



SECTION 5

Household Hazardous Waste and Petroleum Products Management

Keeping Hauser Lake Clean

Why Are Hazardous Household Products A Problem?

Many common household products contain ingredients that are corrosive, toxic, or flammable. When used improperly or disposed of improperly, these products can become personal health and safety concerns, and have the potential to contaminate soil, your drinking water supply, and pollute Hauser Lake and surrounding streams. Small (and sometimes large) unusable amounts of hazardous materials are at times spilled, buried, or dumped onto rural properties.

1) Use this Section and the associated worksheets to assess your management of hazardous household wastes and petroleum products.

2) Fill out the **Action Checklist** (in the worksheets) to inventory contamination sources, and to help you.

3) **Take Action** to protect Hauser Lake by using the *Best Management Practices* found in **Lake*A*Syst**.

This Fact Sheet will help you identify potential hazards and minimize risks. We will cover:

- Product selection, purchase, and use
- Safe storage
- Product disposal
- Petroleum use and storage (cans to tanks)
- Controlling road dust

Guide for Managing Home Wastes

- **Do not** dump oil, gasoline, paints, pesticides, or any other hazardous household chemicals on the ground, down drains, down storm sewers, or into a water body. For many products it is illegal to do so.
- **Do not** dispose of partially-filled containers in the garbage.

- **Do not** use pesticides and fertilizers within 25 feet of Hauser Lake and its watershed streams.
- **Do not** burn hazardous household containers in a barrel or outdoors.
- **Do not** bury chemical containers containing residues; or other products such as batteries.

Please:

- Use all products according to label directions.
- Find out if a product can be recycled and where to recycle it in your community (the county transfer stations accepts all types of household waste).

Some Household Products that Could be Hazardous or Harmful to Your Health, or to the Environment if Improperly Managed:

Home cleaning supplies - drain cleaners, oven cleaners, laundry and stain removers, bleach, lye, some bathroom cleaners, floor wax stripper, polishes.

Home maintenance products - oil based paints, lead based paint, paint thinner, wood stains, wood preservatives, paint stripper, some adhesives and glues, degreasers, mothballs, lead solder, fluorescent lights.

Vehicle-related products - antifreeze, oil, gasoline, cleaning solvents, brake fluid, grease, rust removers, oil filters, transmission fluid, old auto parts.

Batteries - lead-acid car batteries, flashlight batteries that contain mercury or cadmium.

Hobby and recreational supplies - photo developer chemicals, marine paints containing pesticides and/or mercury, swimming pool and hot tub chemicals, strong acids/bases, chemistry sets.

Product Selection, Purchase and Use

Your choice of products is the first step. By carefully selecting the product for the job needed, or considering alternatives, you can control the degree of "hazard" you bring to your home or property.

Read The Label!

Reading product labels is the best way to get information about the product. Information on the product label can help you decide whether the product is right for the job you want to do, and if it can be used safely in your situation. Before you purchase or use a product, take time to read the label, even though the print is often tiny.

Labels provide information about product ingredients, how to store and use them safely, and hazards associated with the product. Labels on hazardous products contain **SIGNAL WORDS**, which tell how hazardous the product is to humans. This can give some indication of the potential problems to the environment.

Do you buy only what you need?

If you buy more than you need, household products will accumulate and create storage and disposal 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.

Can an alternative product do the job?

There are numerous alternatives to some common hazardous household products and pesticides. For a comprehensive list of alternatives obtain the DEQ booklet *Eliminating Household Hazardous Waste*.

Cleaning Agents -

- Baking soda is a non-abrasive scouring powder.
- Use vinegar and warm water for windows and smooth surfaces.
- Rub toothpaste on wood to remove water stains.
- Avoid aerosol products. Mist particles can enter the blood stream; use pump or spray bottles.
- Open drains with metal snake or plunger. Keep drains clear with rinses of ½ cup baking soda, followed by ½ cup vinegar, let sit, and then 2 quarts boiling water.
- Clean upholstery or carpet stains immediately with cold water or club soda.
- In general choose soap or detergent-based cleaners when possible. Avoid non-water-soluble and corrosive cleaners when others offer an effective substitute.

