

HAZARDOUS MATERIALS IN YOUR HOME

Precautions to take when using hazardous
products at home



IT'S ALL ABOUT CHOICES...



Virtually every home contains products that are potentially hazardous if misused or disposed of improperly. Common hazardous products include pesticides, paints, solvents, batteries, thinners, motor oil, antifreeze, and household cleaners. This brochure gives information on what precautions to take when using these products and how to dispose of them safely. It also gives information on reading labels so you know about the dangers of a product before purchasing it.

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WHAT MAKES A PRODUCT HAZARDOUS?

Hazardous products such as those mentioned above have the potential to harm people, pets, and wildlife. To identify potentially hazardous products, look for words on the product label such as poison, danger, warning, caution, or flammable. Hazardous products should be taken to special collection facilities for disposal. They should never be thrown in the trash because they can pose threats to public health and the environment. These threats vary according to specific properties of the product.

PROPERTIES OF HAZARDOUS PRODUCTS

- **Flammable** Can easily be set on fire or ignited.
- **Explosive/reactive** Can detonate or explode through exposure to heat, sudden shock, or pressure.
- **Corrosive/caustic** Can burn and destroy living tissues when brought in contact.
- **Toxic/poisonous** Capable of causing injury or death through ingestion, inhalation, or absorption. Some toxic substances are known to cause cancer, genetic damage, and fetal harm.
- **Radioactive** Can damage and destroy cells and chromosomal material. Radioactive substances are known to cause cancer, mutations, and fetal harm.

Some materials may exhibit more than one chemical hazard; for example, they might be flammable and toxic or corrosive and combustible.

CATEGORIES OF HOUSEHOLD HAZARDOUS PRODUCTS

Hundreds of hazardous products are sold in hardware stores, supermarkets, nurseries, and other retail outlets. Most household hazardous products fall into one of the following categories:

- **Automotive products** Oil, antifreeze, gasoline, brake fluid.
- **Household cleaners** Oven cleaners, drain cleaners, disinfectants, laundry products.
- **Paints and solvents** Latex and oil based paint, thinners, varnish, wood preservatives.
- **Poisons** Pesticides—including fungicides, herbicides, insecticides, and rodenticides.
- **Medications** Pharmaceutical compounds (i.e., antibiotics, reproductive hormones, and other prescription and nonprescription drugs).
- **Sharps** Hypodermic needles, syringes with needles attached, intravenous (IV) tubing with needles attached, scalpel blades, and lancets.
- **E-waste** Electronic waste such as computers, televisions, monitors, and printers.

THINGS TO CONSIDER WHEN PURCHASING PRODUCTS

- Before purchasing a product, read the label to get an indication of its safety (see sections on reading labels). Be aware that the word “non-toxic” is an advertising word and has no federal regulatory definition.
- Choose products with child resistant packaging.
- Avoid aerosol products when possible. Aerosols disperse substances that can be inhaled deeply into the lungs and absorbed into the bloodstream.
- Use non-hazardous or less-hazardous alternative products and recipes. One general household cleaner can serve many purposes; you do not need a different product for every cleaning problem. For a list of non-hazardous or less hazardous alternatives call Clark County Solid Waste at (360) 397-6118 ext. 4352 or go to <http://www.clark.wa.gov/recycle/publication.html> and click on Alternatives to Pesticides or Alternatives for Your Home and Garage.
- If safer alternatives are not available, buy only the amount you will need. Make sure that you understand what hazards are associated with a product’s use or disposal.

ONCE IT’S IN YOUR HOME, USE IT SAFELY

- Follow the directions on the label.
- Use proper safety equipment.
- Have a working fire extinguisher available.
- Wear protective clothing as necessary.
- Post emergency numbers near your telephone.
- Leave products in their original container with labels intact and visible.
- Do not mix products unless directed to do so by the label’s directions.
- Use only what is needed. Using twice as much product does not mean twice the desired results.
- If pregnant, avoid any potential exposure to toxic chemicals. Many toxic products have not been tested for their effects on unborn children.
- Avoid wearing soft contact lenses. They can absorb product vapors and damage your eyes.



ONCE IT'S IN YOUR HOME, STORE IT SAFELY

- Use products in well-ventilated areas. Work outdoors whenever possible. If working indoors, open windows and use an exhaust fan to blow the air outside rather than re-circulating it indoors. If you feel dizzy or nauseous, take a break and go outside.
- Do not eat, drink, or smoke while using hazardous products. Traces of hazardous chemicals can be carried from hand to mouth. Smoking can also start a fire if the product is flammable.
- Clean up after using hazardous products.
- Seal products and refasten all childproof caps.
- Do not leave hazardous products unattended.

