

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 (p. 5-8) in order to analyze your individual situation.
3. Fill out the action worksheet (p. 5-10), 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. At times, small (and sometimes large) unusable amounts of hazardous materials are spilled, buried, or dumped onto residential properties.



Use Caution with These Products:

Home cleaning supplies—drain cleaners, oven cleaners, laundry and stain removers, bleach, lye, some bathroom cleaners, floor wax stripper, and 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, and fluorescent lights.

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

Batteries—lead-acid car batteries, and 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, and 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, read the label.

Labels provide information about product ingredients, how to store and use them safely, and hazards associated with the product. Labels on hazardous products contain the **signal words**—caution, warning, or danger—which indicate how hazardous the product is to humans (see Resource Directory, p. 5-7). Labels give some indication of the potential problems to the environment.

HAZARDOUS WASTE	
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.	
GENERATOR INFORMATION:	
NAME _____	PHONE _____
ADDRESS _____	STATE _____
CITY _____	ZIP _____
EPA / NUMBER _____	EPA _____
EPCRA / REPORTING NO. _____	WASTE NO. _____
ACCUMULATION _____	START DATE _____
HANDLE WITH CARE!	

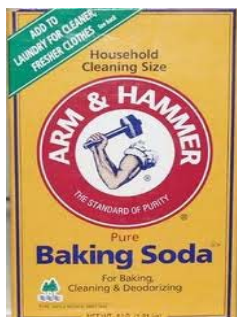


Alternative Products Do the Job

Many alternatives are available to replace 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, and Adhesives

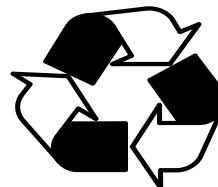
- Use latex or water-based paints whenever possible. These don't require thinners or solvents.
- Use sandpaper, a scraper, or heat gun for small jobs instead of a paint stripper. Avoid strippers and other products containing methylene chloride.
- For wood preservatives, use a water-sealing coating. If 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, exhaust other options for managing a pest, weed, or fungus. A host of alternatives to insecticides and herbicides to control outdoor pests are available (see Section 2, Lawn and Garden Management).



Reduce

Reuse

Recycle

- Use up hazardous products before disposing.
- Don't purchase more products than you need.
- Give leftover products to a friend, neighbor, or family member who can use them.
- Try non-toxic alternatives.
- Use old paint as a primer.
- 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.
- Don't burn empty hazardous product containers.

Product Disposal

Hazardous products eventually pose a disposal dilemma. Disposal should be your last option, as 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 (see Resource Directory, p. 5-7).

Burying is a Bad Idea

The ultimate goal is to prevent wastes from entering soil and water. Burying wastes is high risk.

Pesticides (Including Herbicides)

Many people don't pay enough attention to managing pesticides. U.S. Environmental Protection Agency (EPA) studies provide disturbing information about how pesticides are used, stored, and thrown away. Studies of common household practices show that people fail to recognize the danger that pesticides pose to child safety, human health, or the environment when managed improperly.

To dispose 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* 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 polyvinyl chloride (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, and 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 and transfer stations will accept your old battery for recycling. If your battery leaks, clean it with 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 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.

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 these materials 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 the sides of containers are not bulging.

- Keep out of reach of children and pets, preferably in a locked, secure area.
- Store corrosive materials 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

It is important to carefully store gasoline, heating oil, and other fuels and lubricants on your property. Most homes 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, a human carcinogen, has a ground-water standard much like that of many pesticides at 5 parts per billion. One gallon of gasoline containing 1% benzene can contaminate about 2 million gallons of groundwater.

Contamination can come from unexpected sources. Unknown or forgotten underground storage tanks (USTs) 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 groundwater.

