose of product containers is to place them into the trash. Rinse containers and wrap them in newspaper to protect sanitation workers.

Is it safe to dump, burn, and bury wastes?

It is never appropriate to dump or bury hazardous products on your property, particularly near wells or water sources. Nor should products be poured down storm sewers. Burning hazardous wastes in a burn barrel or stove is never an alternative. This may release toxic gases and produce hazardous ash.

Assessment 3

General recommendations for disposal are provided in this table. Read the waste category in the left column and see if any of your disposal practices present risks to human health or the environment. The Hazardous Product Inventory may help you identify the types of products included in each category of the assessment below.

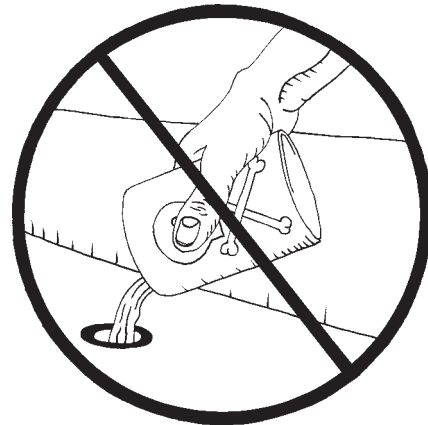
	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Household trash	Weekly removal of trash to municipal waste facility (landfill, incinerator, etc).	Storage of trash. Infrequent removal to municipal waste facility.	Burn or dump trash on property.	
Waste motor oil	Recycle or take to a hazardous waste collection event.		Dump on property.	
Antifreeze	Recycle or take to a hazardous waste collection event.		Dump on property.	
Batteries (household and auto)	Recycle, take to a hazardous waste collection event, or dispose of in municipal waste facility.		Dump on property.	
Hazardous solvents	Use up completely, share leftovers, or take to a collection event.	Dispose in municipal waste facility.	Dump leftovers on property.	
Pesticides	Follow handling, storage, and disposal instructions on label.	Spray excess diluted mixture on weeds or pests.	Dump concentrate on property or pour down drain. Reuse container.	

Responding to Risks: Your goal is to lower your risks. Use the Action Checklist (page 8) to record the medium- and high-risk practices you identified. Use the Low Risk category above to help you plan actions to reduce your risks.

To complete the hazardous product inventory..

1. Identify products that are not properly stored or require disposal information. Plan ways to improve your storage and disposal of these products. If you are unsure about disposal, be sure to contact your local Extension agent or the DEQ for advice.
2. Check the items you listed in the special considerations column for availability. For example, if you found items that require protective clothing such as gloves, make sure that you have those items available for the next time you use the product.
3. Add any changes or improvements you plan to make to the Actions Checklist.

When you have completed the inventory, review the inventory once again and consider the following: Do I need all of these products in my home? Are there less hazardous alternatives that I can use? **Make positive changes now to protect your health and the environment.**



Hazardous Product Inventory

Use this inventory list to help determine the kinds of hazardous products in your home. This inventory can also be a good way to teach children the importance of proper handling and storage of household hazardous products.

Products, sorted by category	Product stored properly?	Disposal information needed?	Special considerations: requires protective clothing, extra ventilation, or has special instructions.
Clothing and fabric care products			
<input type="checkbox"/> bleach	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> dry-cleaning fluids	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> laundry detergents	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> moth balls	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> shoe/leather polishes	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> spot removers (solvent based)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hobby and recreation products			
<input type="checkbox"/> artist paints and solvents	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> charcoal lighter fluid	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> chemistry set	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> glues, adhesives	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> photography, spa, and pool chemicals	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> rechargeable household batteries (mercury or cadmium)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vehicle maintenance chemicals			
<input type="checkbox"/> aerosol paint and primer	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> antifreeze, oil and grease, fuel	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> cleaners: transmission, carburetor, brake	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> lead acid battery	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> lubricants	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> paints and paint preparation products	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> rust removers	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> solvents for oil and grease removal	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> tire cleaners	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> windshield cleaner	<input type="checkbox"/>	<input type="checkbox"/>	_____
Household cleaning supplies			
<input type="checkbox"/> aerosol air fresheners	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> drain cleaners	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> floor wax	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> mildew removers	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> oven cleaners	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> rug and upholstery cleaners	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> toilet bowl cleaners	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pesticides			
<input type="checkbox"/> _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building/wood cleaners and repair products			
<input type="checkbox"/> adhesive removers	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> adhesives such as glues and caulk	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> aerosol paint products	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> latex paint	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> lead-based paint	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> oil/alkyd paints	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> other lubricants	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> paint and finish preparation products	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> products for brush or spray gun cleaning	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> products for wood floor and panel cleaning	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> roof coatings and sealants	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> rust removers	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> silicon lubricants	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> solvents, as used in degreasers and paint thinners, stains, and varnishes	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> stains and finishes	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> water repellents for wood and cement	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> wood polishes	<input type="checkbox"/>	<input type="checkbox"/>	_____
<input type="checkbox"/> wood-preserving products	<input type="checkbox"/>	<input type="checkbox"/>	_____

Action Checklist

When you finish the assessments, go back over them to find high and medium risks. Write them below. For each one you identified, write down the **improvements** you plan to make. Use recommendations from this worksheet and other resources (see list below). Pick a target date to keep you on schedule for making changes. You do not have to do everything at once, but try to eliminate the most serious risks as soon as possible. Often it helps to start with inexpensive actions first.

High and medium risks	Action to reduce risk	Target date for action
SAMPLE: Cabinet with cleaning solvents and paint stripper is not child-proof.	Buy a lock and install on cabinet.	One week from today (July 25, 1997).

Helpful Phone Numbers

- **Oklahoma Poison Control: 1-800-522-4611.**
- To report spills of hazardous products call the **DEQ hotline: 1-800-522-0206.**
- Call the **DEQ Public Information Line: 405-271-7353** for questions about product disposal and locations of household hazardous waste collection events.

Related Publications

Your local Oklahoma Cooperative Extension Office has additional reading material that you may find helpful:

- Hazardous Household Waste: Paint and Other Home Improvement Products, T-4416.
- Hazardous Household Waste: Special Wastes, T-4417.
- Hazardous Household Waste: Solvents and Home Cleaning Products, T-4418.
- Household Hazardous Waste Handling Procedures to Prevent Environmental Contamination, EPP-7463.
- Safe Use of Pesticides in the Home and Garden, EPP-7450.
- Materials on household issues, such as enviro-shopping and recycling.

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

Home*A*Syst Cares About Your Safety

This Home*A*Syst assessment does not cover all potential risks due to hazardous waste that could affect health or environmental quality. There are other worksheets available.

This worksheet was adapted from Elaine Andrews, the National Farm*A*Syst Program, Environmental Resources Center, Cooperative Extension, University of Wisconsin-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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4. Petroleum Product Storage
5. Hazardous Waste Management
6. Household Wastewater Treatment
7. Swine, Dairy, and Beef Cattle Waste Management
8. Poultry Waste Management

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