SECTION 5
HOUSEHOLD HAZARDOUS WASTES

This fact sheet addresses the negative impacts of improper hazardous waste management on water quality and how *you* can make a difference with *Best Management Practices (BMPs)*. BMPs are actions you can take to protect our natural resources. **The ultimate goal of this information is to prevent hazardous waste spills.**

1. Read the facts and information in the following pages.
2. Fill out the Risk Assessment Worksheets in order to analyze your individual situation.
3. Fill out the Action Worksheet, then **take action!**

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, drinking water, lakes, streams, and rivers. Small (and sometimes large) unusable amounts of hazardous materials are at times spilled, buried, or dumped onto residential properties.

Products To Be Cautious Of!

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.

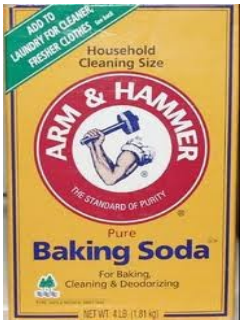
Read The Label...Then Choose Wisely!

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, your home and near your family. 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.

Alternative Products Do the Job

There are numerous alternatives to some common hazardous household products and pesticides.



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 because 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 add 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

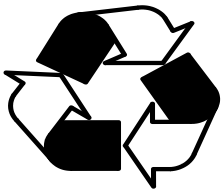
- Use latex or water-based paints whenever possible. These don't require thinners or solvents.
- Use sandpaper, a scraper, or heat gun for small jobs instead of a paint stripper. Avoid strippers and other products containing methylene chloride.
- For wood preservatives, use a water-sealing coating. If treated wood is needed, choose pressure treated.

Batteries

- Choose rechargeable batteries, and low or mercury -free 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.



***R*educe** ***R*euse** ***R*ecycle**

- Use up hazardous products before disposing.
- Don't purchase more products than you need.
- Give leftovers to a friend, neighbor, or family member who can use them.
- Try non-toxic alternatives.
- Use old paint as a primer; pour off clear liquid, and use again.
- Allow used paint thinner to sit in a sealed jar until paint particles settle.
- Don't buy several products if one can do the job.
- Don't burn hazardous household containers.

Product Disposal

Hazardous products 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. Find out where you can dispose of your products safely (Resource Directory 5-7).

Burying Is A Bad Idea

Preventing wastes from entering soil and water is the ultimate goal. Burying wastes is high risk.

Pesticides (including herbicides)

Many people don't pay enough attention to how we 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.

- For empty pesticide containers, **triple rinse** the containers and use the rinse water as part of your yard and garden management. Triple rinsed containers can be placed in your household garbage.

Burning Can Be A Health Issue

Although burning has 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.

Byproducts of Open Burning

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

Arsenic & 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.

Batteries

In Idaho it is illegal to dispose of vehicle batteries in the garbage. Most battery retailers will accept your old battery for recycling and so will most transfer stations. If your battery leaks, clean it using baking soda.

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, lead or pesticides, the cans should be deposited at a hazardous waste drop off site.

Safe Storage

When storing household products, the primary concerns are child safety, indoor air quality, 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.

- Keep out of reach of children and pets preferably in a locked, secure area.
- Store them in their original container.
- Clearly label and date containers without labels.
- 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 shade away from direct sunlight.
- Store products at least 200 feet from a well or water.
- Don't store products in your well pump house.
- Store chemicals in an outside shed or basement.
- Store products on shelves above any flood waters.

Petroleum 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 likely keep fuel in portable containers that hold 1 to 5 gallons. Purchase and store minimum amounts of fuel for short periods. Buy only quantities that you need for a month or so.

Fuels are hazardous, and if improperly managed they can pollute the water you drink (Figure 5-1). 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 groundwater 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 groundwater.

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.

Do not fill your boat tank or portable outboard tank with gas cans near or over the water. Plan ahead. Make sure the collar on the gas can nozzle has a washer and is tight so gas doesn't spill from the collar. Even if you are not near surface water, spilling on the ground can contaminate ground water.

Quick Tips

- Don't pop the air vent plug on the gas can until the nozzle is in the tank filler tube.
- Don't fuel if the boat or dock is bobbing. Use a fuel bib to fill boat tank.
- If you do spill, have on hand an oil/gas absorbent bib to quickly soak up the spill.
- 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.
- Don't top off your gas tank. This can lead to nozzle malfunction and fuel spills.

Storage Tanks

(Above-ground, Underground, and Basement)

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 on safety, installing a new tank, making improvements to an existing tank, removing a tank, spills and contamination.

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 have many responsibilities and must keep up with increasingly strict laws.

