University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of Nebraska-Lincoln Extension

Extension

1992

EC92-441-B Household Waste Management : For Your Health and Environment's Sake

Shirley Niemeyer

Ann Ziebarth

Leon Rottman

Follow this and additional works at: http://digitalcommons.unl.edu/extensionhist

Niemeyer, Shirley; Ziebarth, Ann; and Rottman, Leon, "EC92-441-B Household Waste Management : For Your Health and Environment's Sake" (1992). *Historical Materials from University of Nebraska-Lincoln Extension*. 4683.
http://digitalcommons.unl.edu/extensionhist/4683

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

EC 92-441-B

Nebraska Cooperative
Extension Service
E.C. (Nebraska Cooperative
Extension Service)
Received on: 09-23-92
University of Nebraska,
Lincoln -- Libraries

CYT
S
85
E7
no. 441
Copy 2

Household Waste Management: For Your Health and Environment's Sake

Year Two

Extension Specialists Shirley Niemeyer, Home Environment; Ann Ziebarth, Housing; Leon Rottmann, Human Development; and Extension Agents Monica Braun, Gerald Hopp, Gary Hall, Deb Stevens and Judy Schwab

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kenneth R. Bolen, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.

It is the policy of the University of Nebraska-Lincoln Institute of Agriculture and Natural Resources not to discriminate on the basis of sex, age, handicap, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.

Household Waste Management: For Your Health and Environment's Sake

Year Two

Chemistry touches our lives every day. Chemical benefits are such a part of our lives that we take them for granted. Unfortunately, some characteristics that make household products the most useful cause trouble when they are carelessly used and disposed. As we use more chemicals, our concern about the effects of chemicals on people and the environment has increased. Some chemicals pose risks when carelessly used and disposed.

What are you doing with your leftover paint and paint thinner, used household batteries, motor oil, solvent-based cleaners, and household pesticides? Are you pouring them down the drain or on the ground, burning them, or placing them in the garbage? Although there may be few alternatives for safely disposing of these products, using wise waste management and disposal techniques can protect our health and our environment.

Project to natural sediment in the area and state.

Preliminary results showed heavy metal concentrations (lead, zinc, cadmium and mercury) may be higher in landfills than in the natural soils surrounding the site. Whether the source of these heavy metals is residential is unknown.

While the pollution source is uncertain, the Iowa Department of Natural Resources reports that measurable amounts of pollutants (toluene and benzene) found in paint thinners and other household products were found in a few Iowa public water supplies. Traces of certain pesticides, possibly from lawn care, were also found. Concentrations of these and other contaminants in public drinking water supplies is generally very low, but the human health effects of exposure to chemical contaminants for long periods of time is uncertain.

A Seattle, Washington study found homes to be a source of some hazardous chemicals in the sewer system. Data from other wastewater treatment plants have shown as many as 102 of the toxic pollutants on the EPA priority list are present in sewer systems.

An Orange County, California wastewater treatment plant study concluded that up to 20 percent of influent metals and organic chemicals come from homes.

New York City's wastewater treatment plants have found that domestic wastewater contains hazardous chemicals commonly found in gasoline, some insect repellents, shoe polish, waxes, and upholstery and rug cleaners.

The EPA has also determined that many specific wastes, listed by name, are hazardous. Infectious waste and radioactive waste are also potentially dangerous. Disposal of infectious waste such as sewage is regulated by public health agencies.

Manufacturers often provide product label warnings about hazardous characteristics of their products. Look for these key words on labels to identify potentially hazardous household products.

toxic, poison

volatile

caustic, corrosive

explosive, reactive

Why is household hazardous waste a problem?

The drain and the garbage truck are how most households get rid of things they no longer want. But unfortunately these systems cannot handle all of today's wastes. People have always produced hazardous wastes, but in the 20th century the amount and variety have greatly increased, and how we manage and dispose of these wastes have changed.

Household hazardous wastes are about one percent of all residential solid waste, but total amounts generated per year are high. Each household annually disposes of about 5 1/2 to 15 pounds of potentially hazardous waste. When hazardous waste from 602,363 Nebraska households is combined, the estimated 1,650 to 4,500 tons per year can affect the environment.