Paints, Solvents, Strippers, Adhesives

- Use latex or water-based paints whenever possible. These don't require thinners or solvents.
- Use sandpaper, a scraper, or heat gun for small

jobs instead of a paint stripper. Avoid strippers and other products containing methylene chloride.

- For wood preservatives, use a water-sealing coating. If treated wood is needed, choose pressure treated.

Batteries

- Use rechargeable batteries, and mercury-free or less than .025% mercury batteries when possible.

Pesticides

Before you choose a pesticide, be sure that you have exhausted other options for managing the pest, weed, or fungus problem. There are a whole host of alternatives to insecticides and herbicides to control pests outdoors. Please see Section #2, *Lawn and Garden Management* for suggestions in this area.

Safe Storage

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

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 to other products. Corrosive materials are often stored where equipment and appliances are located. Be aware that they can corrode heating systems, hot water heaters, and other equipment and appliances. Routinely check areas where you store household products (under the kitchen sink, in the basement or garage, in an outside shed) to make sure that containers are closed tightly and not leaking, and that the sides of containers are not bulging.

When You Store Hazardous Household Products, Do You?

- Keep them out of reach of children and pets, preferably in a locked, secure area.
- Store them in their original container.
- Clearly label and date any alternative containers.
- Keep containers tightly sealed and dry.



- Keep products in a well-ventilated area and away from sources of ignition.
- Store batteries and flammable chemicals in an area shaded from direct sunlight.
- Store products at least 200 feet from a well or waterway.
- Store chemicals in an outside shed or your basement, on shelves above any flood waters.

Product Disposal

Purchase of household products that are considered potentially hazardous to health and/or the environment eventually pose a disposal dilemma. Disposal should be your last option because it is wasteful, and if not done properly, can be unsafe for you and the environment. Here are some tips on how to avoid some of the disposal dilemmas:

Reduce -

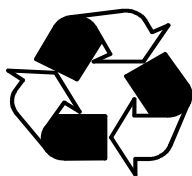
- Use up hazardous products before disposing.
- Don't purchase more products than you really need.
- Give leftovers to a friend who can use them.
- Try non-toxic alternatives.

Reuse -

- Use old paint as a primer.
- Many chemical products have alternative uses
- Allow used paint thinner to sit in a sealed jar until paint particles settle. Pour off clear liquid and use again.
- Don't buy several products if one can do the job. General household cleaners can clean a variety of things. Check product labels.

Recycle -

- We are all familiar with recycling of paper, glass, aluminum cans, and plastic containers.
- Many other products can be recycled such as used motor oil which can be refined, or burned as fuel. Other recyclables include flashlight batteries.



Recover -

- Separate hazardous waste containers from your household garbage.
- Periodically take all hazardous containers to the county transfer station if they accept the hazardous material.

See page 5-7 for facilities that accept household hazardous wastes, petroleum products, antifreeze, car batteries, tires, and other recyclable goods.

Waste Disposal on Your Property

Disposing of hazardous household waste by burning it or burying it on private property can pose threats to your health and the environment. Although these disposal methods have been used in many rural areas for decades, local and state laws are becoming more restrictive.

Some residents use burn barrels to get rid of many household wastes. A noxious mix of chemicals can be released into the air, and can be hazardous to breathe. Eventually, most byproducts from burning are removed from the air by rain or snow and are deposited on land or water.

The ash residue from burning may contain heavy metals and other toxins, and if this ash is dumped on your property it can contaminate soil and water.

By products of Open Burning

Smoke, particles, or ash from burning waste may contain some of the following pollutants:

- **Arsenic and Cadmium** from some wood preservatives or pesticides.
- **Benzene** and other solvents from paint or varnish strippers.
- **Cadmium** from nickel-cadmium batteries and plastics such as PVC.
- **Chromium** from some paints.
- **Dioxin** from byproducts formed when chlorine containing products such as plastics are burned.
- **Formaldehyde** from some particle board and fabric treatments.
- **Lead** from some paint on old boards, batteries, and PVC plastics (lead is used as a stabilizer in PVC).
- **Mercury** from some batteries, paints, plastics, thermometers, thermostats, fluorescent lights.
- **Sulfuric acid** from some chemicals, dyes and pigments, rayon, and film.
- **Toxic organics** from burning plastics.