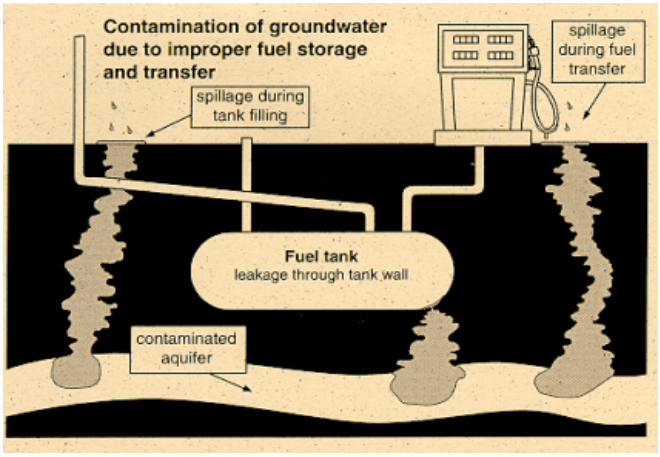


Figure 5-1 *Example drawing of how fuel contamination occurs.*

Federal law regulates underground storage tanks (USTs) of 1,100 gallons capacity or more and used for commercial purposes.

- Federally regulated USTs must be registered with IDEQ 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, if they are to remain in use.
- Above-ground tanks and their installation are affected by a mosaic of local, state and federal regulations.

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.

- Most USTs for petroleum storage by individual shoreline 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

- All 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 (100 - 400 feet) (Figure 5-2). 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?

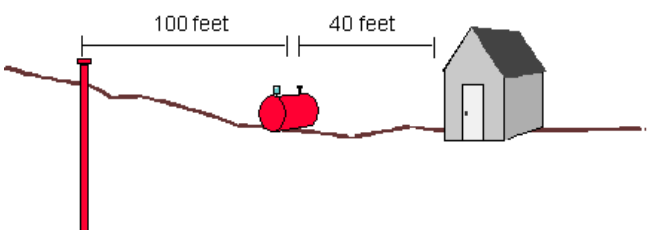


Figure 5-2 *Diagram showing petroleum storage with a 100 foot separation from drinking water well.*

Buried tanks over fifteen years old have a much higher chance of leaking. But even newer tanks and piping can leak if they were incorrectly installed. Most older tanks do not have corrosion protection. It is expensive to put corrosion protection on existing tanks, but it is a primary reason for leaks, which is money out of your pocket. In some cases it may be more cost-effective to replace unprotected tanks.

Detecting leaks

- **Are you putting in more than you get out?** Measure and record the amount of fuel in the tank each month, and record the gallons of fuel extracted and delivered.
- **Is there an unexplained oil-like substance on streams or wet places near the tank?**
- **Is nearby soil stained with petroleum?**
- **Does your drinking water taste like fuel?**
- **Does fuel flow unevenly or does the suction pump rattle?**
- **Are your pipes, hose or fittings corroded?** Piping should be made of cathodically protected steel, coated to prevent corrosion.

Notify the fire department, police, and IDEQ office in case of a leak.

Spill-protection

Over-filling is the most common and most avoidable reason for spills.

- Never walk away while filling a container or your vehicle.
- Automatic shutoff devices are available to prevent spills.
- Use a fill-level indicator.
- Use secondary containment; place gas cans in large bin, fuel over a container, lay a tarp over a depressed or raised area
- Use a double-walled hose.

Support and protect above ground tanks

Tanks should be on a solid, stable base that resists being moved by 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 (Figure 5-3).

Figure 5-3 *Fuel tank protected from traffic by cement posts.*

Controlling Road Dust

Fugitive dust from the numerous gravel and dirt roads around lakes, rivers, and streams is considered by some residents to be an aesthetic problem, a nuisance, and for some folks a health problem.

A common solution to control road dust is to apply oil onto the surface. The use of oil formulated for application as a dust suppressant is legal. However, if dust control oil reaches surface water, it is considered a hazardous and/or deleterious material according to the *Idaho Water Quality Standards*. If adequate measures and controls are not taken to prevent environmental damage, applicators may face enforcement action. Also, oil can leave residues and deposits on your car which can be difficult to remove.

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 stand-point, 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 or magnesium chloride in liquid or flakes form 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 lignosulfonate, which is more environmentally compatible, but local availability appears limited.
- Live with the dust.

Resource Directory

Bonner County Transfer Stations

Colburn (Full Service)	232 Pinecone Rd Sandpoint, ID (208) 263-0718	7.7 miles from the Y on HWY 95 North, Access is at 446 Colburn-Culver Rd, approx .5 mile east of Hwy 95N
Idaho Hill (Full Service)	36608 Highway 41 Oldtown, ID (208) 437-2741	Approx. 1.5 miles south of Oldtown and approx. 6 miles southwest of Priest River. Paved road off Highway 41.
Dickensheet (Full Service)	1978 Dickensheet Rd Coolin, ID (208) 443-3007	North on Hwy 57 from Priest River, Turn right just before Mile Post 22 on Highway 57, proceed approx. 2 miles (or approx. 3 miles southwest of Coolin)
Prater Valley (Full Service)	100 Stations Way Priest River, ID (208) 448-0322	1 mile north on Eastriver Road (Eastriver Rd starts at Bridge over river at end of Peninsula Rd). Paved access to site.
Hope/Clark Fork (Full Service)	54222 Highway 200 Clark Fork, ID (208) 266-0196	HIghway 200 E, corner of new and old Hwy @ mile post 54, next to Evergreen Supply
Dufort (Full Service)	15 Dufort Rd Sagle ID (208) 265-0978	At the intersection of Dufort Rd and Highway 95 S
Upland Drive (Kitchen Trash)	274 Upland Dr. Sandpoint, ID (208) 265-2528	Turn right at 11154 W Pine St or turn left at 11016 Baldy Mountain Rd.
Garfield Bay (Kitchen Trash)	1519 Garfield Bay Cutoff Sagle, ID (208) 265-3641	Sagle Road to Garfield Bay Cut Off
11 Mile Post (Kitchen Trash)	11016 Highway 57 Priest River, ID (208) 448-4269	11 miles north of Priest River on Highway 57

