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Utah Department of Environmental Quality

Household Hazardous Waste Fact Sheet

What is Household Hazardous Waste?

Many hazardous products and chemicals such as cleaners, oils and pesticides are used in the home every day. When discarded, these products are called household hazardous waste (HHW). HHWs are discarded materials and products that are ignitable, corrosive, reactive, toxic or otherwise listed as hazardous by the EPA. Products used and disposed of by a typical residence may contain more than 100 hazardous substances including:

- Batteries
- Cleaners
- Cosmetics
- Fluorescent light bulbs
- Glues
- Heating oil
- Insecticides and pesticides
- Ink
- Medicines
- Motor oil and automotive supplies
- Paints, thinners, stains and varnishes
- Polishes
- Swimming pool chemicals
- Smoke detectors
- Thermometers
- Fuel

HHW is a Serious Threat

The U.S. Environmental Protection Agency estimates the average American household generates 20 pounds of HHW each year. As much as 100 pounds of HHW can accumulate in the home and remain there until the resident moves or undertakes a thorough "spring cleaning."

Since the chemicals found in HHW can cause soil and groundwater contamination, generate hazardous emissions at landfills and disrupt water treatment plants, it is important to dispose of HHW properly. Many solid waste treatment facilities are currently required to screen for HHW to avoid operating under restrictive hazardous waste laws. Furthermore, many communities may be required to establish a HHW collection program in order to qualify for permits to manage storm water.

Safe Handling Tips

The best way to handle household hazardous materials is to completely use the product before disposing of the container. If this is not possible, then the next alternative is to return unused portions to your community household hazardous waste clean-up day. Keep products in their original package with all labels intact. If the container is leaking, place it in a thick plastic bag. Pack the products in a plastic-lined cardboard box to prevent leaks and breakage.

Household hazardous waste clean-up days are for household wastes only. No industrial or commercial wastes and no containers larger than five gallons are accepted. Explosives, radioactive

material and medical wastes are also unacceptable.

HHW can be dangerous to people and pets who come in contact with them. HHW can endanger water supplies, damage sewage treatment systems, and cause other environmental damage. Only use the products as directed. **DO NOT:**

- ❍ Flush HHWs down the toilet
- ❍ Pour HHWs down the sink
- ❍ Pour HHWs down a storm drain
- ❍ Pour HHWs on the ground

Contact your local health department or the Division of Solid and Hazardous Waste to determine whether your community has a household hazardous waste collection program.

Identify HHW

Reduce the amount of potentially hazardous products in your home and eliminate what you throw away by following these easy steps:

1. Before you buy:

- ❍ Read the labels and be aware of what they mean.
- ❍ Look for these words on labels; they tell you what products may need special handling or disposal.

Caution	Flammable
Combustible	Poison
Corrosive	Toxic
Danger	Volatile
Explosive	Warning

- ❍ Select a product best suited for the job.
- ❍ Buy only what you can use entirely.

2. After you buy:

- ❍ Read label precautions and follow directions for safe use.
- ❍ Recycle/dispose of empty containers properly.
- ❍ Share what you can't use with friends or neighbors.
- ❍ Store properly.
- ❍ Use recommended amounts; more is not necessarily better.
- ❍ Use the child-resistant closures and keep them on tightly.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170
Division of Drinking Water, Source Protection Program - (801) 536-4200
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

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Pesticides Fact Sheet

What Are The Potential Hazards?

Pesticides applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. Proper storage, mixing, application, spill cleanup, watering, and disposal procedures should be included in pesticide best management practices.

Storing Pesticides

The fewer pesticides you buy, the fewer you will have to store. Therefore, only purchase the amount and kind of pesticide that is needed. Pesticides should always be stored in sound, properly labeled, original containers. ***Sound containers are the first defense against spills and leaks.***

- Ensure that there are no holes, tears, or weak seams in the containers and that the label is readable.
- Pesticides should be stored in locked, dry cabinets.
- Be sure to store dry products above liquids to prevent wetting from spills.
- Storage and mixing areas should not be located near floor drains of any kind.
- Storage facilities should have secondary containment, such as a berm or dike, which will hold spills or leaks at:
    1. 10% of the total volume of the containers, or
    2. 110% of the volume of the largest container, whichever is larger.

