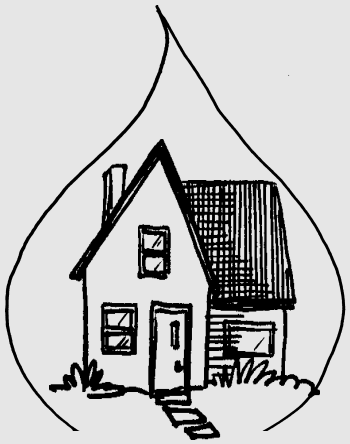

Some commercial products commonly used at home have the potential to be harmful to your health and the environment. This assessment will help you identify product hazards and minimize your risks. It covers safe management of products from purchase to disposal:

1. Product Selection, Purchase and Use

✓ Product selection criteria
✓ How much of a product to purchase
✓ Safety precautions for use

2. Safe Storage

✓ Child safety considerations
✓ Containers and spill protection
✓ Proper Ventilation

3. Product Disposal

✓ What to do with leftovers

Home*A*Syst

for New Jersey

Managing Hazardous Household Products

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. Vapors from paint thinner and other solvents can be hazardous to breathe. Products such as motor oil or pesticides--if disposed of on the ground--may end up contaminating your drinking water, a nearby stream, or bay.

For each chemical or product, there are many questions to consider. Which product best meets my needs? Are there safer alternatives? What is the best way to store it? How can you use it safely? How do you dispose of leftovers? Is it dangerous to children?

This assessment helps you make choices that will reduce risks to your family and your local watershed. Remember, New Jersey law does not regulate household hazardous products. You are responsible for safe use, reuse, or disposal of any products you use. It's up to you to understand how to make the best decision.

Figure 1. Some household products contain ingredients that can threaten your health or the environment if not handled properly.

What does the word *hazardous* mean?

A thing or situation is hazardous if it has the potential to cause harm. For example, a child's rollerskate left on a stair is hazardous.

Household products are hazardous if they include ingredients that pose dangers to human health and the environment when improperly managed (see box below). Not every product in a category of products is hazardous -- for example, some paints and strippers are less hazardous than others. To be safe, learn how to properly use, store and dispose of products.

It is also important to know the difference between 1) Hazards to health and 2) Hazards to the environment. These are explained below.

Household products which could be hazardous, if improperly managed . . .

Building supplies -- sealants, some adhesives, wood preservatives

Vehicle related products -- antifreeze, oil, cleaning solvents, lead-acid batteries, gasoline

Home maintenance products -- oil based paints, mineral spirits, products which can remove difficult greases or adhesives, paint stripper, fluorescent bulbs

Hobby and recreational supplies -- photo developer chemicals, marine paints, electronic equipment cleaners, boat engine maintenance supplies, batteries, swimming pool chemicals

Pesticides -- herbicides, insecticides, rodent poison, yard insect foggers, chemical strips, fungicides, aquacides

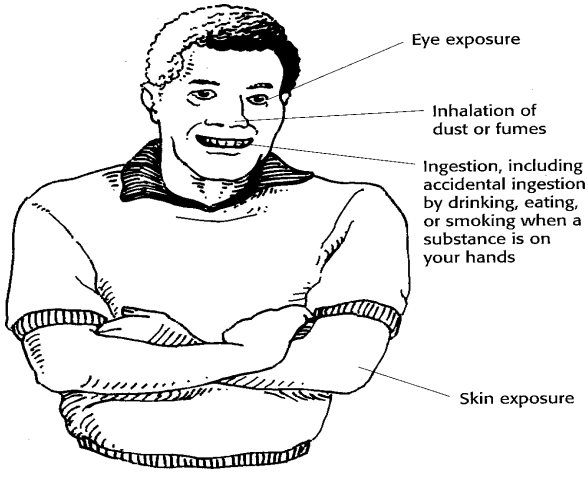

Figure 2. You can be exposed to a product ingredient by ingestion, inhalation, and contact with skin or eyes.