Other Tips Regarding Disposal:

Paints

Many of us buy too much paint. Municipalities that collect leftover hazardous household products report that paints make up about half of the material that people bring in and thus are a costly disposal expense.

- Paints can become unusable if they go through freeze and thaw cycles. Store paints where they won't freeze.
- Use up completely, or give leftover paint to a friend, or a theater or nonprofit group. Air dry empty containers and dispose of cans with lids off in the garbage.
- For leftover water-based paints, take the lid off and let the liquid evaporate in well ventilated area. When dry, the can with its hardened contents can be discarded in the garbage. For leftover paints that are oil based, or contain mercury or lead, the cans should be deposited at a hazardous waste drop off site.

Pesticides

Many people don't pay enough attention to how they manage pesticides. EPA studies provide disturbing information about how pesticides are used, stored, and thrown away. Household practices showed that people fail to recognize the danger that pesticides can pose to child safety, human health, or the environment when managed improperly.

- Before you choose a pesticide, be sure you have exhausted other alternatives. If you do need to use a pesticide, read label information carefully before purchasing a product. Buy only what you need.
- For empty plastic or metal pesticide containers, **triple rinse** the containers and use the rinse water as part of your yard and garden treatment. Triple rinsed containers can then be placed in your household garbage. Better yet, residue-free pesticide containers can be processed through the Idaho Dept. of Agriculture's pesticide container recycling program (see page 5-7).

Used Oil and Antifreeze

- Besides County Transfer Stations, many automobile repair shops will accept used oil and antifreeze. Place these used products in sturdy containers such as milk jugs, or empty oil and antifreeze jugs. Do not mix waste antifreeze with used oil. Clearly label the containers.

Car Batteries

- In Idaho it is illegal to dispose of vehicle batteries in the garbage. Most battery retailers will accept your old battery for recycling.

Spills of Hazardous Wastes

- Soak up the spill with soil, sawdust, or kitty litter. Place absorbent into a sealable container and dispose at a county household hazardous waste drop off site.

Petroleum Product Use and Storage

You may not have thought much about how you store gasoline, heating oil, and other fuels and lubricants on your property. If you are like most people, you own at least one fuel-burning device such as a lawn mower or an outboard marine engine, and probably keep fuel in portable containers that hold 1 to 5 gallons. Some people around the lake have underground or above-ground tanks to store gasoline for their motor boats or heating oil.

Fuels are hazardous and if improperly managed they can pollute the water you drink. It is critical to prevent spills and leaks. Petroleum fuels contain a number of potentially toxic compounds including common solvents such as benzene, toluene and xylene, and additives such as ethylene dibromide. Benzene, considered a human carcinogen, has a ground water standard much like that of many pesticides at five parts per billion. *One gallon of gasoline containing one percent benzene can contaminate about two million gallons of ground water.*

Contamination can come from unexpected sources. Unknown or forgotten underground tanks have come back to haunt property owners. Contaminated soil and water can rob your property of its value, trigger environmental liability and costly cleanups, and drive away lenders and property buyers. Vapors from fuel can ignite fires or collect underground and explode.

Portable Fuel Containers

- Purchase and store minimum amounts of fuel for short periods, buy quantities that you need for a month or so.
- Do you fill your watercraft tank or portable outboard tank with gas cans near or over the water? Be careful not to spill into the lake. Make sure the collar on the gas can nozzle has a washer and is tight so gas doesn't spill from the collar.

- Don't pop the can air vent plug until the nozzle is in the tank filler tube. Don't try the fuel transfer if the boat or dock is bobbing.
- If you do spill, have on hand an oil/gas absorbent pad to quickly soak up the spill.
- Do you have left-over gasoline as the summer season ends? See if your neighbor can use the gasoline. Excess gasoline can be poured into a car's gas tank. If the gasoline is old, strain old gasoline through a paint filter, dilute one part old fuel with five parts new fuel to protect your engine.
- Use only self-venting UL-approved or original containers to store fuel. Storing fuel in an unapproved container, such as a glass jar or plastic jug is dangerous.
- In your garage or shed, store fuel containers so that they cannot become flooded, but not too high on shelves where they get hot. Periodically check for leaks.