Mixing Pesticides

- Mix pesticides on an impermeable surface, such as concrete, so any spills will be contained.
- Mix only the amount that you will use:
    1. Measure the total square feet you intend to treat.
    2. Read the label on the pesticide container and follow the instructions. (These are often given in terms of amount of pesticide to use per thousand square feet.)
    3. By properly measuring and calculating, there should be little or no pesticide left in the spray tank when the job is finished and it will be applied at the recommended rate.

Applying Pesticides

Pesticides are used to kill or control weeds (herbicides), insects (insecticides) and fungi (fungicides) that attack plants. Some of these pesticides can move through the soil and into the ground water. Guidelines for the safe use of pesticides are listed below:

- Be willing to accept a low level of weed, insect, and plant disease infestation.

- Use pesticides only when absolutely necessary.
- Identify pests correctly. Use the proper pesticides.
- Read and follow the directions printed on the container labels. Remember, *the label is the law.*
- Calibrate your spreader and sprayer to keep from applying too much pesticide.
- Do not spray or apply pesticides near irrigation wells. Wells are conduits to the ground water.
- Do not spray or apply pesticides near your walks and driveway. This prevents them from washing off into the storm drain system.

Cleaning Up Spills

- Dry formulated pesticide spills should be swept up and applied to crops, lawns, and gardens at the rate specified on the label.
- Liquid pesticide spills should be soaked up using absorbent material (such as, soil, sawdust, and cat litter). The contaminated absorbent material should then be put in a sealed container and taken to a household hazardous waste collection site.

Watering

Over-watering your plants can cause excess water to move through the soil. This water can carry pesticides that can contaminate the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

Disposing of Pesticides

If the pesticide was properly measured and mixed, there should be little or no spray left in the tank. The little that may be left can be safely sprayed over the area that was treated until it is gone. Disposal of "empty" pesticide containers and unused pesticides should be handled as follows:

- If you are using liquid pesticides, rinse the container three times. Be sure to pour the rinsing into your sprayer and not down a drain or onto the ground. Containers which have been emptied and rinsed can be discarded in the trash.
- Unused pesticides in their original containers can be recycled at household hazardous waste collection sites.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
Department of Agriculture - (801) 538-7100
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

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Fertilizer Fact Sheet

What Are The Potential Hazards?

Fertilizer applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. The main constituent in fertilizer is usually nitrogen. If the nitrate level of drinking water is too high, infants, up to the age of six months, can develop a fatal disease called blue baby syndrome (methemoglobenemia). Drinking water that contains 10 milligrams of nitrate-nitrogen per liter of water exceeds the drinking water standard and should not be used, especially for infant formula. Proper storage, application, and watering procedures should be included in fertilizer best management practices to prevent contamination of ground water.

Storing Fertilizers

The less fertilizer you buy, the less you will have to store. Therefore, only purchase the amount and kind of fertilizer that you need.

- Fertilizer should be stored in locked, dry cabinets.
- Keep fertilizer and pesticides on separate shelves.
- Don't store fertilizer with combustibles, such as gasoline or kerosine, because of explosion hazards.

Application Precautions

The chemical in fertilizer that can most easily pollute ground water is a form of nitrogen called nitrate. Nitrate moves readily in soil to the ground water strata. The best way to prevent the movement of nitrate into the ground water is to apply no more nitrogen than the crops, grass, garden plants, shrubs, or trees can use during the time that the plants are growing.