Always be aware of the type of hazard you are bringing into your home or garage. Some hazardous product containers are similar in appearance to food or beverage containers. Children who haven't learned to read or adults that have problems with their vision may mistake a container with hazardous material for a food or beverage container.

- Keep products out of the reach of children and animals, and away from food.
- Clearly label all hazardous products before storing.
- Never store hazardous products/wastes in food or beverage containers.
- Make sure lids and caps are tightly sealed and childproof; never leave a container of hazardous material open and accessible to children or animals.
- Keep containers dry to prevent corrosion.
- Corroded containers should be placed in a labeled plastic bucket with a secure lid.
- Store volatile chemicals in a well-ventilated area.



HAZARDOUS PRODUCT LABELING

- Store rags used with flammable products in a sealed and marked container.
- Keep flammable or combustible products away from heat, flames, or other sources of ignition.
- Store gasoline in approved containers, in ventilated areas, and away from ignition sources.
- Know where flammable materials are stored and how to extinguish them.

Most hazardous products, including cleaning agents, detergents, polishes, stripping compounds, pesticides, and many others, are required by law to meet specific label requirements. There are two specific sets of federal regulations for labeling hazardous products:

- Hazardous products other than pesticides, which can be toxic, corrosive, irritant, flammable, or radioactive are regulated by the Federal Hazardous Substances Act (FHSA);
- Products containing pesticides which are toxic are regulated by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

FHSA and FIFRA set the minimum standards for the information that labels must contain to comply with the law. Whether or not this information is found on the label depends upon the interest of the manufacturer in complying with the letter and spirit of the law.

Some labels do not even list ingredients of the product. For information on how to obtain this important consumer information, see “How to find out what is in these products,” page 24.

WORDS TO WATCH FOR ON A PRODUCT LABEL

Look for signal words such as “danger,” “warning,” or “caution” on the label. They are required to be on every product that contains a hazardous material.

- “DANGER” means that the product is extremely flammable, corrosive, or highly toxic. If a material is highly toxic, the label must provide information on how to properly treat someone with an exposure to the product.
- “WARNING” means moderately toxic.
- “CAUTION” means slightly toxic. Products with “Warning” and “Caution” words on the label are required to tell you how the product may be hazardous to humans and domestic animals.

HOW TO READ A PESTICIDE LABEL

The labeling of pesticides is much more complicated than most other chemical products. This is necessary because many pesticides are more toxic than other chemicals found around the home. Warnings, use specifications, and directions must be much more complete and detailed.

You can tell the toxicity of a pesticide by looking at the signal word on the label. Pesticides are classified into Toxicity Categories I-IV (Category I is the most toxic, IV the least toxic). The signal words and the precautionary statements required on the label are different for each category. The following Toxicity Rating Scale indicates the requirements for pesticide labels.

PRECAUTIONARY STATEMENT BY TOXICITY

Category	If the label has this signal word...	This is how toxic the product is*
Highly toxic	DANGER, POISON	A few drops to one teaspoon
Moderately toxic	WARNING	One teaspoon to one ounce
Slightly toxic	CAUTION	Over one ounce
Not toxic	not required	

*Approximate amount needed kill an average person.

HIGHLY TOXIC

■ Oral inhalation or dermal toxicity

Fatal if swallowed (inhaled or absorbed through skin). Do not breath vapor (dust or spray mist). Do not get in eyes, on skin, or on clothing. (Front panel statement of treatment required.)

■ Skin and eye local effects

Corrosive, causes eye and skin damage (or skin irritation). Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. (Appropriate first aid statement required.)

PRECAUTIONARY STATEMENT BY TOXICITY

MODERATELY TOXIC

■ Oral inhalation or dermal toxicity

May be fatal if swallowed (inhaled or absorbed through the skin). Do not breath vapors (dust or spray mist). Do not get in eyes, on skin, or on clothing. (Appropriate first aid statement required.)

■ Skin and eye local effects

Causes eye (and skin) irritation. Do not get in eyes, on skin or on clothing. Harmful if swallowed. (Appropriate first aid statement required.)

SLIGHTLY TOXIC

■ Oral inhalation or dermal toxicity

May be fatal if swallowed (inhaled or absorbed through the skin). Do not breath vapors (dust or spray mist). Do not get in eyes, on skin, or on clothing. (Appropriate first aid statement required.)