RISK ASSESSMENT WORKSHEETS
Household Hazardous Wastes

Assessment Sheet 1– Product Purchase, Selection and Use
The assessment table below will help you identify potential environmental risks related to your use of hazardous products around the house. For each question indicate your risk level in the right-hand column. Some choices may not correspond exactly to your situation. Choose the response that best fits. When finished turn to the **Action Worksheet** on page 5-10 and record your medium and high-risk practices. Your goal is to lower your risks. Use the BMP recommendations in Section 5: Household Hazardous Waste Management to help you decide how to best reduce pollution.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Product selection	I always read labels, understand signal words, and respect the health or environmental hazards that labels describe. Less hazardous products are used when possible.	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 or how it will be used.	☐ Low ☐ Medium ☐ High
Quantities purchased	I buy only what is needed for a specific job. I use up most of the product during the season of purchase. Excess disposed of at a county waste drop-off site.	I buy excess product, but provide safe and accessible storage.	I buy more than is needed, then purchase additional product without checking on current supplies.	☐ Low ☐ Medium ☐ High
Safety precautions	I follow label instructions and take recommended precautions against exposure, like wearing protective clothing (gloves, and safety goggles). I never mix products.	I occasionally read the label. I take precautions based on my knowledge of the product. I occasionally mix products for specific cleaning tasks, but refer to label first.	I never follow label instructions and take no precautions – even when recommended. If one product doesn't work, I add another without checking safety precautions.	☐ Low ☐ Medium ☐ High
Toxic alternatives	Alternatives to toxic materials are used whenever applicable.		No alternatives are used.	☐ Low ☐ Medium ☐ High
Pesticides	Non-chemical pest control used. Pest control products are chosen and used according to the label, stored, handled and disposed of properly.	When solving pest problems, I do not practice prevention or explore non-chemical options.	I do not handle pesticides as directed on the label. Pesticides are applied near my well, or at the edge of surface water.	☐ Low ☐ Medium ☐ High

Assessment Sheet 2 - Product Disposal
When finished turn to the **Action Worksheet** on page 5-10 and record your medium and high-risk practices.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Recycling hazardous product containers	I triple rinse empty yard and garden pesticide containers and include rinse water in yard and garden management. I recycle containers.	I generally leave my empty containers in the garage because I don't know what to do with them.	Hazardous materials are burned, releasing metals, acids, and chlorine compounds. Burn barrel is spread over property.	☐ Low ☐ Medium ☐ High
Batteries	I recycle batteries, or take them to a county hazardous waste drop-off site. I trade-in my used car or boat battery at an auto or tire store.	Used batteries are disposed of in a county landfill.	Used batteries are stored or buried on my property near a well or waterway. Small batteries used in flashlights etc. are burned with my trash.	☐ Low ☐ Medium ☐ High
Paint and solvents	I share leftovers. Unused products containing mercury, pesticides, or hazardous solvents are taken to a county waste drop-off site.	Allow liquids to evaporate away. Sludge or leftover products are placed in normal trash flow which goes to a county landfill.	Leftover products are dumped on the ground near a well or waterway.	☐ Low ☐ Medium ☐ High
Drips and spills	Contained on paved area with absorbent material (kitty litter) then disposed of at county landfill.	Drips and spills not contained, occasional flushing onto property.	Drips and spills not contained. Frequent flushing onto property and infiltration into ground.	☐ Low ☐ Medium ☐ High
Pesticides	I don't use pesticides.	I use pesticides for weeds in my lawn, but I follow the label and don't apply within 25 feet of surface water.	I spray right up to the waters edge. I didn't realize this could be harmful.	☐ Low ☐ Medium ☐ High
Antifreeze, gasoline and motor oil	I take left over or unused antifreeze to the county dump or an automotive shop. Used oil burned for heat in an approved space heater.	Containers with leftover product is stored in the garage on a raised platform.	I just pour extra oil, etc...in the ditch next the road.	☐ Low ☐ Medium ☐ High

ACTION WORKSHEET

Household Hazardous Waste

Write all high and medium risks below.	**What can you do to reduce the risks?**	**Set a target date for action.**
Sample: I have containers that don't have labels, and I don't know what is in them.	Take all containers to the Bonner County Transfer Station, and limit my overall use of hazardous materials.	One week from today.