- Calibrate your spreader and sprayer to keep from applying too much fertilizer.
- Load fertilizer spreaders on the driveway or other hard surfaces so any spills can easily be swept up. Fertilizer that spills should be swept up and applied to the lawn or garden at the right time and amount. This allows the fertilizer to grow plants instead of washing off into the storm drain system and ultimately contaminating nearby streams and lakes.
- If you are using liquid fertilizer on your turf, add fertilizer to the spray tank while on the lawn. This way, if you spill the fertilizer, it will be used by the plants and not run off into the storm drain system.
- Do not spray or apply fertilizer near irrigation wells. Wells are conduits to the ground water.

Application Rates For Lawns

Utah State University's Extension Service recommends the following for Utah lawns: "It is important to fertilize on a regular basis every four to six weeks to maintain an attractive lawn. Begin

when lawns start to green in the spring, mid to late April. Earlier applications may cause a lawn to become greener faster, but may also increase spring disease problems. Summer applications of nitrogen fertilizer will not burn lawns, if you apply them to dry grass and water immediately. Fall applications are important for good winter cold tolerance, extended fall color, and fast spring green-up. A complete fertilizer containing nitrogen, phosphorus and potassium should be applied in the fall every three to four years. This will prepare the lawn for winter conditions and allow the phosphorus to penetrate into the root zone by the next growing season.

For a well-kept lawn in Utah, apply 1 pound of available nitrogen per 1,000 square feet each four to six weeks throughout the growing season. The following chart indicates how much of various fertilizer will supply one pound of nitrogen."

%N on Label	Pounds of Fertilizer Per 1000 Square Feet
12-15	7-8
18-21	5-5 ½
24-28	3 ½-4
30-34	3-3½
45-46	2-2 ¼

Types of Plants

One of the best ways to protect your ground water is to use plants that are drought-tolerant and that are adapted to your area. Drought-tolerant or low-water-use plants can continue to survive once they are established, even during times of little rainfall. Because you do not have to water these plants, there is less chance that nitrate and pesticides will be carried with the water through the soil and into the ground water.

If low-water-use plants are not practical, then try to use medium water use plants. Water these plants only when they begin to show drought stress. Some plants will wilt when they are drought-stressed, while other plants will show marginal leaf burn.

Watering

Over-watering plants can cause excess water to move through the soil. This water can flush fertilizer away from the root zone of your plants and into the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

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Pollution Prevention for Vehicle Maintenance & Repair Industry

Background

Vehicle repair shops generate regulated waste, either from the services they provide, such as fluid replacement, or from operations they perform, such as parts washing. Some common waste types include:

- Degreasers
- Engine fluids (oil, antifreeze)
- Floor dust
- Floor wash water
- Lead acid batteries
- Metal parts/scrap
- Oily waste sump sludge
- Spent solvents
- Paints and thinners
- Paper products (masking paper, cardboard, office paper.)
- Rags and absorbents
- Refrigerants
- Tires

Here are some options vehicle maintenance and repair companies can use to reduce wastes.

Train Employees to use Good Housekeeping Practices

- Implement spill prevention measures to reduce products from entering the environment.
- Perform preventative maintenance on equipment and vehicles.
- Check incoming vehicles for leaking fluids. Use drip pans to prevent spillage.
- Prevent non-hazardous material from getting contaminated by segregating waste streams.
- Monitor your inventory in storage to reduce accumulation of over-age products.
- Implement a “first-in first-out” policy.

Substitute Materials

- Look for ways to replace solvents with water based cleaners.
- Substitute detergent-based solutions for caustic solutions when cleaning.
- Substitute non-asbestos brake lining for asbestos brake lining.
- Purchase materials in non-aerosol form.
- Use biodegradable floor cleaners.
- Use non-chlorinated brake cleaners.

Modify Processes

- Prerinse parts with spent cleaning solution.
- Remove parts slowly after immersion in solvent solution to prevent spillage.
- Use a still rinse solvent sink rather than a free running rinse.
- Cover or plug solvent sinks when not in use to prevent evaporation.
- Replace solvent parts washers with a hot water washer or jet spray.
- Place cleaning equipment in a convenient location near the service bays to reduce drips and spills.
- Change spray painting process to high volume, low pressure process which will minimize paint lost due to overspray.