■ Skin and eye local effects

Avoid contact with skin, eyes, or clothing. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

NOT TOXIC

No precautionary statement required. No precautionary statement required.

PESTICIDE LABEL EXAMPLE

1. ZAPPO
2. Tranziapon Insect Spray
3. Active Ingredients by wt.
Tranziapon*.....49%
Petroleum Derivative Solvent34%
Inert Ingredients.....17%
3 Ditransudate of cismercapto pontificate
4. Makes up to 24 gallons. Diluted spray kills insects: Aphids, Red Spider Mites, Flies, Mealy-Bugs, and Scales.
5. Caution: Keep out of reach of children
6. Net contents 8 fl. oz. Store in a cool, dry place, read entire label. Use in accordance with label cautions and directions. Keep original container. Do not put concentrate or dilute into food or drink container
7. Directions: Spray thoroughly on infested plant parts. Repeat as necessary. Household pests (Roaches, Ants, Flies): 2 Tablespoons per gallon of water. Spray on area frequented by insects. Avoid contamination of food, dishes, utensils and water. Repeat as necessary. Vegetables: (Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Kale, Beans, Peas, Potatoes): 1 TBSP per gallon water. Do not apply to Broccoli and Peas within 3 days of harvest and to Brussels Sprouts, Cabbage, Cauliflower or Kale with 7 days of harvest. Do not apply to Beans within 1 day of harvest. Use up to harvest on Potatoes.
8. Caution: Harmful if swallowed. Do not breathe vapor or spray mist. Avoid contact with skin; wash skin and hands thoroughly after using. Avoid contamination of food. Keep children and animals away from treated areas until the areas are dry. If poison occurs, call a physician immediately. Note to Physicians: Emergency Information--call (123) 456-7890. Atropine is antidotal. Do not use, pour, spill or store near heat or open flame. Food utensils such as teaspoons or tablespoons should not be used for food purposes after use with pesticide. Do not reuse container. Dispose of container when empty. This product will kill fish. Keep out of any body of water. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label. This product is highly toxic to bees. Protective information may be obtained from your Cooperative Agricultural Extension Service.
9. NOTICE: Buyer assumes all responsibility for safety and use not in accordance with directions.
10. Product 1223344 EPA Reg. No. 0000 EPA Est 111-22-
11. Chemico Chemical Company, 100 Main Street, Beaverton, MD 54321

WHAT EACH LABEL ITEM MEANS

(SEE PESTICIDES LABEL EXAMPLE PAGE 16)

1. Brand name. The name, brand, or trademark is plainly displayed on the front panel of the product label. The brand name is the name used in ads by the company that makes the product and is the most identifiable name for the product.

2. Common name. All chemicals have a scientific name. Chemicals with a complex scientific name are often given a common name, as well. Both the scientific name and the common name of the chemical will be the same for every company. The brand name will differ depending on which company made the chemical.

3. Ingredients statement. Every pesticide label must list what is in the product. It must show the percentage of the active ingredients and the percentage of the inert ingredients. The names of the active ingredients must be shown either by chemical name or common and chemical name. At present, inert ingredients do not need to be listed. New labeling regulations, however, will require toxic inert ingredients to be listed.

4. Type of formulation. A pesticide may be available in more than one type of formulation - liquids, wettable powders, emulsifiable concentrations, dusts, and others. Different types of formulations require different methods of handling. The label will say what type of formulation the package contains and how to use it properly.



WHAT EACH LABEL ITEM MEANS (PESTICIDES)

5. Child hazard warning. Every pesticide container must bear the statement “KEEP OUT OF REACH OF CHILDREN” on the front label.

6. Net contents. The label must show how much product is in the container. This can be expressed in ounces, liters, pounds or other units.

7. Directions for use. The instructions on the label must tell you how to use the product properly within its legal requirements for the best results. The directions will tell you:

- The pests the product is registered to control.
- The crops, animals, or other items the products can be used on.
- In what form the product should be applied.
- How to apply the product.
- How much to use.
- Where it should be applied.
- When it should be applied.
- How frequently it should be applied.
- How soon the crop may be used or eaten after the product is applied.

8. Warning or caution statements. The label must tell you the type of hazard the product poses (corrosive, flammable, toxic, etc.) and how to avoid the hazard. If the pesticide is highly toxic, this section must inform physicians of the proper treatment for poisoning. Whether or not the product is highly toxic, the label should also state what types of exposure require medical attention. If a poisoning occurs, call your local emergency number or contact the Regional Poison Center for advice. Be sure to provide label information to the treating medical personnel. Emergency first aid measures must be stated on the label; however, antidotes are not always in keeping with current medical recommendations.