Hazards to Human Health

Health problems can be caused by chemicals contained in some of the products in your home - if product warnings and directions for proper use are not heeded. Health effects can range from minor problems--such as irritated skin or allergies--to serious problems such as poisoning, burns, or even cancer.

You can be exposed to a hazardous ingredient by 1) ingestion (accidental drinking) , 2) inhalation (breathing dust or fumes), 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 of the chemical you are exposed to
- Your size, weight, age, and health
- How frequently you are exposed

If exposure occurs, 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, take a long time to develop. Only a person who uses hazardous products frequently - without adequate safety precautions or ventilation - may experience serious health effects.

To avoid accidental exposure...

- Follow the safety precautions recommended on the product label.
- Always work in a well-ventilated area, especially if the product contains a solvent. (Solvent-containing products have the word "Flammable," "Combustible," or "Contains Petroleum Distillates" on the label.)
- Wear protective clothing such as gloves and goggles when the product label recommends it.
- Remember that label precautions are there for a purpose -- to ensure your safety while using the product.

Hazards to the Environment

Ingredients in some household products can be hazardous to plants and animals in natural environments. Pesticides washing into a stream, for example, can harm fish. Human health can also be threatened if our food, the water we drink and the air we breathe become contaminated through improper use or disposal of a household product.

Some hazardous chemicals can become integrated into living systems and be passed from one organism to another. If enough of a toxic chemical accumulates, it could harm an organism's ability to reproduce, damage its nervous system, or impair the function of its liver or kidneys.

Most chemicals likely to cause environmental problems are regulated by federal law, but because it is difficult to keep track of the small quantities used by homeowners, everyone needs to do their part to minimize the impact of use and disposal. Some cleanup or disposal practices may not seem like they could lead to trouble, but even old habits should be examined for potential risks. Here are a few to *avoid*.

To protect the environment . . . .

- Avoid…
  - -- dumping oils, paints or pesticides on roads, down storm drains and sewers, or in old tree stumps.
  - -- dumping in a wetland, stream, or other body of water
  - -- washing chemicals off the driveway with a hose
  - -- pouring chemicals into a drain that leads to a septic tank
  - -- spraying pesticides on a windy day
  - -- burning trash in a barrel or outdoor fire **(illegal in New Jersey)**

- Use up a product according to label directions.

- Share any leftovers with a neighbor or local organization.

- Find out if a product can be recycled and where to recycle it in your community.

- Find out if your community has a hazardous waste collection program. Use the community program to dispose of may leftover products listed in the at the end of this chapter.

Part 1 -- Product Selection, Purchase & Use

Your choice of products is the first step. By carefully selecting the product for the job needed, you can control the degree of "hazard" you bring to your home or property. At the end of Part 1, fill out the assessment table to evaluate your risks due to product choice and use. The information below will help you answer the questions in the assessment.

How can you tell which products are hazardous?

It is often difficult to find out what is hazardous and to whom and how something is a hazard. It pays to learn as much as you can about household products and their potential hazards before purchasing. Labels contain important information and often tell if a product could be hazardous. Many health problems can be avoided by carefully following directions for use and safety.

Remember, *absence* of a warning on a product label does not necessarily mean that the product is safe. Old products or products not designed for household use may not provide consumer information on the label. When using any chemical product, use with care and caution.

In addition to product labels, up-to-date publications and advice from experts are also good sources of information. Ask questions, and look for helpful ideas from your local Health Department, New Jersey Department of Health, and your county Cooperative Extension Office.

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 are also required to provide detailed

information on use, storage and disposal. As you read this section, take a look at the labels on some of the products in your home.