Household wastes are not covered under current Federal hazardous waste disposal regulations due to lack of current staffing and funding of waste regulatory agencies. Households can legally include household hazardous wastes in garbage, but these practices can cause problems. Containers can break or leak, and reactive, explosive or corrosive materials can mix in landfill sites or inside garbage trucks, endangering both property and workers. Though these wastes are not regulated, they should not be exempt from careful use, storage, and disposal practices.

Have hazardous chemicals found in common household products contributed to soil and water contamination?

Contamination of ground water, surface water, soil and air can sometimes be traced to improper disposal of household hazardous wastes. Environmental monitoring has shown that even landfills in rural area areas that do not receive industrial waste can produce runoff and leachate containing chemical compounds that may be hazardous. Although it's hard to detect exact contamination sources, it is assumed that some of these chemicals came to the landfill from households.

Soil samples taken from one landfill were compared by the University of Arizona Garbage

How are potentially hazardous household products identified?

Household products are hazardous when they contain chemicals which can threaten human health or the environment if they are used, stored, or disposed of improperly. As long as the product is used according to instructions, it is a **potentially hazardous** product only, not a **waste**. The product becomes hazardous waste when it is no longer used and needs to be disposed. Waste is hazardous if its chemical or biological nature is potentially dangerous to people or the environment.

The Environmental Protection Agency (EPA) defines four major types of hazardous wastes based on their characteristics. These are:

Corrosive - waste that can eat away materials or living tissue through chemical action. (pH less than 2 or greater than 12.5). Battery acid and strong alkali products such as lye are examples.

Toxic - waste that can cause poisoning symptoms or death. Some pesticides, cleaning products, paints, photographic supplies, and art supplies are toxic.

Ignitable - waste that can catch fire spontaneously at relatively low temperatures (flash point less than 140 degrees). Charcoal lighter fluid, gasoline, kerosene, nail polish remover (acetone), and various oils ignite easily.

Reactive - waste that can react with air, water or other substances to cause rapid heating or explosions. For example, acids when mixed with water can result in rapid heating and spattering.

flammable, combustible

danger, warning, caution

Hazardous products other than pesticides, which can be toxic, corrosive, irritant, flammable, or radioactive are regulated by the Federal Hazardous Substances Act (FHSA). Products containing pesticides which are toxic are regulated by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). FHSA and FIFRA set minimum standards for label information to comply with the law.

FIFRA

Pesticide Labels		
	Category	**Signal Word**
I	Highly toxic	DANGER
II	Moderately toxic	WARNING
III	Slightly toxic	CAUTION

FHSA

Non-pesticide Product Labels	
Category	**Signal Word**
Extremely flammable, corrosive, highly toxic	DANGER
Highly toxic	POISON
Other hazardous products	WARNING CAUTION

What can consumers do to reduce the human and environmental risks of household hazardous waste?

Hazardous household wastes can be managed by reducing the amount produced, recycling wastes, treating them to make them nonhazardous, placing them in specially-designed, sealed landfills, and by preventing people and animals from coming in contact with the wastes.

To manage household hazardous products and minimize waste...

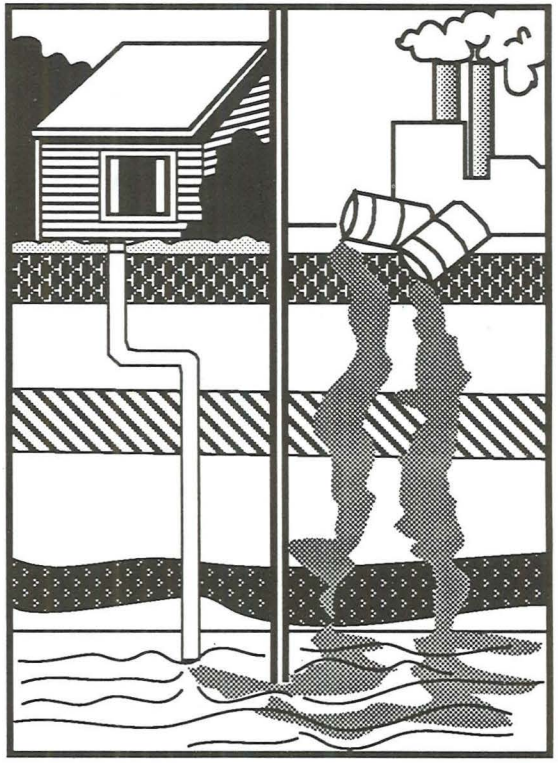
- If you don't need it, don't buy it.
- Buy the right product for your task. Read the label to be sure. If ingredients are not listed, contact the retailer, manufacturer or distributor and ask for a copy of the Material Safety Data Sheet for the product. The Data Sheet lists product ingredients and product safety and health hazards, the manufacturer, and precautions to follow when using the product.
- Check for key or signal words on the label. Try to determine and use the least toxic alternative.
- Buy only the amount of household products that you can use completely in a short period of time.
- Use according to the label; more is not better. In the case of pesticides, it is illegal.
- Keep potentially hazardous products in their original containers along with the original label and leaflets.
- Recycle products such as used oil or batteries by taking them to a service station or other recycling center that accepts these products.
- Find out about and follow your trash collector's disposal guidelines.