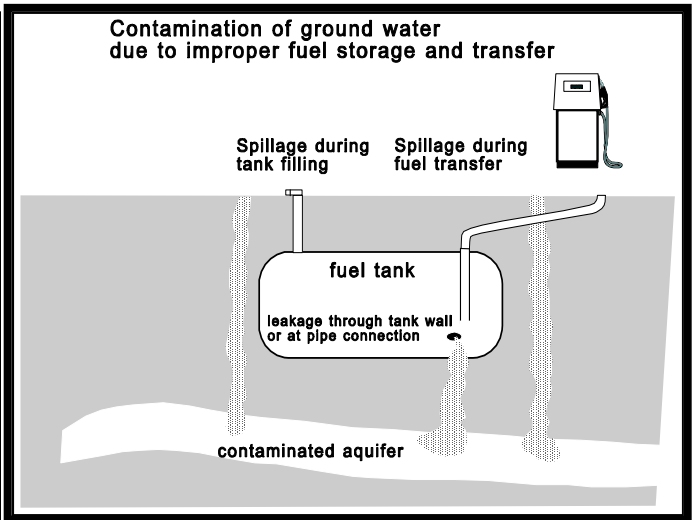
Above-ground, Underground, and Basement Storage Tanks

It is vital to know about fuel storage tanks on your property, including tanks that are currently in use and those that are abandoned. As a tank owner, you may have many responsibilities and must keep up with increasingly strict laws.

This section on tanks is meant only to be a general information guide. When it comes to petroleum storage tanks, seek a professional company, government agency, or Fire Marshall to advise you on safety, installing a new tank, making improvements to an existing tank, removing a tank, and dealing with any spills or contamination.

Federal law regulates underground storage tanks (USTs) of 1,100 gallons capacity or more and used for commercial purposes. Tanks not covered by federal regulations are farm and residential USTs less than 1,100 gallons, any tank less than 110 gallons, and USTs or above-ground tanks storing heating oil burned on the premises.

- Federally regulated USTs must be registered with the Idaho DEQ within 30 days of bringing the tank into use. Federal law requires that existing and new regulated USTs, and all related piping, must have corrosion protection by December 1998, if they are to remain in use.
- Above-ground tanks and their installation are affected by a mosaic of local, state and federal regulations. See page 5-7 for UST contact information.



- Most USTs for petroleum storage by individual lakeshore households and farms are less than 1,100 gallons and are considered non-regulated by Federal law. *Idaho Water Quality Standards* requires that storage and disposal of petroleum in the immediate vicinity of state waters (including groundwater) must have adequate measures and controls to insure that stored materials will not enter public waters.

Tank Location

- Petroleum storage tanks should be located at least 50 feet from a drinking water well according to state regulations, but the greater the distance the better (200 - 400 feet). Tanks are safer when located downslope from wells. The 50-foot minimum also applies to the distance from streams, wetlands, ponds, and other surface water.
- Certain conditions accelerate the corrosion potential of underground tanks and piping. These include high water tables, clay soils, or soils with an acid pH.

Tank Management

- **Is your underground tank old and possibly leaking?** Buried tanks over fifteen years old have a dramatically higher chance of leaking. But even newer tanks and piping can leak if they were incorrectly installed.
- **Does your steel tank have corrosion protection?** Most older tanks do not have this protection. It is expensive to put corrosion protection on existing tanks, and it may be more cost-effective to replace unprotected tanks. Piping should be made of cathodically protected steel, coated to prevent corrosion.