Warning and caution statements will also tell you in what ways the product may be poisonous to humans and domestic animals. Although labels include recommendations on wearing protective clothing and ensuring adequate ventilation, more information in this area than is legally required is needed on the labels of pesticides. Types of safety equipment are not always clearly defined, nor is it always clear how much ventilation is adequate (an open window, exhaust fan, or use outdoors).

Labels may contain environmental precautions applying to air, water, or wildlife. Pesticides or pesticide residues may contaminate water supplies, accumulate to dangerous levels in the environment, or may harm birds, fish, or other wildlife.



HOW TO READ A PRODUCT LABEL (NON-PESTICIDE)

9. Misuse statement. To use a pesticide product in any manner inconsistent with its labeling is a violation of federal law. You are reminded of this in the misuse statement.

10. Registration and establishment numbers.

Every pesticide on the market must be registered with the federal Environmental Protection Agency. The EPA registration number must be on the front panel of the label. The establishment number—a code for the factory that makes the chemical—must also be on every pesticide container. It usually appears under the registration number.

11. Name and address of manufacturer. The name and address of the company that made or distributed the product must be on the label. This way, the purchaser of the product knows who made or sold the product and can contact them if necessary. Companies will also provide you with a materials safety data sheet upon request.

1. BRITE BLEACH Contains No Phosphates
2. Active Ingredient: Sodium Hypochloride 5%
3. 64 fl. oz (2 Quart)
4. Caution: Keep Out Of Reach Of Children

BRITE: Household uses

5. Use BRITE to clean your bathroom and kitchen. BRITE is an excellent disinfectant and deodorizer. BRITE cleans by removing stubborn stains and eliminating odor-causing germs from surfaces all around the house.
Toilet Bowls--Pour in 1/2 cup of BRITE. Brush entire bowl. Let stand 10 minutes. Do not use with toilet bowl cleaners. See caution statement.
Kitchen Sinks--Cover stains with water. Pour 1/2 cup of BRITE directly into standing water.
Floor--Clean with a solution of 1 cup of BRITE per gallon of sudsy water. Do not use on cork.
Bathtubs and Showers--Clean with a solution of 1 cup of BRITE per gallon warm water.

BRITE: Laundry Uses

Direction for Use: For best results, use the proper amount of BRITE in your wash water.

- Large top-loading automatic: 1-1/2 cups
 - Regular top-loading automatic: 1 cup
 - Front-loading automatic: 1/2 cup
 - Heavy-soiled laundry: increase 1/2 cup
 - Hand laundry: 2 gallons of sudsy water, 1/4 cup BRITE
6. WRITE for a free BRITE "Guide to Cleaner Laundry" booklet or other information on laundry and house cleaning to the BRITE Company, P.O. Box 12345, Braselton, WA 44150.
 7. For Use On The Following Fabrics: Cotton, linen, synthetics, permanent press and all color-fast fabrics. Do not use BRITE on silk, wool, mohair, leather, spandex or non-color fast fabrics.
 8. Caution: BRITE may be harmful if swallowed or may cause severe eye irritation if splashed in eyes. If swallowed, feed milk. If splashed in eyes, flood with water. Call Physician. Skin irritant: If contact with skin, wash off with water. Do not use BRITE with ammonia or products containing acids such as toilet bowl cleaners, rust removers, or vinegar; to do so will release hazardous gases. Prolonged contact with metal may cause pitting or discoloration. Do not use this bottle for storage of any other liquid but BRITE.

WHAT EACH LABEL ITEM MEANS (NON-PESTICIDES)

The labels of household products containing hazardous substances must include at least the following information:

1. Brand name.

2. Common and/or chemical name. A list of the common names of the hazardous ingredients; if a hazardous substance has no common name, the chemical name will be listed. Both names may appear on the label, as in this case. “Sodium Hypochloride” is the chemical name. “Bleach” is the common name.

3. Amount of contents.

4. Signal word. The signal word “Danger” is used on substances which are extremely flammable, corrosive, or highly toxic. The signal words “Warning” or “Caution” are used on all other hazardous substances. Signal words are usually followed by “Keep out of reach of children.” The word “nontoxic” is an advertising word and lacks a federal regulatory definition.

5. Instructions for safe handling and use. Warnings about what not to mix the product with or where to avoid use of the product. The quantities for proper use of the product are listed here. (Always use the recommended amount. Using more of a product does not mean a better job will result!)