Before you buy a product...

Buy the least hazardous product. Let the signal words **DANGER, POISON, WARNING** or **CAUTION,** serve as guides. The word "non-toxic" has no federal regulatory definition. It is often used in advertising and like the term "natural" can have many meanings. Ask these questions:

Look Before You Buy

- ☑ Do I really need this product?
- ☑ Have I checked the signal words?
- ☑ Is there a safer alternative?
- ☑ Does this product require safety equipment?
- ☑ Am I buying more than I need?
- ☑ Can I safely dispose of the excess or does it require a household hazardous waste collection?
- ☑ Can I safely store this product in my home?
- ☑ Does the product list the ingredients?



How do I dispose of leftover, potentially hazardous household products or their containers?

Many people are unaware of the problems that result from improper disposal, have few disposal alternatives, or are unaware of safer alternatives for use and disposal. Nebraskans studied in 1990 said they were primarily disposing of potentially hazardous household waste by placing it in the trash can or taking it to a landfill, or pouring it on the ground.

In a 1988 study[2] few Nebraskans reported using the methods recommended as possible safe management methods such as placing the product in a special hazardous waste container, taking it to a local collection site, or giving it away. Only 6 percent reported taking the product to a special household hazardous waste collection site. However, only Lancaster County has any type of on-going collection program, and that program is limited to county residents.

- Use products completely if safe to do so. Do

Are Nebraskans reducing their use of

Some Nebraskans are recycling products by

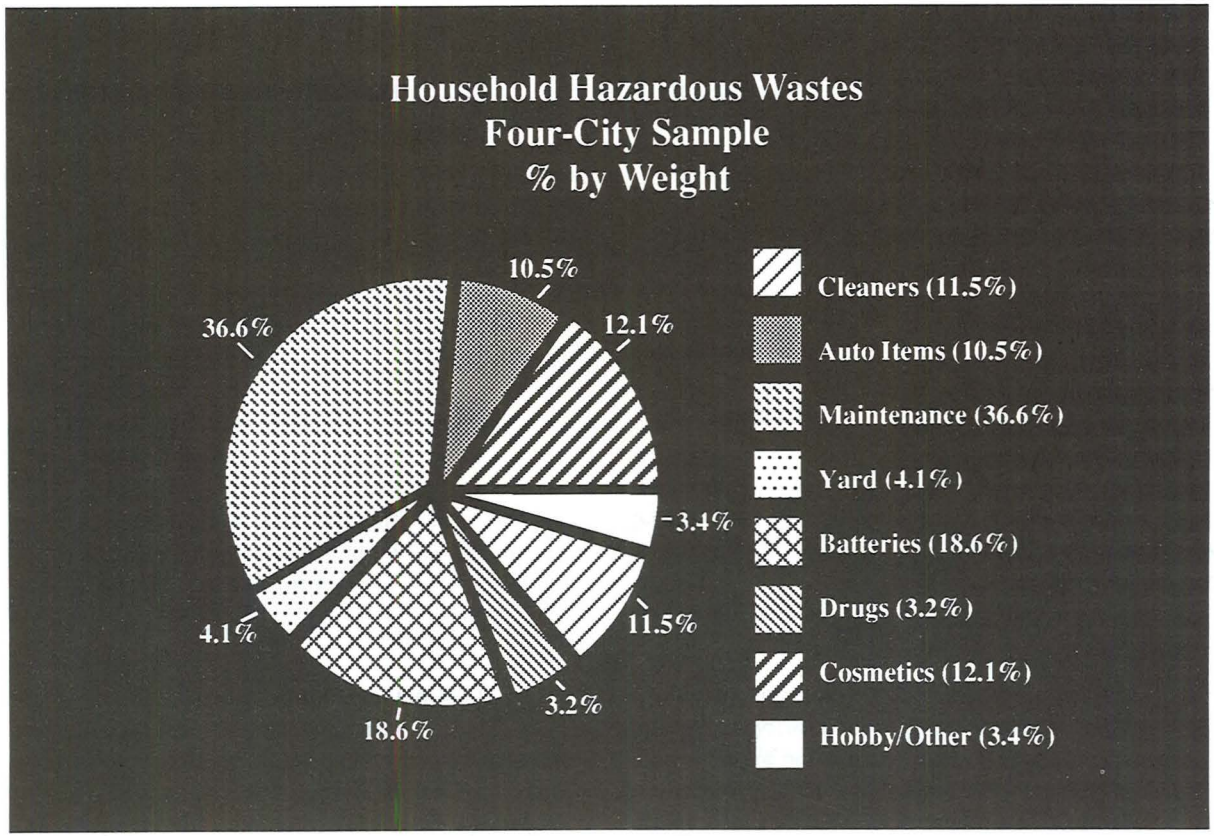
collector's disposal guidelines.