Recycle

- Recyclable waste streams should be segregated to prevent cross-contamination.
- Oils and antifreeze should be collected and recycled.
- Lease or purchase solvent sinks and recycle solvent on or off site.
- Send tires, batteries, and metal parts to a recycler.
- Contract a linen service which will supply clean rags and collect dirty ones for washing.
- Purchase a recycling system to recover refrigerant. Reuse containers within the facility or through a drum salvage company.
- An oil/water separator should be used before water is diverted to sewer.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170
Divion of Drinking Water, Source Protection Program - (801) 536-4200
Division of Water Quality - (801) 538-6146
Small Business Assistance Program - (801) 536-4479
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477
Environmental Hotline - 1-800-458-0145

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Pollution Prevention Fact Sheet

Pollution Prevention (P2) uses source reduction techniques and practices to reduce or eliminate the amount of hazardous substances, pollutants or contaminants entering any waste stream or being released into the environment. In short, P2 means not creating waste in the first place while reducing risks to public health, welfare, and the environment.

Pollution Prevention is Good Business

While most pollution control strategies cost money, P2 has saved many businesses thousands of dollars in treatment and disposal costs. Other economic benefits include:

- Reduced operating costs.
- Savings from reduced need for pollution control equipment.
- Elimination of waste transportation, storage, disposal and liability costs.
- Reduced compliance costs from government regulations.
- Improved public image.
- Stimulating reinvestment and enhancing competitiveness.
- Reducing risk of spills, accidents and emergencies.
- Increasing environmental protection.

P2 Techniques

Generating less waste is the best way businesses can practice pollution prevention. This can be achieved through:

- Inventory management: Tracking all raw materials and improving operations.
- Substitute non-hazardous materials for hazardous materials.
- Improving material receiving, storage, and handling practices.
- Modifying and redesigning equipment to enhance recovery and recycling.
- Improved operating efficiency of equipment.
- Establishing strict preventive maintenance programs.
- Segregating wastes for recovery.
- Separating hazardous and non-hazardous wastes to prevent cross-contamination.
- Eliminating sources of leaks and spills.
- Use of water soluble cleaning agents in place of organic solvents and degreasers.

Management Support

The support of company management is essential for developing a lasting and successful P2 program. This commitment should be passed on to employees, especially those working in areas that generate hazardous waste. Management approaches may included the following:

- Make P2 a part of the company policy, a process of continuous improvement.
- Target goals for reducing the volume and toxicity of waste streams.
- Implement recommendations identified through waste assessments.
- Reward employees who identify cost-effective P2 opportunities.
- Train employees in P2 hazardous material waste handling and emergency response procedures.

Good Housekeeping

Most successful P2 waste assessments identify sources of waste and calculate the true cost of waste generation and management. A little extra attention paid to "minor" sources of waste can result in major reductions. Improved housekeeping practices, system adjustments, process and product inspections, and the use of production unit control equipment and methods are often successful P2 practices. Others include:

- Inspect and repair equipment to reduce waste caused by equipment failure, leaks and spills.
- Contain leaks and spills by using drip trays and splash guards.
- Keep containers closed except when material is added or withdrawn.
- Utilize a "first-in first-out" inventory policy to avoid losses due to expirations.

Product Substitution

Some companies are so motivated by pollution prevention practices they change the products they produce in order to employ nonhazardous production processes. For example, they may change the design, specifications or composition of an existing end product to reduce the need for toxic materials can help reduce pollution and associated costs.

Process Modification

Inefficient or outdated production processes that could be sources of hazardous waste generation can be upgraded or replaced by a more efficient process.

- Changes in the placement order of equipment.
- Equipment modification.
- Changes in operation settings and schedules.
- Process automation.

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