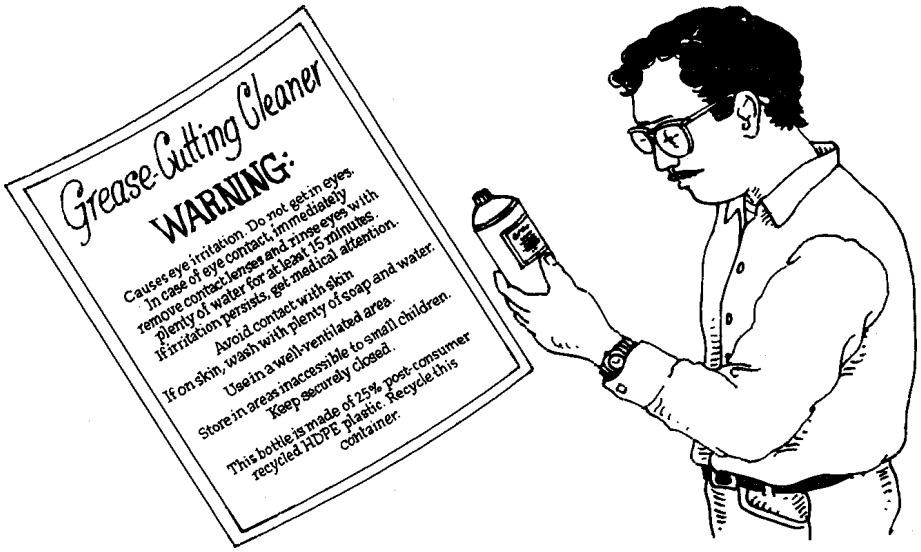

Figure 3. Product labels provide details about how to safely use, store, and dispose of a product.

The signal words -- CAUTION, WARNING, DANGER -- draw your attention to important safety information. However, they can mean different things, depending on the product. Labels on pesticides provide information about the poison level of the pesticide. On household products, they describe immediate health effects resulting from improper use. The signal word DANGER is required on any product that is extremely flammable, corrosive or toxic. Products labeled DANGER, FLAMMABLE, POISON, VAPOR HARMFUL, or FATAL IF SWALLOWED may include ingredients which could cause environmental damage as well as health problems if used, stored, or disposed of improperly.

Some terms on labels are vague and possibly misleading. The Federal Trade Commission has provided manufacturers with guidelines about vague environmental terms such as “ozone safe” or “environmentally friendly,” but their use is not regulated on any products except pesticides.

If you need more information about a product than is provided by the label, you may want to request a Material Safety Data Sheet (MSDS) from the manufacturer, or consult the New Jersey Poison Control Center at 1-800-POISON-1. Most manufacturers provide a phone number on their product label and are willing to answer questions by phone.

Can an alternative product do the job?

When choosing from among several brands of the same kind of product -- for example, paint strippers or degreasers -- look for the least hazardous. Without checking first, you may be buying a hazardous product such as a solvent based cleaner when a detergent based cleaner is available or a common alternative like kitchen cleanser will work. 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.

In an effort to reduce risk from hazardous chemicals, many organizations have distributed information about mix-at-home cleaners -- using readily available ingredients -- in an effort to reduce risk from hazardous chemicals. Be advised, however, that your homemade product may *not* be a safer alternative. If you choose to make your own household products, be sure to consider these precautions:

In Case of Emergency

Whether you are using a cleaning product or a pesticide, don’t rely *only* on the label for information on health emergencies or environmental dangers. The information may be incomplete or incorrect. The New Jersey Poison Control Center -- which is a national computer data network -- can provide emergency health information about a product. Keep the number (1-800-POISON-1) close to your phone. For information about spills of hazardous products, contact the New Jersey Department of Environmental Protection’s Emergency Hotline at 1-609-292-7172.

• Use only one ingredient at a time. Never mix ingredients or products. Be sure to rinse between products used on one place.
• Always test any cleaner on a small area before applying it to the whole job.
• Do not use food products for cleaning (such as vegetable oil or milk). Food products may spoil or support growth of bacteria or mold.
• Use clean containers when storing your homemade product, and clearly label the contents and date. Never store homemade products in old containers from commercial products.

For a list of alternatives to household chemicals, contact your county office of Rutgers Cooperative Extension and request Fact Sheet 582, *Household Cleaners: Suggestions for Environmentally Safer Alternatives.*

Do you buy only what you need?