residents.

- Use products completely if safe to do so. Do not use banned products.
- Share the leftover products with someone who can use them **if safe and legal to do so.** Be sure the container's label and use and storage directions are intact. Some products such as medicines and banned products should not be shared.
- Contact the manufacturer for information about local recycling centers or for safe storage or disposal recommendations.
- If you decide to store unused products, store them safely.

Are Nebraskans reducing their use of potentially hazardous household products?

Nine percent of the respondents in a 1990 study of 1,000 Nebraska households[1] said they were not currently reducing products purchased that may contribute to household hazardous waste; however 87 percent reported very little to a great deal of reduction. Twelve percent said that they had no plans to reduce products that contribute to household hazardous waste.



Source: *The Garbage Project,* University of Arizona. Rathje,W., Wilson, D. Hughes, W. (1987)

Some Nebraskans are recycling products by giving them to a friend to use; 13 percent of those in the 1988 study reported that they sometimes give the products to a neighbor, school, business or service organization that may have use for leftover cleaning solution, paint, fertilizer, or gasoline.

If the products cannot be used, recycled, or disposed of safely, there may be few options. Storing leftover chemicals in a **safe place** until toxic cleanup days become available or other options are known may be one choice. Twenty-one percent of Nebraskans surveyed in 1988 said they were storing some potentially hazardous household waste because they didn't know how to properly discard it.

Dumping on ground, pouring into storm sewers, burying?

In the 1988 study, 17 percent of Nebraskans surveyed reported they sometimes poured potentially hazardous household waste on the ground and 37 percent took them to a dump site on their own property. Household hazardous waste should not be poured on the ground or into storm sewers or buried. If the wastes are persistent, running water may wash them into surface water, streams and lakes. In other cases they may seep through the earth until they reach aquifers contaminating drinking water.

Burning?

Burning household hazardous waste at home can create other pollution problems. For example mercury, a heavy metal, is released into the air at low temperatures when burned. Mercury is found in some wastes, such as some household batteries and paints. One-third of the Nebraskans in the 1990 study reported that they burned some of their household waste in a burn barrel. Forty-three percent of those studied in 1988 reported they sometimes or often burned potentially hazardous household waste.

---

[1] Niemeyer, S. (1990). The Public's View of Household Hazardous Waste, U.S. EPA Conference on Household Hazardous Waste Management. Research project

[2] Niemeyer, S.; Prochaska Cue, K.; Parrott, K. (1988). Women and Environmental Concerns: Household Waste Management and Hazardous Waste. Research project.

DISPOSAL OF POTENTIALLY HAZARDOUS PRODUCTS

This guide is based on common products and best available information as of printing. Use it for disposal of small leftover household quantities only. Product formulations within categories and manufacturers' recommendations may vary.