WHAT EACH LABEL ITEM MEANS (NON-PESTICIDES)

6. Name and address of manufacturer, distributor, packer, or seller. (Contact the manufacturer about any questions concerning the product.)

7. Description of hazard and precautions.

A description of the principal hazard involved in using the product. In this case, the product is an “irritant” to the skin and eyes, and to the gastrointestinal system if swallowed. Other words that may be used to describe the principal hazard in using products may include “Vapor Harmful,” “Flammable,” “Corrosive,” “Absorbed Through the Skin” and such.

A statement of what to do to avoid the hazard such as precautions to wear gloves or eye protection, or to provide adequate ventilation. A shortcoming of labels is that they do not specify how much ventilation is adequate, or (in many cases) what safety equipment should be used with the product.

8. First aid instructions, when necessary or appropriate. On some hazardous products, antidotes are listed in case of accidental poisoning. However, especially with older products, many of the antidotes are not in keeping with current medical recommendations. In the event of a poison emergency, always dial 911 or call the Regional Poison Center (1-800-542-6319).

HOW TO FIND OUT WHAT IS IN THESE PRODUCTS

If a product label does not provide ingredients or adequate instructions on how to safely use the product, consider buying a product that does list this basic information. You can also contact the manufacturer, distributor, or retailer and request a copy of the Material Safety Data Sheet (MSDS) for that product. An MSDS lists the ingredients in a hazardous product, its manufacturer, its hazards to safety and health, and precautions to follow when using it.

While manufacturers do not have to provide consumers with an MSDS, reputable manufacturers should. Response is often slow, so don't be surprised if it takes 4-6 weeks. Keep copies of the letters you send asking for Material Safety Data Sheets. For assistance in understanding the terminology of an MSDS, contact Clark County Solid Waste at (360) 397-6118 ext. 4352.

If you need answers about what a product contains in a relatively short time, you can call the Regional Poison Center (1-800-542-6319) and request information on products and the potential health effects of their ingredients.

CHEMICAL EXPOSURE

The effects of chemicals on human health and the environment depend on the dose, concentration, duration and frequency, and route of exposure. People have different reactions to chemicals, some reacting to small doses and concentrations, while others require a larger dose or concentration to react.

Others factors contributing to a reaction in people or the environment include the length of exposure to the chemical and how often the exposure occurs. The way a hazardous material enters the body can determine how much of the material is absorbed and which organs will be effected. The route may also affect the toxicity of the material; a chemical can be more toxic if inhaled than if it is absorbed through the skin. Hazardous materials may enter the body through:

- **Ingestion.** To prevent accidental ingestion of a hazardous material, avoid putting anything in your mouth while working with hazardous materials. Always keep food, drinks, or other items that could come into contact with your mouth (e.g., cigarettes) away from the work area to avoid contamination. When you are finished working, remove any contaminated clothing and wash your hands and other exposed body parts thoroughly before eating, drinking, or smoking. Do not store hazardous materials near food or beverage items, and never place hazardous materials in food or beverage containers.



EFFECTS OF HAZARDOUS CHEMICALS

■ **Inhalation.** To ensure adequate ventilation, work outside whenever possible. If you must work inside, use a fan to direct air away from the work area and towards an open window. Be sure that you do not direct hazardous fumes or vapors toward others who may be working outside. Air conditioners do not provide sufficient ventilation because they only circulate air and do not remove contaminants. Before using electricity in an enclosed area, open any doors or windows to clear the air. This will ensure that the area is free of hazardous fumes or vapors that could ignite or explode from an electrical spark. Always ensure that you have adequate ventilation. If you can smell the hazardous material you are working with, you might need to use a mask or respirator for adequate protection. Be aware that not all hazardous chemicals have an odor (e.g., carbon monoxide, methyl alcohol).

■ **Absorption.** Hazardous material can enter your body from contact with your skin or other exposed body surfaces. Some hazardous material will cause damage to the skin before being absorbed into the bloodstream, while others can be absorbed without damaging the skin. Once inside the body, however, these materials can then cause acute or chronic effects to organs or tissues. To prevent this from happening, you should work to limit the possibility of spills, splashes, or sprays of hazardous products and use the appropriate equipment (e.g., goggles and gloves).

The effects of hazardous chemicals are generally classified as acute or chronic. Acute effects are immediate and characterized by the sudden onset of severe symptoms. Skin burns from splashing battery acid, fire caused by an exploding aerosol can, and a fish kill from chemicals dumped down a storm drain are examples of acute effects.