If you buy more than you need, hazardous products will accumulate and create storage problems. If unused for long periods, product containers may become damaged and leak, and 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 purchased. If that occurs, safe and legal disposal becomes much more difficult. Avoid these problems by purchasing and using only what you need.

Assessment 1 -- Product Selection and Purchase

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

ASSESSMENT 1 -- Product Selection and Purchase

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Product selection	I always read labels. I understand signal words and respect the health or environmental hazards they describe. I choose the least hazardous product needed for the job.	I don't read labels or don't understand what they mean, but I use a common sense approach to safety.	I never read labels. I purchase products without considering what the product is made of how it will be used.	
Quantities purchased	I buy what is needed for specific jobs. I use up most of the product within a few months after purchase or give excess away to someone else.	I buy excess product, but provide safe and accessible storage.	I buy more than is needed. I purchase additional product without checking on current supplies.	
Safety precautions taken	I follow label instructions and take recommended precautions against exposure (such as good ventilation, face masks, and gloves).	I occasionally read label instructions. I take some precautions.	I never follow label instructions and take precautions, even when recommended.	

For some products, there will be management options that are not covered. If you are not sure what to do, don't take chances.

Use the table on page 55 to rate your risks related to purchase and use of 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 best fits. Refer to Part 1 above if you need more information to complete this table.

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 61 to record the medium and high risk practices you identified. Use the recommendations above to help you plan actions to reduce your risks.

When you store hazardous products, do you:

- Keep them out of the reach of children and pets, preferably in a locked, secure area?
- Store them in their original containers?
- Clearly label and date any alternative containers?
- Keep containers tightly sealed and dry?
- Store at least 150 feet from a well or waterway?
- Keep in well-ventilated area and away from sources of ignition?
- Store batteries and flammable chemicals in an area shaded from direct sunlight and away from heat?