When disposal by pouring down drain is suggested, use plenty of water and use caution with septic tanks. Contact local public works officials, sewage treatment plant managers, health department, police or fire department, the State Health Department, the Department of Environmental Control, Cooperative Extension, the State Fire Marshals' office, or the manufacturer for added information on specific products.

Remember the first choice for many of the products, when safe and legal to do so, is to use completely, recycle, or share with someone who can use it completely.

DISPOSAL KEY

A. Dispose of in a landfill.
B. Save for community hazardous waste collection day.
C. Recycle or save for community hazardous waste collection day.
D. Use completely, recycle or pour small amounts down the drain with plenty of water.
E. Never mix ammonia products with chlorine bleach; a poisonous gas is produced.
F. These products should not be sent to a septic tank.
G. Some gas stations and auto supply stores will accept these products if they are in properly labeled containers.
H. Do not use up wood preservatives containing creosote, pentachlorophenol (save for a collection program for penta), or arsenic. Wood which has been treated with these products is also hazardous and should not be burned.
I. Do not use up products labeled "Restricted Use" or that have been banned; deliver these products to a community hazardous waste collection day.
J. Contact a fire or police station or sheriff's office to see if the material can be delivered or needs to be picked up.

HOUSEHOLD WASTE MANAGEMENT

Product	Disposal Suggestions	Comments
HOUSEHOLD PRODUCTS		
Alcohol-based lotions (aftershaves, perfumes, etc.)	D	
Ammonia-based cleaners	D,E	Minimize disposal in septic tank systems.
Bathroom cleaners	D	
Bleach (chlorine)	D,E	
Cosmetics	A	
Disinfectants	D,F	Industrial strength to community hazardous waste collection day. Evaporate if organic solvent is present.
Drain cleaners	D,F	
Floor care products (solvent-based)	B	
Furniture polish (petroleum-based)	B	
Hair relaxers	D	
Hair removers	D	
Insecticides	B	
Medicine (expired)	D,F	Do not put antibiotics down the drain.
Metal polish (with petroleum distillates)	B	
Nail polish (solidified)	A	
Nail polish remover (evaporated)	A	Generally is 100 percent solvent - use completely or recycle.

HOUSEHOLD WASTE MANAGEMENT

Product	Disposal Suggestions	Comments
GARAGE/WORKSHOP PRODUCTS (continued)		
Other oils	C	
Paint - latex (solidified)	A	Latex paint containing mildewcides or mercury should be used for exterior use only and marked as such if paint swaps held for recycling purposes. Paints with special added ingredients such as mildewcides additives should be disposed of as a hazardous waste.
Paint - oil based (solidified)	A	
Paint - synthetic auto enamel,model airplane	B	
Paint thinner	C	
Paint brush cleaner with solvent	B	Strain and reuse solvent, sludge to hazardous waste collection.
Paint stripper (with methylene chloride)	B	
Paint stripper (with sodium hydroxide)	D,F	
Resins (fiberglass or epoxy resins)	C	

Nail polish remover (evaporated)	A	Generally is 100 percent solvent - use completely or recycle.
Oven cleaner with sodium or potassium hydroxide	D,F	
Spot remover; dry cleaning solvent	B	Use completely or recycle.
Toilet bowl cleaner	D,F	
Tub and tile cleaners	D	Minimize disposal in septic system.
Window cleaner	D	Some contain alcohol - minimize disposal in septic system.
LAWN AND GARDEN PRODUCTS		
Fertilizer	A	
Fungicide	B,I	
Herbicide	B,I	
Insecticide	B,I	
Rodent poison	B,I	
GARAGE/WORKSHOP PRODUCTS		
Antifreeze	D	Less than 1 gal. down drain. Minimize disposal in septic tank. Disposal recommendations vary. Contact wastewater treatment facility.
Automatic transmission fluid	C,G	
Auto body filler (solidified)	A	
Battery (vehicle)	C	
Brake fluid	C,G	
Car wax (with petroleum distillates)	B	Give to auto class, service station, etc.
Carburetor cleaner	B	Give to auto class, service station, etc.
Cutting oil	C	
Diesel fuel	C,G	
Engine degreaser	B	
Fuel oil	B	
Gasoline (contaminated)	C	Dangerous to store at home.
Glue-solvent based (solidified)	A	Or save for hazardous waste collection day.
Kerosene	C,G	
Motor oil	C,G	Do not add volatile waste, gasoline, or other ingredients to waste oil that is to be recycled. Do not pour down drain or on ground.