Chronic effects are gradual and occur through repeated exposure over an extended period of time. For example, the slow pollution of groundwater resulting from the disposal of small amounts of leftover herbicide down a sinkhole every growing season would be a chronic condition. The most common kinds of chronic health effects include liver and kidney damage, central nervous system damage, cancer, and birth defects.

PROTECTING YOURSELF AT HOME

Protective Equipment. Many people who wear protective equipment when using hazardous materials at work will use the same materials at home without any type of protection even though the materials are just as dangerous or harmful at home as they are at work. This section provides information on how to prevent accidents, fires, and contamination from hazardous materials at home and provides information about the different types of protective equipment that are available.

The type of protective equipment you need depends upon the type of hazardous material you will be exposed to or the physical danger you will encounter. Read the label of a product; if it contains a hazardous material, be sure that you are using the proper protective equipment. It is a good idea to read the contents label with each new purchase; manufacturers occasionally make changes to their product. Too many people risk injury, poisoning, and even cancer by using hazardous products without proper protection.

Complete protection may require a hardhat, safety goggles or glasses, splash suit, gloves, respirator, and safety shoes. Properly designed and fitted safety equipment should not be awkward to wear or use. Any time or money lost from using protective equipment and safety procedures is more than compensated for by avoiding costs from potential injury or sickness.

PREVENTING ACCIDENTS

There are two approaches to eliminating accidents:

- **Eliminate unsafe conditions.** Work areas and equipment should be examined to determine if any unsafe conditions (e.g., frayed electrical wires, improper ventilation or lighting, leaking containers of hazardous material) exist. Any unsafe condition should be corrected before beginning work in the area.
- **Reduce unsafe acts.** Working in a safe environment requires you to examine those actions you control while being aware of those situations beyond your control. Care must be taken to ensure that any actions taken to protect or reduce accidents in one area do not cause or set up the conditions for accidents in some other area.

PROTECTIVE EQUIPMENT

Body protection. Before determining the type and degree of protective clothing needed for proper protection, the physical, chemical, and toxic properties of a hazardous material must be thoroughly assessed. The work function and probability of exposure to a hazardous material must also be considered when selecting protective clothing.

Protective clothing is available in a variety of styles (aprons, coveralls, splash suits, and fully encapsulating suits) and materials (natural rubber, synthetic rubber, and plastic). If a hazard is minor, minimal protection is required. This could be a cloth, plastic or rubber coverall, or apron. If you use cloth work clothes, wash them separately in a washing machine with a full water level of hot water and detergent. Rinse the washing machine thoroughly after cleaning the contaminated clothes. Line dry the work clothes rather than using a dryer; the high heat of a dryer can ignite any flammable vapors remaining in the clothing.

As the danger from a hazardous material increases, so does the required level of protection. A splash suit made of PVC is suitable for a corrosive liquid when there will be minimal contact with organic materials. If the hazardous material is more toxic, then more protection must be used. Neoprene or butyl rubber splash suits are good barriers against toxic hazards.

PROTECTIVE EQUIPMENT

Protective clothing protects primarily because of the type of material used in making the clothes. In selecting the proper material choose one that is strong, durable, flexible, easy to decontaminate, and chemical resistant. The most important aspect of a material is its chemical resistance. When protective clothing comes into contact with a hazardous material, it must be able to resist damage, penetration, or permeation. Consult with a salesperson from your local safety equipment and clothing supply store or hardware store to determine what type of protective clothing meets your needs.

Wearing protective clothing can create a temperature problem. Someone enclosed in a plastic or rubber suit is shielded from the normal circulation of air needed to cool the body. This can lead to heat stress or heat stroke. During extended periods of work when the body is unable to cool itself because of temperature, clothes, or work schedule, the best method for cooling the body is to take frequent rest periods.

Ear protection. Ear plugs (the higher the decibel rating number on the package of earplugs the better the protection) or earmuffs should be worn if noise is a problem (e.g., impact tools, heavy machinery, and consistently loud or high-pitched sounds).



PROTECTIVE EQUIPMENT

Eye protection. Eyes are particularly vulnerable to injury from hazardous products. Many hazardous products may cause eye damage if splashed into an eye or eyes (e.g., oven cleaners, drain openers, paint thinners). Wraparound safety goggles should be worn to protect the eyes from chemical splashes, mists and vapors, and to protect the eyes from scratches or cuts from metal burrs, rocks, or other flying matter. Standard eyeglasses do not provide adequate protection from hazardous chemicals or flying matter. Safety goggles are inexpensive and can be purchased at safety supply stores or at many hardware stores.

Foot protection. For foot protection against hazardous chemical liquids wear a boot made of PVC (plastic-polyvinyl chloride), neoprene, butyl rubber, or some other chemical resistant material. Two styles of chemical resistant foot protection are available: pullover boots and shoes. For foot protection against physical accidents, such as falling items or cuts, heavy leather or steel toe and shank boots should be worn.

Hand protection. The skin on your hands and fingers are the areas most exposed to a hazardous material. When working with a hazardous material, make sure that you use a glove that will protect your hand from contact with the hazardous material. Nitrile (synthetic rubber) gloves are effective protection against most household products. When selecting gloves consider the thickness and cuff length. A thicker glove with longer cuffs provides better protection, but be sure that the gloves are not so thick as to inhibit the required dexterity to complete the job. Consult with a salesperson from your local safety equipment and clothing supply store or hardware store to determine what type of glove meets your needs.

For extra protection, two pair of gloves may be worn. For heavy work, thick leather gloves may be worn to prevent the puncturing or tearing of the chemical protective gloves. If the thick leather work gloves become contaminated, they should be discarded; leather is difficult to decontaminate. For lighter jobs a pair of thin gloves (surgical gloves) may be worn inside the chemical protective gloves. This not only provides protection in case the outer glove is torn or permeated, but it will also add an extra layer of protection for the hands during the removal of the outer gloves and other contaminated protective clothing.



PROTECTIVE EQUIPMENT

Shirt or splash suit cuffs should be worn on the outside of protective gloves to prevent any of the hazardous material from leaking into the glove. If your work requires your hands to be elevated above your head, the cuffs of the shirt or splash suit should be taped to the gloves to provide a proper seal.

Head protection. A hardhat is worn as the basic safety equipment for head protection. If you are doing any construction work at home you may want to add a hardhat to your list of protective equipment. Hardhats are adjustable so that a liner can be worn in cold weather. They also have chinstraps to secure the hardhat to the head when you are bending, ducking, or wearing a full-face respirator.

Manufacturers have adapted most hardhats to allow face shields and ear protection to be attached. Face shields attached to a hardhat can provide added protection. To prevent overhead splashes from running down the inside of the shield and splashing on your eyes or face, be sure that there are no gaps between the shield and the hardhat.

Respiratory protection. There are different types of masks and respirators you can use. Particle masks are inexpensive and provide minimal protection from dust, but they are inadequate for use with products that can produce vapors, fumes, or mists. A respirator may be required for products that can produce vapors, fumes, or mists. The basic function of a respirator is to reduce the risk of respiratory injury from breathing airborne contaminants. An Air Purifying Respirator (APR) protects you by removing the contaminants from the air before you breathe it; an Atmosphere Supplying Respirator (ASR) protects you by supplying you with an alternative source of clean air to breathe. Some chemicals used for household projects may require a particle mask or an APR. There are a wide variety of APRs available, but they generally fall into two main categories:

- **Particulate APRs** have mechanical filtering elements and are used with aerosol spray paints, some pesticides, or when in contact with dust from stone or woodwork, or with fumes from soldering or welding.
- **Gas and vapor APRs** have chemical absorbent (e.g., charcoal filters) cartridges and may be used with ammonia, pesticides, paint related materials, printing and photographic solvents, organic vapors, and other hazardous chemicals.



FIRE HAZARDS

The respirator should be NIOSH (National Institute for Occupational Safety and Health) approved for the particular contaminant to which you will be exposed. On all NIOSH approved respirators there will be an approval number consisting of the letters “TC” followed by two sets of letters and numbers (e.g., TC-23C-212).

A respirator should be comfortable and leak-proof. Different people have different face sizes. Try on a respirator before you purchase it to make sure it fits properly. Men with facial hair may not be able to get a good fit with a respirator and may not be adequately protected.

The filters and cartridges of reusable respirators have to be replaced regularly. If it is difficult to breathe, the filter is probably clogged and needs to be replaced. If you can smell the hazardous material through the respirator, then the chemical absorbent is probably used up and the cartridge will need to be replaced. If you rely on odor to determine when to replace your cartridge, be sure that the hazardous material is odor producing.

General rules of thumb are to replace the cartridges after two weeks, after eight hours of continuous work, or if you can smell the hazardous material. A way to avoid replacing filters and cartridges is to replace the whole respirator. There are disposable respirators on the market with hazardous material specific filters and cartridges in place. Consult with a salesperson from your local safety equipment and clothing supply store or hardware store to determine what type of respirator will meet your needs.

When working with hazardous products, always read and follow the directions on the label. Do not mix products unless instructed to do so by the directions on the label. To prevent fumes from escaping, keep all containers closed when working with the hazardous material.

If the product is flammable and/or explosive, use and store away from any sources of heat, flames, sparks, or ignitions. Gas pilot lights, hot water tanks, lit cigarettes and cigars, light switches, and garage door openers can all be ignition sources. Fuel, oxygen, and heat are required for combustion to occur. If you remove any of these three elements a fire can be extinguished.

Place all solvent covered rags in a sealed container after use and before cleaning. If you clean them yourself, wash the rags separately in a washing machine with a full water level of hot water and detergent. Rinse the washing machine thoroughly after cleaning the rags. Line dry the rags rather than using a dryer; the high heat of a dryer can ignite any flammable vapors remaining in the rags.

Install smoke detectors in your house and other areas where hazardous products are used, and always have two exits from the work area. Post a list of emergency phone numbers (fire, medical assistance, regional poison center, etc.) by your phone and inform home members about the list. If you have any large quantities of hazardous products at your home and there is a fire, be sure to notify the firefighters of the amounts and types of hazardous materials on site when they arrive.



PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTES

Keep a working fire extinguisher readily available in your home and work area. Make sure the extinguisher you have is appropriate for the fire you are attempting to extinguish.

Fire extinguisher. The appropriate fire extinguisher depends upon the source of fire. A Class A fire extinguisher will extinguish ordinary combustibles such as paper, cloth, wood, and upholstery. Solvents and grease fires require a Class B fire extinguisher. A Class C fire extinguisher is used for electrical fires. Using the wrong kind of fire extinguisher for a fire can be dangerous because it could cause the fire to spread. Most households contain each of these potential sources (combustibles, grease, and electrical), so an ABC or Multi-purpose Dry Chemical fire extinguisher is recommended. Consult with a salesperson from your local safety equipment supply store or hardware store to determine which fire extinguisher meets your needs.

Check the pressure and contents of your fire extinguisher at the intervals suggested by the manufacturer. Take your fire extinguisher to be serviced and refilled each time it is discharged. A fire extinguisher that is empty, low on propellant, or not working cannot protect you. Be sure that everyone in the house knows where the fire extinguisher is located and that those who can use it know how to use it.

If you live in Clark County or its cities, you can safely dispose of unwanted household hazardous waste at any of several local household hazardous waste collection facilities or mobile collection events. Eligible seniors and residents with disabilities who are unable to transport household hazardous waste to a local facility or event may call (360) 397-6118 ext. 4352 to arrange for free home pick-up. Business-generated hazardous waste will not be accepted at these sites.

- Central Transfer and Recycling Center
(360) 256-8482
11034 NE 117th Avenue, Vancouver,
Saturday & Sunday, 8 a.m. – 4 p.m.
- West Van Materials Recovery Center
(360) 737-1727
6601 NW Old Lower River Rd, Vancouver,
Friday & Saturday, 8 a.m. – 4 p.m.
- Philip Services Corporation
(360) 835-8594
625 S. 32nd Street, Washougal,
First Tuesday of each month, 10:30 a.m. – 3:30 p.m.
- Mobile Collection Events
Call Clark County Public Works, (360) 397-6118
ext. 4352 for collection event schedules.

PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTES

To dispose of household hazardous waste at a local collection facility or event:

DO:

- Keep HHW products separate (do not mix).
- Bring products in their original containers when possible.
- Seal products to prevent leaks and spills.
- Keep products away from the driver and passengers, i.e., in a trunk, truck bed, or trailer.
- Keep children and pets away from collection sites and events.

DO NOT:

- Exceed 25 gallons or 220 pounds of HHW per event.
- Bring unlabeled, empty, or leaking containers, asbestos, explosives or ammunition, radioactive

For more disposal information, please call
(360) 397-6118 ext. 4352.

This program is a cooperative effort of Battle Ground, Camas, Clark County, La Center, Ridgefield, Washougal, and Yacolt.

A SAFER HOME

Wherever possible, you are encouraged to use safer, less toxic products. For a list of non-hazardous or less hazardous alternatives contact Clark County Solid Waste at (360) 397-6118 ext. 4352 or go to www.clark.wa.gov/recycle/publication.html and click on Alternatives to Pesticides or Alternatives for Your Home and Garage.



For an alternative format, contact the Clark County ADA Compliance Office.
Voice (360) 397-2025 TTY (360) 397-2445 E-mail ADA@clark.wa.gov



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