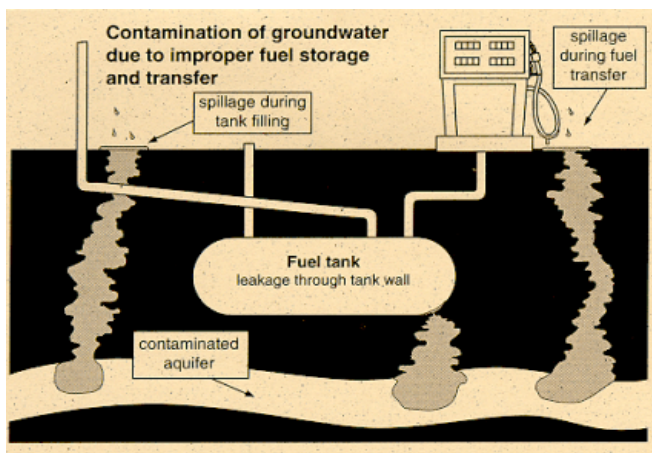


Figure 5-1. Example drawing of how fuel contamination occurs.

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 an oil/gas absorbent bib available to quickly soak up the spill.
- Use only self-venting Underwriter's Laboratory (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, as this leads 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. For petroleum storage tanks, seek a professional company, government agency, or a fire marshal 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.

Federally Regulated Tanks

Federal law regulates USTs of 1,100 gallon-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.

Unregulated Tanks

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*" (IDAPA 58.01.02) require that petroleum storage and disposal in the immediate vicinity of state waters (including groundwater) must have adequate measures and controls to ensure that stored materials will not enter public waters.

Tank Location

When locating tanks, consider the following BMPs:

- 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 USTs and piping. These conditions include high water tables, clay soils, or soils with an acid pH.

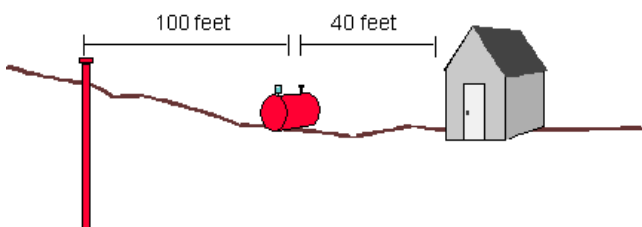


Figure 5-2. Diagram showing petroleum storage with a 100-foot separation from drinking water well.

Tank Management

Is your UST old and possibly leaking? Buried tanks over 15 years old have a much higher chance of leaking. 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 corrosion is the 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

- 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 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, such as a double-walled tank or a structure consisting of a concrete curb on a pad to contain a leak or spill.
- Use a double-walled hose.

Support and Protect Above-Ground Tanks

Tanks should be installed 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 IDAPA 58.01.02. 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 that prohibit the use of waste or used oil on road surfaces.

- Waste oils contain contaminants such as heavy metals and cannot be used on roads.
- Do not oil immediately before forecasted rain events.
- Make sure the applicator does not over-apply the oil, leaving puddles of oil that contaminate storm-water.
- Instead of applying oil over hard, compacted dirt, apply after a road grading when the oil can be worked into the loosened soil.
- Do not apply oil over stream crossings such as culverts and bridges.

Oil Alternatives

Before using oil to control road dust, consider the following alternatives:

- One solution currently used by the U.S. Forest Service is calcium chloride or magnesium chloride, in liquid or flakes. Grading and wetting the roadbed in conjunction with application improves effectiveness. Dust control results have been favorable. One concern is the migration of chloride with storm runoff. Potential for salt damage to plants is another concern. These products are not recommended near drinking water.
- Another dust control product is calcium ligno-sulfonate, which is more environmentally compatible; however, local availability is currently limited.
- Live with the dust.



Oil applied to unpaved road.



Oil needs to be applied properly so that it does not run off during a rain storm.



Application of liquid calcium chloride.

Resource Directory

Household Hazardous Wastes

Hazardous Waste Drop-Off Sites and Recycling Centers

The following sites will accept residential quantities of household hazardous products, used oil, antifreeze, and batteries. Generally, no single container greater than 5 gallons will be accepted.

Each transfer station has different policies on what materials they will accept, and some centers have restricted drop-off policies. The Kootenai County Ramsey Transfer Station accepts hazardous waste only from homes in Kootenai County. Call the transfer station you plan to use, or visit their web site. All centers accept recyclable materials during operating hours.

Kootenai County Solid Waste and Hazardous Materials Transfer Stations

(208) 446-1430

www.kcgov.us/departments/solidwaste

Ramsey Transfer Station
3650 N. Ramsey Road
Coeur d'Alene, ID 83815
Accepts household waste on Wednesday and Saturday.

Post Falls Transfer Station
15580 W. Prairie Avenue
Post Falls, ID 83854
Accepts household waste on Friday and Saturday.

Shoshone County Transfer Station

52619 Silver Valley Road
Kellogg, ID
(208) 784-5190
www.shoshonecounty.org

Benewah County Transfer Station

75 Landfill Road
St. Maries, ID 83861
(208) 245-1694

Spokane Regional Solid Waste System

(509) 625-6580

www.solidwaste.org

North County
N. 22123 Elk-Chattaroy Road
Colbert, WA 99005

Valley Recycling
3941 N. Sullivan Road
Spokane Valley, WA 99216

Waste to Energy Facility
2900 S. Geiger Boulevard
Spokane, WA 99224

Idaho Department of Environmental Quality

Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

Coeur d'Alene Tribe - Lake Management Department

Coeur d'Alene Office
424 Sherman Avenue, Suite 306
Coeur d'Alene, ID 83814
(208) 667-5772

Other Resources:

National Pesticide Information Center

(800) 858-7378
www.npic.orstedu

National Response Center

(800) 424-8802
www.nrc.uscg.mil

Report any excessive spills by first calling your local fire department and then the National Response Center. By law, the party responsible for the spill must ensure efforts towards capture and containment of the spill.

Risk Assessment Worksheets

Household Hazardous Wastes

Assessment Worksheet 1 - Product Purchase, Selection, and Use

The assessment worksheet 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 Household Hazardous Wastes Action Worksheet on page 5-10, and record your medium and high-risk practices. The goal is to lower your risks. Use the BMP recommendations in this section 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. I use less hazardous products 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.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> 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. I dispose of excess products at a county waste drop-off site.	I buy excess product, but I have safe and accessible storage.	I buy more than is needed, then purchase additional products without checking on current supplies.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> 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.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Toxic alternatives	I use alternatives to toxic materials whenever I can.		I don't use alternatives.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Pesticides	I use non-chemical pest control. I choose pest control products according to the label and properly store, handle, and dispose of them.	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.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

Assessment Worksheet 2 - Product Disposal

When finished, turn to the Household Hazardous Wastes 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.	I burn hazardous materials, releasing metals, acids, and chlorine compounds. I spread materials from the burn barrel over my property.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> 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.	I dispose of used batteries in a county landfill.	Used batteries are stored or buried on my property near a well or waterway. Small batteries (e.g. flashlight) are burned with my trash.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Paint and solvents	I share leftovers. Unused products containing mercury, pesticides, or hazardous solvents are taken to a county waste drop-off site.	I allow liquids to evaporate away. Sludge or leftover products are placed in normal trash flow, which goes to a county landfill.	I dump leftover products on the ground near a well or waterway.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Drips and spills	I contain spills on paved area with absorbent material (kitty litter), and then dispose of it at a landfill.	I don't bother containing drips and spills; occasionally I flush them onto my property.	I don't do anything to contain drips and spills. I frequently flush them onto my property, where they can infiltrate into groundwater.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> 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 water's edge. I didn't realize this could be harmful.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Antifreeze, Gasoline, and motor oil	I take left over or unused antifreeze to the county dump or an automotive shop. I burn used oil for heat in an approved space heater.	Containers with leftover product are stored in my garage on a raised platform.	I pour extra oil, antifreeze, and fuel in the ditch next to the road.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> 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.
<i>Sample:</i> I have containers that don't have labels, and I don't know what is in them.	Take all containers to the Kootenai County Transfer Station, and limit my overall use of hazardous materials.	One week from today.