Paint stripper (with methylene chloride)	B	
Paint stripper (with sodium hydroxide)	D,F	
Resins (fiberglass or epoxy resins)	C	
Turpentine	C	
Varnish (solidified)	A	
Windshield washer solution	D	Not down drain if contains methanol - recycle or save for hazardous waste collection.
Wood preservative	B,H	
MISCELLANEOUS PRODUCTS		
Ammunition	J	Contact a fire or police station or sheriff's office.
Artists' paints,mediums (oils)	C	Some specific pigments to hazardous waste collection.
Cadmium, alkaline, carbon-zinc, lithium batteries	B	
Explosive materials	J	Contact a fire or police station or sheriff's office.
Fluorescent light ballast (before 1978)	B	Ballasts manufactured before 1978 are likely to contain an oily substance called PCB and unless labeled otherwise, assume has PCB's and deliver to or save for a hazardous waste collection.
Glue (water based)	D	Minimize disposal in septic system, or solidify and landfill.
Gun cleaning solvents	B	
Lighter fluid	B	
Mercury and silver oxide batteries	C	Recycling possible in some areas - jeweler, camera shops, etc.
Mercury thermometers	C	Check with dentist office or hospital for recycling possibility.
Moth balls and flakes	B	
Photographic chemicals (unmixed)	B	Try to use up or recycle.
Photographic chemicals (mixed and diluted)	D	Only for black-white processing - not color.
Rust remover (with phosphoric acid)	D	
Shoe polish	A	
Shoe dye	B	
Swimming pool chemicals (unmixed)	B	

Down the drain?

Fifty-two percent of the Nebraskans responding in 1988 said they sometimes or often poured potentially hazardous household waste down the drain. Sewage-treatment systems were not built to handle hazardous wastes. Although some toxic wastes can be broken down by the bacteria in sewage-treatment systems, many cannot. Some wastes kill the bacteria. Undestroyed toxic substances can pass through the sewage treatment plant into the sewage sludge or wastewater. If the wastewater is discharged into a stream, the toxic substances may end up in the drinking water downstream. If the sludge is contaminated, it can then only be disposed at hazardous waste landfills.

Large city treatment plants are the most rugged; suburbs or small towns sometimes use "packaged' treatment plants less able to cope with hazardous wastes. The most fragile system is a septic tank. Pouring a hazardous waste down the drain connected to a septic tank can result in killing the organisms in the septic tank. Toxic solvents pass through the system unchanged, and are discharged directly into the drainfield soil.

Landfilling?

The ordinary sanitary landfill is not designed to hold hazardous waste. If moisture drains through the landfill, it can carry materials from the wastes and become a liquid called **leachate**. Leachate may contain toxic wastes and can carry those wastes into streams or ground water. Federal regulations may soon require new municipal landfills to be built to prevent the escape of leachate. Most landfills today were not built to prevent leachate escape. Nebraskans do use the landfill for disposal of some of their household hazardous waste. About half of those studied in 1988 said they sometimes or always placed leftover hazardous household waste in their trash can for disposal.

Evaporating?

Some of the disposal recommendations suggests allowing small quantities of solvents to evaporate. This disposal method may be acceptable in an area with good air circulation, but not in enclosed spaces.

Methods of handling a specific leftover product depends on the geology, climate, and ecosystem, as well as on human arrangements in your area. The disposal methods table provides some examples of recommendations. However, check with your local waste management and wastewater treatment facilities and keep abreast of changes in recommendations as new research and findings are made available.

Empty Container Disposal

Dispose of empty household hazardous waste containers promptly. Most can be placed in trash destined for a landfill, but precautions should be followed. In general, containers that can be rinsed should be *triple-rinsed* before being placed in the trash. Bags should be emptied thoroughly before disposal. Use the rinse water in the same way the product is used.

Never reuse hazardous waste containers. Traces of hazardous substances may remain in the containers even after rinsing. Do not throw empty containers into streams, ponds, ravines, abandoned wells or caves, sink holes or along the roadside.

Why doesn't the government offer free household hazardous waste cleanup days in every county to get rid of household hazardous waste?

Household hazardous waste cleanup days are expensive because of organizational, personnel, transportation and out-of-state disposal costs. Technical expertise in regulations and management alternatives is also needed. Transportation costs are especially high in rural areas.

One-time cleanup days do not solve all the problems related to use and disposal of household hazardous chemicals. Most households do not participate and the need for disposal options continues as long as households purchase potentially hazardous products resulting in leftovers.

Currently there are no hazardous waste disposal sites in Nebraska, so materials collected must be sent out of state with a licensed contractor to Alabama, Arkansas, California, Illinois or Texas. A list of sites and transporters is available from the EPA, Kansas City, Kansas.

Of the 474 Nebraskans in the 1990 study, only 5 percent reported that they already had a community household hazardous waste collection program. Of the 94 percent with no household hazardous waste programs, 65 percent agreed or strongly agreed that their community should start a household hazardous waste collection program, and 11 percent somewhat to strongly disagreed.

Sixteen percent of the respondents reported they are not willing to pay to get rid of household hazardous waste, and 73 percent did not know how much they were willing to pay. Of those willing to pay, the average amount they would pay per pound to get rid of leftover household hazardous waste was .66 cents. The actual costs per person for the collection programs appear to be much larger than the respondents estimates of what they were willing to pay. Comparisons to collection program costs across the U.S. show that the costs range from $7 to $380 per person participating per program (total reported cost of program divided by number of participants).

Improper disposal of household hazardous waste, dumping on land, burial, or septic tank disposal can contribute to ground water contamination because chemical waste can gradually soak, or leach, through the soil into the ground water.

Improper disposal through sewer systems can lead to surface water problems because conventional treatment plants cannot break down complex chemicals or high concentrations of simpler ones.

If I decide to store a product what should be considered?

- Keep products out of reach of children and animals. Store on safe sturdy high shelves or in locked cabinets, away from foods.
- Clearly label and date potentially hazardous products before storage. Store in original containers.
- Never store hazardous wastes in food or beverage containers.
- Make sure lids are tightly sealed and childproof.
- Containers should be kept dry to prevent corrosion. If a product container begins to corrode, place it in a plastic bucket with a lid, and clearly label the outside of the container with contents and appropriate warnings.
- Store volatile chemicals or products which warn of vapors or fumes in a well-ventilated area, out of reach of children and pets, and away from food.
- Keep products away from heat, sparks, flames, or sources of ignition. This is especially important for flammable products.
- Know where flammable materials are located and how to extinguish them. Know what type of fire extinguisher to use and keep working fire extinguishers nearby.
- There are some materials that should not be stored due to the danger. Contact the EPA, Department of Environmental Control, Health Department, Fire Department or other information sources if you are unsure of storage safety.

Benefits and Risks

Risk is the consideration of the probability that something may cause an adverse result and the consequences of that result. If we eliminated every substance and consequence that might be hazardous under any circumstance, the world would be a barren wasteland. If we tried to require that there be absolutely no risk, nothing would be considered safe - even our own body contains bacteria and viruses with the potential of killing us.

Acceptable risk means that a certain degree of risk is permitted because the probability for harm is low or consequences indicate minimal negative impacts. It may be an acceptable risk to use a toxic chemical substance provided it is safely and properly handled and controlled. Risk is a function of product toxicity and potential for personal exposure. It is not an acceptable risk to use just any chemical substance for just any purpose.

The health risks of water pollution in the U.S. is considerably less than in parts of the world where, for example, cholera epidemics have resulted from unsafe water supplies. While water quality may not yet be an immediate life or death matter for most Americans, there are situations where land use and irresponsible handling of chemicals have compromised the quality of local drinking water supplies.

As the federal agency responsible for water safety, the EPA has 23 standards in place with 33 more to go into effect in the summer of 1991 which are designed to insure water quality. However, with more new chemicals introduced each year, these standards address only a proportion of the potentially harmful contaminants.

To set standards, the health risk of a contaminant must be determined. This is a lengthy process and setting standards is only the first step in water quality protection. The standards then must be enforced and problems resolved before there is an effective means of providing safe drinking water. One estimate by the EPA showed that 48-49 states are failing to adequately enforce existing regulations.

Citizens must manage their impact on the environment. Properly purchasing, using, storing, and disposing of household chemicals is a key step to maintaining water quality.

Where can I get additional information on how to dispose of hazardous waste?

Check with your local waste disposal facility, fire department, health department, or Cooperative Extension office. They may refer you to a state or federal agency for more information.

State Fire Marshall's Office
Ken Scurto
246 So. 14th
Lincoln, Nebraska 68508
(402) 471-2027

Nebraska State Patrol
Explosives, gun powder, shells, etc
Trooper Rod Getting
3510 Northwest 36th Street
Lincoln, Nebraska 68524
(402) 470-2404

Dana Duxbury & Associates
16 Haverhill St.
Andover, MA 01810
(Database on household hazardous waste collection programs nationwide.)

National Pesticide Telecommunications
800-858-7378
24 hour hotline

Department of Environmental Control
Brian McManus or Rich Webster
Office of Public Affairs
301 Centennial Mall South
Lincoln, Nebraska 68509-8922
(402) 471-4223

Adi Pour, Toxicologist
State Department of Health
301 Centennial Mall South
Lincoln, Nebraska 68509
(402) 471-2541

Center for Safety in the Arts
Clearinghouse for research, education
5 Beckman Street Suite 1030
New York New York 10038
212-227-6220

EPA Hazardous Materials Branch
726 Minnesota Ave.
Kansas City, Kansas 66101

Cooperative Extension - University of Nebraska
Local county or area offices serving your area

Chemical Manufacturer's Association
Chemical Referral Center
1-800-262-8200
Referral to manufacturers
9 a.m. to 6 p.m. EST

U.S. Consumer Product Safety Commission
1-800-638-2772 (Product labeling information)

Poison Control Center
(emergency service for acute
or suspected poisoning)
800-955-9119 or local 402-309-5555

Additional publications are available from Cooperative Extension. Examples include: EC90-2501, Pesticide Safety Telephone Hotlines; G89-937, The Pesticide Label; and the Pesticide Application Training materials.

Acknowledgements:

Portions of this publication were adapted from:
Department of Environmental Control *Household Hazardous Waste Chart*. Lincoln, Nebraska.
Goodman, S.; Steinwachs, M.; Dewey, S.; and Boone, M. (1989). Guide to Hazardous Products Around the Home. Household Hazardous Waste Project. Springfield, Missouri.
Lord, J. (1988). Hazardous Wastes from Homes. Enterprise for Education Inc. Santa Monica, CA.
Stone, J. (1990). Household Hazardous Wastes: Issues, Concerns and Some Answers. Iowa State University Cooperative Extension, Ames, Iowa.

References:

Budavari. S. (1989). *The Merck Index.* Rahway, N.J.: Merck & Co., Inc.
Ground Water Quality Investigation of Five Solid Waste Disposal Sites in Nebraska. (1990, February). Lincoln, Nebraska: Department of Environmental Control.
Niemeyer, S. (1991, April). *Comparisons of recommendations for disposal of potentially hazardous household waste.* Agents reference. Lincoln, Nebraska: Cooperative Extension UN-L
Nigam, H. (1990, Spring). *Households as sources of hazardous chemicals. Household Hazardous Waste Management News.* Office of Municipal Pollution Control.
Wilson, D. (1988) Characterization of Household Hazardous Waste. The Garbage Project. University of Arizona.
Wilson, D. (1989). Sources and Fate of Heavy Metals in MSW Landfills: Lead, Zinc, Cadmium, and Mercury. Bureau of Applied Research in Anthropology: University of Arizona.

Appreciation is extended to the content reviewers:

Del Weed, Environmental Health and Safety, UN-L; Trooper Rod Getting, Nebraska State Patrol; Extension Specialists Rollie Schneider, DeLynn Hay, Wayne Woldt, Larry Schulze, UN-L; Rich Webster, Department of Environmental Control; Sarah Dewey and Marie Steinwach, Household Hazardous Waste Project.

The information in this bulletin has been carefully documented and reviewed. The suggestions contained herein advise safe disposal of products using the best technology available at the present time. The authors assume no liability for the effectiveness or results of the procedures described. Recycling or hazardous waste collection days are the recommended disposal methods for household hazardous wastes.

NOTES