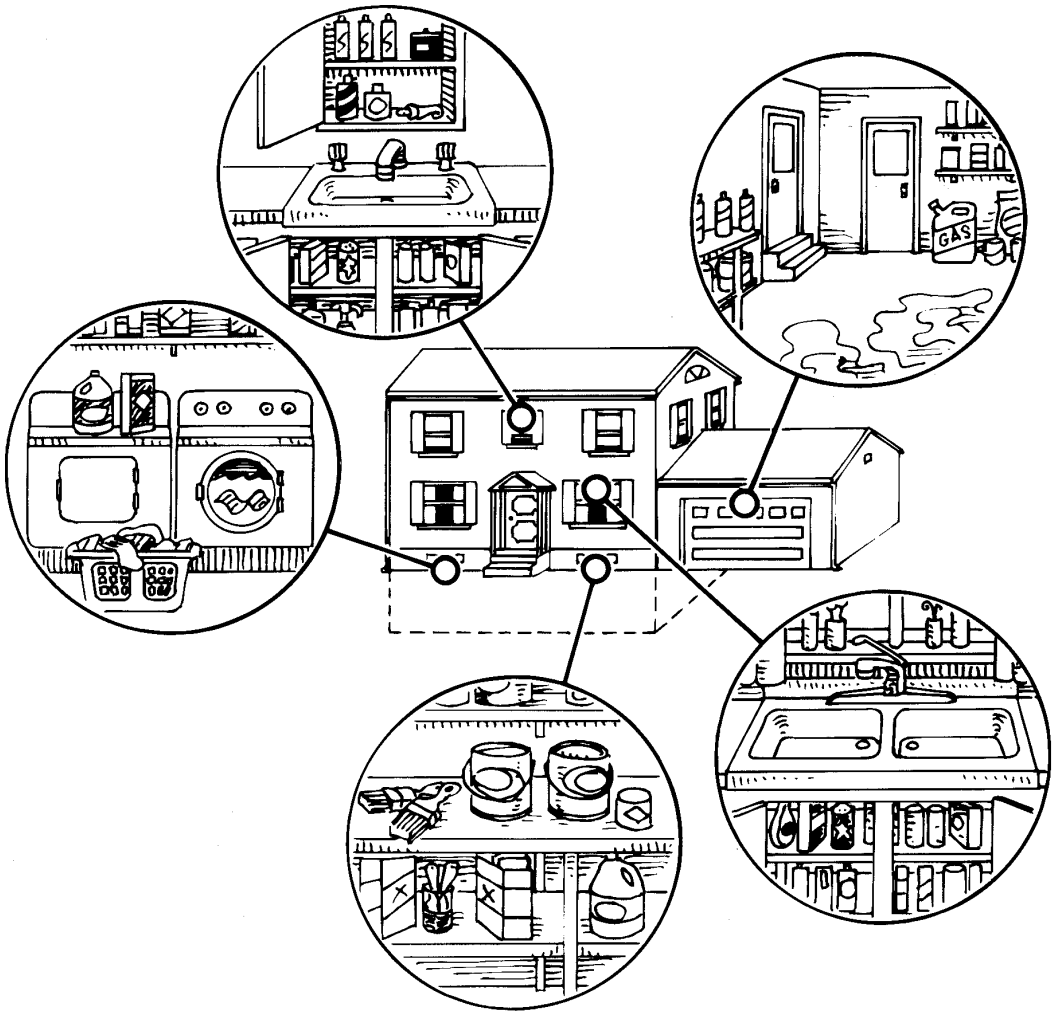

Figure 4. Hazardous products may be stored throughout a household.

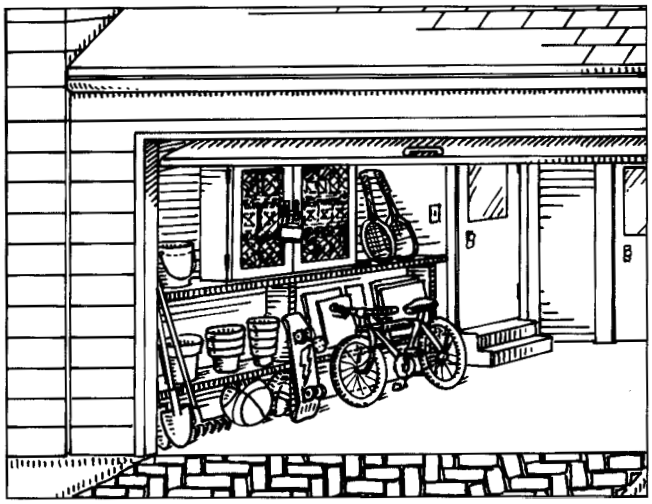

Figure 5. Hazardous products should be stored in a locked cabinet or other location inaccessible to children.

Part 2 -- Safe Storage

Leftover or unused 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. Use the information below to help you fill out the assessment table at the end of this section.

Are your storage locations and containers really safe?

When storing household products, the primary concerns are child safety, indoor air quality, and prevention of damage to household equipment or the environment. If you can smell a household product while in storage, the lid may be loose or ventilation may be inadequate to protect your health.

ASSESSMENT 2 -- Product Storage Safety

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Child safety	I store hazardous products in a locked cabinet or other location inaccessible to children.	I keep products out of direct reach of children (on a high shelf), but still accessible.	My products are easily accessible to children.	
Containers, storage location, spill protection	I store leftovers in original containers and properly sealed. My home environment is protected from spills.	I store original containers in a disorganized way. I don't provide protection for leaks or spills.	I transfer leftovers to other containers such as used milk jugs or glass jars. I store leftovers without caps or lids. I don't provide protection for leaks and spills.	
Ventilation	I store volatile products (like solvents and petroleum-based fluids) in places with good ventilation.	I don't pay attention to storage location, but each container is in good shape and tightly sealed.	I store products in areas with poor ventilation such as basements, closets, or crawl spaces. Containers damaged or left open.	

Be sure to separate corrosives, like acids or lye, from each other and other hazardous products to prevent dangerous chemical reactions. Reactions occur when corrosives leak from their containers and drip or flow into other products. Be aware that corrosive materials can corrode air conditioning and heating systems, hot water heaters, and other equipment and appliances. Routinely check areas where you store hazardous products (under the kitchen sink, in the basement or garage) to make sure that containers are closed tightly, not leaking, and the sides not bulging.

Assessment 2 -- Product Storage Safety

Use the table on page 57 to rate your risks related to 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 best fits. Refer to Part 2 above if you need more information to complete this table.

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 61 to record the medium and high risk practices you identified. Use the recommendations above to help you plan actions to reduce your risks.

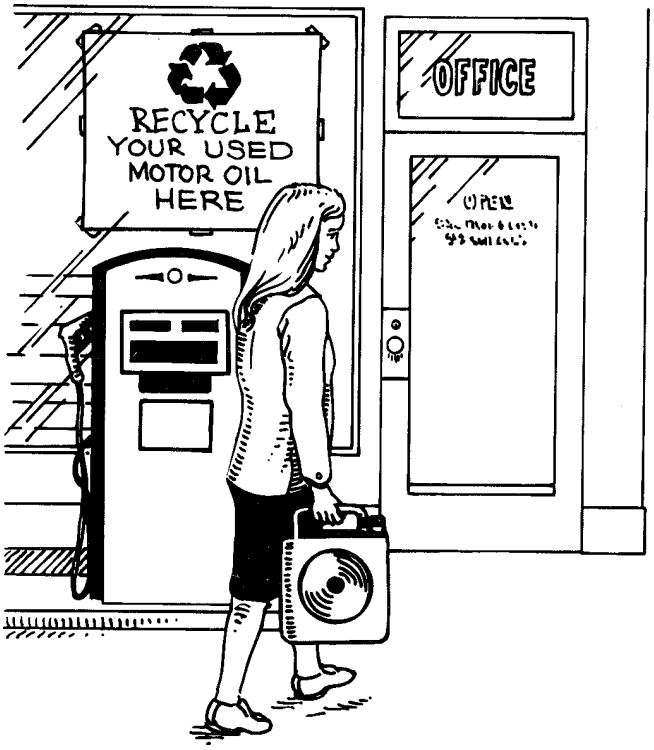

Figure 4. Used motor oil and antifreeze are accepted in many communities for recycling.

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 safe methods are extremely limited. You can avoid the disposal dilemma by buying and using only what you need, using up your leftovers, or recycling. By giving leftover products to a neighbor who needs them, you turn a potential waste problem into cost saving opportunity. Some communities sponsor swap programs to encourage sharing, and options for recycling are increasing. New Jersey law requires all used motor oil to be recycled. Drained oil filters can be recycled at some auto centers and household hazardous waste collection days.

Most counties in New Jersey offer household hazardous waste collection days. The collection days are offered for county residents to properly dispose of toxic household products which may include herbicides, pesticides, household cleaners, paints and paint thinners, solvents, pool and photographic chemicals. Contact your municipal or county recycling coordinator for specifics on the best way to dispose of hazardous products.

Paint and pesticides merit special attention.

We all buy too much paint. Municipalities that collect leftover household hazardous products report that paints make up about half of the material that people bring and thus are a costly (but avoidable) disposal expense. The best practice is to avoid leftovers by calculating how much paint you'll need before you buy. Salespeople at paint stores can help you with these calculations.

ASSESSMENT 3 -- Product Disposal

Waste Category (Refer to Chart 1 for examples of each catergory)	**LOW RISK**	**MEDIUM RISK**	**HIGH RISK**	**YOUR RISK**
Household trash Trash containing plastics or empty containers of hazardous ingredients	I empty and triple-rinse my pesticides containers at site of pesticide use. I dispose of empty product containers in my curbside garbage pickup.		I dispose of ash from mixed trash, leftover pesticides, and solvents on my property. I burn hazardous containers (ILLEGAL IN NEW JERSEY).	
Strong acids and bases Found in hobby, recreation, building cleaners, and repair products	I share any leftover products. I take leftovers to a Household Hazardous Water Collection Day. I dilute strong acids and bases and pour down the drain if approved by my local sewage treatment plant.	I pour strong acids and cleaners down a drain connected to a septic system without diluting with water.	I pour strong acids and cleaners directly into a storm sewer or waterway or on a paved slope leading to a waterway.	
Antifreeze, waste motor oil	I recycle antifreeze and waste motor oil.	I pour my used antifreeze into a septic system or municipal treatment system.	I dump used antifreeze and waste oil near a well or waterway or directly into a waterway.	
Batteries Containing mercury, cadmium, and lead	I recycle batteries or take them to a Household Hazardous Waste Collection Day.		I dispose of batteries in my curbside garbage pickup. I dispose of batteries near a well or waterway.	
Bottled gas	I recycle bottled gas containers.	I store containers which may still contain some gas.	I put containers in my trash or leave them lying around.	
Hazardous solvents	I share leftovers when possible. I recycle hazardous solvents or take leftovers to a Household Hazardous Waste Collection Day.		I dispose of leftover products in my curbside garbage pickup. I dispose of solvents near or directly into a well or waterway.	
Pesticides See Yard & Garden Care worksheet	I handle all categories of pesticides as directed on the label to prevent health and environmental problems.		I DO NOT handle pesticides as directed on the label.	

Most leftover paint can be safely managed by sharing it with neighbors or community organizations. However, leftover lead-based paint or exterior paints containing mercury or pesticides should be treated as hazardous waste.

We don't pay enough attention to how we manage pesticides. Before you choose a pesticide, be sure that you have exhausted other options for managing the pest, weed, or fungus problem. If you do need to use a pesticide, read label information carefully before purchasing a product. Buy only what you need.

Pay attention to use and disposal recommendations described on the labels. Before disposal, use up the product if possible. Rinse empty containers of liquid pesticides. Use the rinse water as part of your yard and garden management. See the Home-A-Syst worksheet on Yard and Garden Care for additional advice on managing yard and garden pesticides.

Is dumping or burning a safe alternative?

It is *never* appropriate and it is illegal to dump or bury hazardous products on your property, particularly near wells or water sources. Nor should products be poured down storm sewers. Some water soluble cleaning products may be safely disposed down the drain if flushed with plenty of water. Septic system owners need to be especially careful, however. With septic systems, the rule of thumb is moderation. Don't dump large amounts of *anything* into the septic system, even when the product is specifically designed to be used in the home with water. Septic systems are not designed to treat chemicals. Burning hazardous wastes in a burn barrel or stove is never an alternative and is illegal in New Jersey. This may release toxic gases and produce ash that is hazardous.

Assessment 3 -- Product Disposal

General recommendations for disposal are provided in the table on page 59. Check the waste category in the left column and see if any of your disposal practices present risks to human health or the environment. (See Chart 1 on page 62 -- *Hazardous Product Examples* -- for specific products affected by these recommendations.)

Responding to Risks

Your goal is to lower your risks. Turn to the Action Checklist on page 61 to record the medium and high risk practices you identified. Use the recommendations above to help you plan actions to reduce your risks.

ACTION CHECKLIST

When you finish the assessments, go back over them to find high and medium risks. Write them on the table on page 61. 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 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 first.

Write all high and medium risks below.	What can you do to reduce the risk?	Set a target date for action.
Sample: Cabinet with cleaning solvents and paint stripper is not child-proof.	Buy a lock and install on cabinet.	Two weeks from today.

FOR MORE INFORMATION...

Who to contact for more information about managing household hazardous products.

Hazardous waste disposal. Contact your county office of Rutgers Cooperative Extension and request the following free fact sheets:

FS 217 Hazardous Chemicals in your Home: Proper Use and Disposal
FS 417 Recycling Used Motor Oil in New Jersey
FS 581 Household Cleaning Products: Making Informed Purchasing Decision to Help Protect the Environment
FS 582 Household Cleaners: Suggestions for Environmentally Safer Alternatives
The Bottom Line on Boat Paint and Engine Maintenance: Environmentally Friendly Tips for Boaters and Marinas

New Jersey Poison Control Center. Keep the toll-free hotline number for poison emergencies by your phone: 1-800-POISION-1

Disposal Guides. The Water Environment Federation waste disposal guide provides disposal recommendations for many kinds of products. You may be able to get one from your local sewage treatment plant. Another guide is available from the Environmental Hazards Management Institute, 10 New Market Rd., P.O. Box 932, Durham, NH 03824.

This Home*A*Syst assessment does not cover all potential risks due to household hazardous waste 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 written by Elaine Andrews, University of Wisconsin-Extension.

This worksheet was adapted for use in New Jersey and technical review provided by Uta Krogman, Specialist in Solid Waste Management, Rutgers Cooperative Extension; Lisa Boyles, Program Associate in Soild Waste; and Jan Larson, Program Associate in Resource Management, Rutgers Cooperative Extension of Ocean County.

CHART 1: Hazardous Product Examples

Category/product	Is it properly stored?	Is information about proper disposal needed?	Are there special precautions to keep in mind?
HOUSEHOLD TRASH			
Ash/sludge from burned home or garage trash (Note: burning trash is illegal in New Jersey)			
Fluorescent bulbs/lamps (contain mercury)			
Waste motor oil			
Plastic wraps and containers (only hazardous when burned)			
Pesticide or solvent containers			
Empty containers from other product categories listed below			
CLOTHING AND FABRIC CARE PRODUCTS			
Mothballs			
Dry-cleaning fluids			
Spot removers (solvent-based)			
Shoe/leather polishes			
HOBBY AND RECREATION PRODUCTS			
Artist paints and solvents			
Charcoal lighter fluid			
Strong acids/bases*			
Bottled gas			
Household batteries (may contain mercury or cadmium)			

Category/product	Is it properly stored?	Is information about proper disposal needed?	Are there special precautions to keep in mind?
BUILDING/WOOD CLEANERS AND REPAIR PRODUCTS			
Building and wood cleaners with organic solvent ingredients:			
Wood polishes			
Products for wood floor and panel cleaning			
Building and equipment maintenance products:			
Strong acids, bases*			
Lead-based paint (see worksheet "Lead In and Around the Home" for more information)			
Oil/alkyd paints and primers			
Marine and exterior paints containing mercury and/or pesticides			
Aerosol paint products			
Stains and finishes			
Roof coatings and sealants			
Rust removers			
Silicon lubricants			
Other lubricants			
Adhesive removers			
Paint and finish preparation products			
Adhesives such as glues and caulk			
Wood-preserving products			
Products for brush or spray gun cleaning			
Water repellents for wood and cement			
Solvents, such as those used in degreasers and paint thinners, stains, and varnishes			

Category/product	Is it properly stored?	Is information about proper disposal needed?	Are there special precautions to keep in mind?
PESTICIDES			
Pesticides labeled "restrictive-use"			
General use pesticides			
Old pesticides			
Unwanted pesticides			
VEHICLE MAINTENANCE CHEMICALS			
Vehicle maintenance products such as antifreeze, oil and grease, and transmission fluid			
Solvents for oil and grease removal and disposal			
Engine and parts cleaners such as carburetor and brake cleaner			
Paints and paint preparation products			
Lead acid batteries			
Battery terminal protector			
Tire cleaners			
Rust removers			
Ignition wire dryer			
Gasket removers			
Aerosol paint and primer products			
Brake quieter			
Brush and spray gun cleaners			

***NOTE**: You can identify strong acids or bases in the product you are using by noting:

- if the hazard warning label recommends that the user wear skin protection or avoid breathing the vapors or aerosol mists
- if the product was intended for use in a commercial situation (industrial strength cleaner, for example)
- if the product was intended to manage difficult stains or dirt (rust remover, lime remover)