- **Have you checked pipes and hoses?** The pipes, hoses, and fittings connected to a storage tank can be a major source of leaks. Here, too, age is a factor. Piping fails because of corrosion, accidents, and frost heaving.
- **How will you detect leaks?** A first step is inventory control. Measure and record the amount of fuel in the tank each month, and record the gallons of fuel extracted and delivered. Differences in your records may indicate a leak. Leak detection systems or practices include tightness testing under pressure, automatic tank gauging, or soil vapor monitoring. Notify the fire department, police, and the Coeur d'Alene regional DEQ office in case of a leak.
- **What signs of trouble should you look for?** Your senses - sight, smell, and taste are an important part of your leak detection system. Is there an unexplained oil-like substance on streams or wet places near the tank? Is nearby soil stained with petroleum? Have you tasted fuel in your drinking water? Be aware of unusual or changing conditions at the pump. Does fuel flow unevenly or does the suction pump rattle?
- **What spill-protection actions have you taken?** Over-filling is the most common, and most avoidable cause of spills. Never walk away while filling a container or your vehicle. Automatic shutoff devices are available to prevent spills. There are also fill-level indicators. Design a catch basin to contain spills and leaks.
- **Does your above-ground tank incorporate secondary containment?** This containment can be a double-walled tank, or a structure consisting of a concrete curb and pad to contain a leak or spill. Hoses are now on the market which are double walled.
- **Is your above-ground tank well-supported and protected from damage by vehicles and other objects?** Tanks should be on a solid, stable base that resists changes in soil moisture and frost heaving. Protect your tank from vehicles. If the tank is not enclosed in a structure, install posts or other barriers around it.

Controlling Road Dust

Fugitive dust from the numerous gravel and dirt roads around Hauser Lake is considered by some residents to be an aesthetic problem, a nuisance, and for some people a health problem.

A common solution to control road dust is to apply oil onto the surface. The use of Anew@ oil formulated for application as a dust suppressant is legal. However, if dust control oil reaches Hauser Lake or watershed streams, it is considered a hazardous and/or deleterious material according to the *Idaho Water Quality Standards* (page 5-7). If adequate measures and controls are not taken to prevent environmental damage, applicators may face enforcement action. Also, as many of you know, oil can leave a real mess on your car and be difficult to clean off.

Application Guidelines:

- The State of Idaho and the federal government have regulations which **prohibit the use of waste or used oil on road surfaces**. Waste oils have contaminants such as heavy metals.
- Do not oil immediately before forecasted rain events.
- Make sure the applicator does not over-apply the oil, leaving puddles in which the oil can easily be washed away with a rain storm.
- While not always practical from a cost or timing standpoint, the preferred application of oil is after a road grading where the oil can be worked into loosened soil instead of applied over hard compacted dirt.
- Do not apply oil over stream crossings such as culverts and bridges.

Alternatives to Oil:

- The Forest Service now uses Calcium Chloride flakes on some roads. Grading and wetting of the roadbed in conjunction with application improves effectiveness. Results for dust control have been favorable. One concern is the migration of chloride with storm runoff. There is a potential for salt damage to plants, and these products are not recommended near drinking water.
- Another dust control product is Calcium Ligno-sulfonate, which is more environmentally compatible, but local availability appears limited.
- Live with the dust.

Recommended Reading:

Copies of the following material may be obtained free from the DEQ Coeur d'Alene office.

Eliminating Household Hazardous Waste

To learn more about *Idaho Water Quality Standards* visit the DEQ website www.deq.idaho.gov

County Facilities with Household Hazardous Waste Drop-Off Sites and Recycling Centers

The following sites will accept residential quantities of household hazardous products, used oil, and anti-freeze. No single container greater than **5 gallons** will be accepted. There is no charge for these services for residents of the respective county sites.

All centers accept recyclable materials during regular operating hours. Some centers have restricted days to drop household hazardous wastes.

Kootenai County Transfer Station
N. 3650 Ramsey Rd.
Coeur d'Alene - (208) 769-4402
accepts household hazardous waste products
Wed. & Sat.

Spokane County:
Accepts household waste products every day
Waste-To-Energy Plant
2900 S. Geiger Blvd. - (509) 625-6871
Valley Transfer Station
3941 N. Sullivan Rd. - (509) 625-6885

For More Information

Panhandle Health District
Environmental Health
8500 N. Atlas Road
Coeur d'Alene ID, 83835
(208) 415-5200

Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

For information on Underground Storage Tanks (USTs) contact

Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

See Resource Directory (Appendix B) for additional agency contacts.

Notes: