

HOUSEHOLD CLEANERS

A cleansing substance that acts similarly to soap but which is made from chemical compounds, rather than fats and lye.

The first thing to remember when using chemicals to clean the home is that less is more. Contrary to what the manufacturers of cleaning products would like you to believe, you do not need a separate cleaner for each job. Many products have names that entice us to buy. In reality, the shower foam, the toilet bowl cleaner, and the kitchen counter spray are essentially the same thing.

Instead of wasting your money and taking up precious storage space, consider buying a good "all-in-one" product for most of your cleaning needs.

Simplegreen is a wonderful example of just such a product. If you prefer, you can also make your own supplies out of things you already have in the house. Baking soda, alcohol, and vinegar are just a few of the tried and true home remedies for keeping a clean house.

Most household cleaning products are quite safe. There is little cause for concern that by mopping the floor you'll be contributing to the demise of a remote ecosystem on the other side of the planet. The true danger of household chemicals becomes important when the empty containers of such products are heaved into the garbage bin.

Empty bottles, spray cans, or other packaging are things that should not have the opportunity to reach a landfill. When they do, the chemical residues from household cleaning products can potentially seep (also known as leach) into local groundwater supplies.

Household hazardous waste is defined as anything that is discarded from the home and has at least one of the following characteristics:

1. corrosive
2. reactive
3. ignitable
4. poisonous

By this definition, many household cleaners fall into the categories of "poisonous," "corrosive," and "reactive." **Products containing bleach are especially harmful. Chlorine, a major component of bleach, is an exceptionally persistent ion. Chemically speaking, a chlorine ion bonds easily to other molecules and forms a strong bond that cannot be easily broken. Bleach is corrosive and poisonous. It is also highly reactive in the presence of other chemicals. For**

this reason, it is especially important to store products containing bleach in an area separate from those that may contain ammonia (e.g. window and glass cleaners.)

Additionally, great care should be taken when using products that are antimicrobial. Overuse of these can lead to antibiotic resistance. They can also encourage stronger, more challenging microbes to flourish in the environment. The Center for Disease Control and Prevention reports that antibiotic resistance is a leading public health concern. In order to avoid contributing to this problem, antibiotic cleaning products or antimicrobial agents should not be overused in the home. There are plenty of cleaning products that do a thorough job. By using these alternative cleaners, the home is at a decreased risk for fostering antibiotic-resistant germ growth.

Household cleaning products also have the potential to negatively impact indoor air quality. The fumes generated from strong, aromatic chemicals (particularly chlorine bleach and ammonia) may temporarily impair respiratory health. Also, the effects of air quality, as a result of household cleaning chemicals, are largely due to the use of aerosol sprays.

The tiny amount of propellant in the spray can is dangerous to the environment because it contains trace (i.e. tiny) amounts of chlorofluoro carbons. Commonly referred to as CFCs, these molecules are a proven link in the process that is deteriorating the ozone layer.

We all have a responsibility to do our part to protect our precious environment. The old motto of "think globally, act locally" is particularly appropriate when it comes to making wise decisions about household cleaning products. Environmentally sound purchases and practices will not only help keep your home clean, but they contribute to a cleaner, healthier environment as well.

Natural household cleaners are bio-friendly products which do not contain unnecessary chemicals. They are non-toxic or a lot less toxic for us and the environment.

<http://www.greenfootsteps.com/natural-household-cleaners.html>

TYPES OF HOUSEHOLD CLEANERS

ABRASIVE CLEANERS

Abrasive cleaners are designed to remove relatively heavy amounts of soil often found in small areas. They come in powder and liquid form and contain a kind of built-in elbow grease, which helps cut down on the hard rubbing required to remove soil. Scouring pads are also included in this category.

The abrasive action is provided by a variety of ingredients: small particles of minerals or a network of fine steel wool, copper, nylon or metal particles imbedded in a matrix of solid plastic.

The degree of abrasiveness of products varies. Over an extended period of time, the overuse of some abrasive cleaners can remove the glaze or coating from some surfaces. Always read and follow the surface manufacturer's instructions before using a product.

Some cleaners disinfect surfaces. They include an antimicrobial agent to reduce the bacterial population that lives on soiled surfaces. Such agents can include pine oil, quaternary ammonium compounds or sodium hypochlorite. Such products will be labelled "disinfectant" or "kills germs." In order to use this labelling, these products are regulated and approved by Health Canada.

Powdered cleaners have a long established place among household cleaners. Their cleaning and polishing action is provided by fine particles of minerals, such as calcite, feldspar, quartz and silica. In addition, powdered cleaners contain small amounts of surfactants for removing oily soils, such as the greasy film often found in sinks after dishwashing. Where removal of food, beverage, or mould and mildew stains is required, a bleaching agent is usually present. Where removal of rust stains is a performance feature of the product, oxalic acid or sodium hydrosulphite may be present.

Liquid cleaners are a suspension of solid abrasive particles in a thickened liquid matrix. They contain more surfactant and softer abrasives than are found in some powdered cleaners. As a result, their abrasive action is usually gentler than powders.

Scouring pads, like powdered cleaners, are products with a long history of use. In the most widely used types, a ball of fine steel wire provides the scouring action. For chemical cleaning and as a polishing aid, the steel wool pad may be filled with a cleaning mixture whose principal ingredient is soap.

Particularly on metal surfaces, the soap and metal pad can provide effective cleaning and a pleasing shine. On continued use, the cleaning mixture is used up and the pad begins to corrode.

Some scouring pads are made of non-corroding materials, such as a mesh of copper, stainless steel wire or nylon, while others are a plastic material imbedded with small particles of abrasives. These pads are not impregnated with a cleaning mixture and rely on mechanical action alone.

Other scouring pads consist of a cellulose sponge with a polyurethane backing. These pads significantly reduce the scratching of surfaces.

NON-ABRASIVE CLEANERS

Non-abrasive, all-purpose cleaners are marketed in different forms. They are offered as powders that can be dissolved to the proper strength and as liquids that can be diluted or used full strength. The newest powders and liquids are concentrated products. Liquids are also available as trigger sprays, in aerosol cans or in pump-actuated bottles.

Non-abrasive cleaners can also contain antimicrobial agents to disinfect. Such products will specify on the label that they "kill germs" or "disinfect" and are regulated and approved by Health Canada.

Powdered or liquid cleaners mixed with water are most often used on fairly large washable surfaces like floors, painted walls, countertops and woodwork, where accumulations of soil are relatively uniform. For heavy soiling, more concentrated solutions can be prepared. Liquids may also be used full strength.

The major ingredients in non-abrasive cleaners are surfactants and builders. A surfactant's presence is noticeable by the appearance of foam, particularly in diluted water solutions. All-purpose cleaners are generally formulated to produce only a moderate amount of foam, which makes rinsing easier.

Since most all-purpose cleaners work best in alkaline conditions, they often contain an alkaline buffer salt, such as sodium carbonate. Sodium carbonate can also function as a builder.

These cleaners can also contain other ingredients, such as ammonia, pine oil and organic solvents like ethanol or isopropanol.

Spray cleaners are designed for use on smaller washable areas. Soiled walls around switch plates, chrome fixtures, appliances and cooktops are examples. Like the dilutable products, sprays are formulated with surfactants and low levels of builders; most contain an organic solvent. The combination of surfactant and solvent makes such products particularly effective on greasy soils.

SPECIALTY CLEANERS

Specialty cleaning products have a narrower spectrum of uses than all-purpose products. They are designed for specific surfaces, such as glass, bathroom surfaces, ovens, drains, metal, floors, carpets, furniture and upholstery, and the soils that usually collect on these surfaces. By concentrating on specific conditions, specialty products can deliver optimum performance and convenience.

KITCHEN, BATHROOM, GLASS AND METAL CLEANERS

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| Bleaches | Use of liquid household bleach (sodium hypochlorite) for removing stains on fabrics is well known. Sodium hypochlorite is similarly effective on stains found on hard surfaces. In addition, it can be used as a disinfectant to kill bacteria, viruses and fungi, including moulds and mildew. |
| Disinfectants and Disinfectant Cleaners | <p>Disinfectants contain antimicrobial agents, such as pine oil, sodium hypochlorite, quaternary ammonium compounds or phenols, which kill bacteria and viruses on surfaces. A surface should be free of heavy soil for effective disinfection.</p> <p>Disinfectant cleaners contain surfactants and builders to remove soil in addition to antimicrobial agents to kill germs. Therefore, they are effective at cleaning surfaces as well as killing germs. Label instructions must be followed to assure the surface is disinfected.</p> |
| Drain Openers | <p>Today, drain opening products fall into two categories. The newer category includes maintenance products or "build-up removers"; the second category includes traditional drain openers.</p> <p>Build-up removers are liquids formulated to prevent the grease and soap scum build-up which causes clogged drains. They contain enzymes or a culture of bacteria which produces enzymes. The enzymes break down and digest organic materials, such as grease, that accumulate in pipes. Build-up removers can be used on an ongoing basis to keep drains free flowing.</p> <p>For opening clogged drains, a traditional drain opener may be required. Drain openers are chemically strong liquid or crystal products formulated for this demanding job. Clogged kitchen drains are often caused by plugs of solid grease which may have all types of materials imbedded in them, obstructing the free flow of water. Sodium hydroxide is often used to generate heat to melt fat and break it down to simpler substances that can be rinsed away. Some products also contain agents to produce gas which</p> |

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| | <p>provides agitation in the drain, a further help in opening drains.</p> <p>Clogged bathroom drains are often caused by hair, soap particles, toothpaste or combinations of these materials. On these problems, liquid drain openers containing sodium hypochlorite and sodium hydroxide can work well.</p> |
| Glass Cleaners | <p>Glass cleaners are designed to clean glass surfaces without streaking or leaving any residual soil or product. Liquid glass cleaners are available in bottles with trigger sprays or in aerosol containers.</p> <p>The products contain surfactants to loosen soil, solvents to dissolve oily soils, and water as the medium to carry surfactants and solvents. Builders are included to remove heavier soils, especially oily soils. Alkaline builders, such as ammonia, are more effective on acidic soils like body oils or cooking grease. Acetic acid (vinegar) provides better performance on alkaline soils like mineral salts.</p> <p>The spraying arrangement, a pump or a pressurized aerosol container, helps in applying the product across the surface to be cleaned, assures uniform distribution and minimizes product waste.</p> <p>Opaque creamy glass cleaners contain surfactants and solvents. They also contain colloidal clays and silica, which absorb soil and dry after spreading. Any remaining dried solid shows areas that need to be wiped.</p> |
| Glass and Multi-surface Cleaners | <p>These function as effective cleaners on a variety of kitchen surfaces and have the additional feature of being non-streaking on glass. The unique combination of surfactants, solvents, mild alkalis and builders provides the non-streaking characteristic.</p> |
| Hard Mineral Removers | <p>Water hardness is caused by the presence of dissolved mineral salts, such as those of calcium, magnesium, iron and manganese. When hard water evaporates, a mineral deposit is left behind which can build up over time. Hard water mineral removers are formulated to remove such deposits.</p> <p>These products come as powders or as liquids with push-pull tops or trigger sprays. They contain acids, such as citric, oxalic, sulphamic or hydroxyacetic acid, to dissolve minerals, limescale and rust. Some include surfactants to aid in cleaning and organic solvents to help remove soap scum.</p> <p>Mineral removers are effective where mineral deposits are visible around faucets, shower doors, and in tea kettles, humidifiers and toilet bowls. Their regular use helps prevent mineral deposit build-up.</p> |
| Metal Cleaners | <p>Metal presents a special cleaning problem, tarnish (the oxidation of metal),</p> |

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| <p>and Polishes</p> | <p>which is the principal soil to be removed. Metal cleaning products are sold as pastes, thick opaque liquids or clear liquids which may hold a fine abrasive in suspension.</p> <p>Surface impurities on most metals are removed more easily in an acidic medium. Metal cleaning products, therefore, usually contain organic acids, such as oxalic, sulphuric or citric. To aid in mechanical removal of tarnish and soil and contribute to metallic luster, a very mild abrasive is present as a polishing/buffering agent. Clay-like materials, such as kaopolite or finely divided hydrous silica, are common mild abrasives used.</p> <p>Metal cleaning formulations may also contain surfactants for ease of spreading the product as well as an aid in soil removal. Some products also contain an antioxidant, which protects the clean metal against rapid retarnishing.</p> |
| <p>Oven Cleaners</p> | <p>These generally are liquids that are packaged in aerosol containers. Charred grease and other food components make up the soils deposited on oven walls. For most oven cleaners designed to work in a cold oven, strong ingredients are necessary to remove burned-on soils. A strong alkali, like sodium hydroxide (lye), is the principal agent in such oven cleaning products. During use, the alkali converts the grease to soap,</p> <p>Another product type uses a combination of less alkaline salts plus oven heat to aid soil removal. Surfactant is also present to help penetrate soil and wet the surface.</p> <p>Oven cleaners are formulated to be as thick as possible to allow the product to cling to the soiled, greasy, vertical oven surfaces.</p> |
| <p>Shower Cleaners</p> | <p>Daily shower cleaners are formulated to prevent build up of soap scum, mildew stains and hard water deposits without rinsing, wiping or scrubbing, and without leaving a dull residue or streaks.</p> <p>Daily shower cleaners are available as liquids in trigger spray bottles. The products contain surfactants to help clean and prevent soap scum and hard water deposits and to aid water in sheeting off shower surfaces. Some products contain builders or chelates, and alcohol or solvents to assist in the continual cleaning process. Some also contain antimicrobial agents to kill germs, including mould and mildew. All the daily shower cleaners contain fragrance.</p> <p>Daily shower cleaners are safe to use on many shower and tub surfaces. However, some products may not be suitable for marble, some plastics or other surfaces; read the product label for specific information. Mist shower</p> |

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| | | <p>surfaces right after showering while the walls are wet and warm. No further scrubbing, wiping or rinsing is required, so simply spray and walk away. For best results, start with a clean shower. If the shower is soiled, it will take two to four weeks to remove pre-existing shower deposits.</p> |
| Toilet Cleaners | Bowl | <p>This category comprises many product forms. Whatever the form, the products are designed to maintain a clean and pleasant smelling toilet bowl. Some products also disinfect.</p> <p>Included in this category are thickened liquids that cling to the sides of the toilet bowl, fresheners that keep the bowl smelling fresh, and various forms of in-tank cleaners that release active ingredients into the bowl with each flush of the toilet.</p> <p>Surfactants plus oxidants or acids are the primary ingredients for soil removal. The presence of acids or sequestrants facilitates removal of stains caused by hard water deposits and iron. Specific organic stains are cleaned by oxidizing agents present in some products. Toilet bowl cleaners with disinfecting action contain antimicrobial agents, such as quaternary ammonium salts.</p> <p>To dissolve stubborn rust and hard water stains, some products may contain strong acids, such as hydrochloric acid. Products containing sodium hypochlorite as the oxidizing agent also include alkalis, such as sodium hydroxide, sodium metasilicate or sodium carbonate. Most toilet bowl cleaners contain a pleasing fragrance.</p> <p>Because of the incompatible nature of these products, manufacturers often warn the consumer not to mix them with other cleaning products.</p> |
| Tub, Tile and Sink Cleaners | | <p>These specialty products are formulated to remove not only the normal soils found on bathroom and kitchen surfaces, but also hard water deposits, soap scum, rust stains and discolourations due to mould growth, which are common to these areas.</p> <p>Tub, tile and sink cleaners are usually liquids. They are marketed as dilutable liquids, trigger sprays and aerosols. Because many soiled surfaces are vertical, some sprays are dispensed as foams to prevent excessively fast run-off of the cleaning product.</p> <p>Almost universally, such cleaners contain surfactants to penetrate and loosen soil. In addition, they may contain special sequestering agents and specific solvents to dissolve and keep calcium (hardness) deposits, soap scum and metal discolourations in solution.</p> |

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| | <p>Products designed to remove mildew stains may also contain an oxidant, such as sodium hypochlorite, antimicrobial agents to attack mould and mildew, and alkaline ingredients, such as sodium carbonate, sodium silicate and sodium hydroxide.</p> <p>Depending on the soil, both acidic and alkaline conditions promote cleaning. Tub, tile and sink cleaners which target soap scum and water hardness deposits may contain acids, such as hydroxyacetic or sulphamic acids, in addition to the ingredients mentioned above.</p> |
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FLOOR AND FURNITURE CLEANERS

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| <p>Carpet and Rug Cleaners</p> | <p>Carpet and rug shampoos are sold as concentrated or ready-to-use liquids, trigger sprays, powders and aerosols. They are formulated to wet the pile of the carpet and take up oily and greasy soils. Such products provide a system that traps soil in suspension and dries to a brittle solid residue. The brittle residue containing the soil particles is then removed by vacuuming. Carpet and rug cleaners actually clean a surface and should not be confused with carpet fresheners which are formulated to reduce malodours that may be found in carpets and rugs.</p> <p>As with many cleaning products, a surfactant is the essential ingredient. A polymer, which helps in making the dried foam brittle, is usually present in carpet/rug cleaners. In addition, shampoos may contain colour brighteners, deodorizers to counteract malodours, and soil retardants to keep carpets cleaner longer.</p> <p>Carpet cleaning can also be achieved by the use of wet, free-flowing powders. These powders contain water, solvents and surfactants to emulsify soil. The emulsified soil is absorbed onto the powders. Once dry, the powder can be easily removed by vacuuming.</p> <p>Besides products to be used directly on carpets or rugs, there are liquid cleaning formulations which are marketed for use with carpet/rug shampooing equipment. The ingredients are essentially identical for both products.</p> <p>Steam cleaning equipment requires special formulations, as foam interferes with the steam cleaning process. If there is residue from previous shampooings, a defoamer (silicone emulsion) may be used.</p> |
| <p>Dusting Products</p> | <p>Dusting products are usually marketed as trigger sprays or aerosols that dispense the ingredients in a fine spray onto surfaces or a dusting cloth. Such</p> |

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| | <p>products can be used on furniture to attract, pick up and retain light dust and soil on cleaning cloths. They are not appropriate for use on floors as they may make the surface slippery.</p> <p>These products function by picking up and holding dust on the applicator rather than simply spreading and redistributing the dust over furniture or in the area. Some products also contain additives for helping remove oil-based and water-based stains from furniture.</p> <p>Ingredients may include a light hydrocarbon oil used for dust pick-up. An organic solvent is the active ingredient for removal of oil-based stains; water may be present to pick up water-based soils.</p> |
| <p>Floor Care Products</p> | <p>In this group of liquid and paste products, it's necessary to formulate specialties within specialties because flooring materials come in many types: hard flooring such as stone, masonry and wood; and resilient flooring such as vinyl, asphalt, rubber, linoleum and cork. Each requires a specially formulated product for maximum effectiveness in removing soil, polishing the surface and leaving it with a shine and a protective coat. No-rinse products offer added convenience and easy application. Dusting aids are often used to help remove light particulate soil.</p> <p>Most floor care products contain water as the carrier for small particles of wax such as polyethylene, and polymers such as polyacrylate. When dry, they leave a shine and a light, clear protective layer on the surface.</p> <p>In products for wood or cork flooring, a solvent acts as the carrier for wax particles, such as those of natural carnauba wax which is especially effective in providing a pleasing shine and a hard finish.</p> <p>Floor care products that only clean are closely related in composition to the all-purpose cleaners. In products formulated for resilient flooring, special emphasis is on clear drying without leaving a cloudy or sticky residue. Most resilient floor cleaner products also contain a low level of surfactant to loosen and suspend soil.</p> <p>With continued use, most floor polishes build up a layer of residue that eventually needs to be stripped off with specially formulated strippers or a mixture of ammonia, all-purpose cleaner and water. True one-step products are designed to be self-stripping. They are formulated so that a new application of product dissolves the old polish and re-applies a fresh coat which dries to the original shine. The sponge mop or cloth is rinsed after each section is done and most of the dirt ends up in the rinse water.</p> |

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| | <p>Also marketed are products which do not clean but are used solely for imparting a gloss to floors. Such products are clear emulsions of acrylic polymers, which dry to a hard shiny finish. Some products may also contain wax particles.</p> <p>In products for wood flooring, liquid or paste wax is still the principal gloss-producing ingredient. Many products require buffing to increase shine. To help prevent slippery conditions, apply the product according to label directions and buff thoroughly.</p> |
| <p>Furniture Cleaners and Polishes</p> | <p>Furniture cleaners and polishes are marketed as liquids, pastes or aerosols. The dispensing arrangement of aerosols contributes to uniform deposition of the cleaning product.</p> <p>Furniture cleaners/polishes are designed to remove dust and stains from wood surfaces, produce shine and provide protection against water spots. They are formulated to reduce wax build-up with continued use.</p> <p>The principal ingredients contribute to natural wood shine and provide water repellency to furniture cleaners/polishes, They include silicone fluids and a wax, often a so-called microcrystalline wax. Lemon oil (a non-drying oil) and tung oil (a drying oil) are also used for this purpose. Both are used in products without water. Tung oil may lead to an antique, matte finish which is preferred by some consumers. In addition to contributing to shine, silicone fluids also provide easy application and reduce smearing during application. Silicone helps deliver a uniform surface. A hydrocarbon solvent helps remove oily stains and some wax build up.</p> <p>Furniture cleaners/polishes can be formulated as water-in-oil or oil-in-water emulsions. An emulsion stabilizer is present in both to prevent the product from separating into two layers. Fragrance and colour round out the product formulation.</p> |
| <p>Upholstery Cleaners</p> | <p>Upholstery cleaners are very similar to carpet and rug cleaners. They are marketed as concentrated or ready-to-use liquids, trigger sprays, aerosols and even as powders.</p> <p>Surfactants and materials such as anti-soil agents are the essential components in upholstery cleaning products.</p> |

http://www.healthycleaning101.org/english/HCP_facts.html

HOW ARE HOUSEHOLD CLEANERS STORED AND TRANSPORTED

A kit or receptacle for storing and transporting household cleansers is provided which comprises a central carrying section and a pair of side carrying sections hingedly connected to the central section. The end walls of the central section are pentagonal in shape while the end walls of the side sections are of a trapezoidal shape which complements that of one half of the pentagonal end walls of the central section so that a rectangular box is formed when the side sections are pivoted to positions on top of the central section. Spaced vertical partitions are provided in the central section and the ends of a generally U-shaped handle extend through the pentagonal side walls between the partitions a small distance where they are held in place by clips. Grooves in the pentagonal side walls hold the sides of the handles in place.

<http://www.google.com/patents/US4613041>

Buy only what you need

Do not purchase more than is need for the job, you'll only have to contend with left over material. If you have an unneeded product that was recently purchased, well-stored, and well labelled, give it to a friend neighbor or community group that could use it.

Keep out of reach of children

Cleaners and other household chemicals can be very deadly and should be stored in cabinets that are out of reach of children. Lock the cabinets if necessary. Teach children about the dangers of chemicals. In addition keep emergency phone numbers right next to the phone or attached to the phone. These numbers should include Ambulance, Fire, Police, Poison Control (or equivalent if you don't live in the United States), and your personal doctor.

Don't store chemicals with food

Household chemicals should not be stored with food products as they could spill contaminating your food.

Don't store flammable liquids or gasses in the home.

Propane cylinders, gas cans, charcoal lighter and automotive fluids should not be stored in the house. Compressed gasses like propane should be stored outside or in sheds that are extremely well ventilated. Never store flammable liquids or gasses near sources of heat or ignition, and only store them in their original containers or containers approved for the flammable liquid or gas. In the United States these containers should approved by Underwriters Laboratories (UL).

Keep chemicals in original containers

Household chemicals should not be transferred to different containers unless the container is properly labeled and compatible with the chemical. In addition chemicals should never be transferred to containers that originally contained food (such as soda bottles or milk jugs).

Recycle

Many products are recyclable. Contact your recycling coordinator or local department of environmental services to find out what is being recycled in your community.

Use alternative products

Less hazardous products can be used for common household chores. For instance occasionally pouring baking soda and vinegar down your drains will keep them from clogging up.

Dispose of properly

Products should NEVER be discarded on the ground or poured into storm drains. Many products shouldn't even be disposed of in the trash or down the toilet. These products should be saved and taken to Household Hazardous Waste (HHW) collections. Contact your sanitation department, local or state department of environmental services for information on HHW collections in your area.

<http://environmentalchemistry.com/yogi/environmental/household.html>

SAFE STORAGE

1. Keep the product in its original container.
2. Never mix different chemical products.
3. Wrap the waste in newspaper and place in two layers of plastic garbage bags. Label the outside of the bag.
4. Store in an out-of the-way location, away from heat and children or pets. Ignitable wastes should be stored away from the house if possible.
5. It is always best to avoid disposing of hazardous household products, Try to buy only what you need. Look for less toxic alternatives. Recycle when possible. Give unused products to someone else who can use them (unless the product is a pesticide which has been banned or restricted).
6. If you are left with a product which is unusable, banned, not recyclable, or which cannot be given away, look on the label for disposal information. Be aware, however, that older containers of pesticides and other wastes may give instructions which are no longer appropriate. In cases such as these, or if the label gives insufficient information, you may need to store the waste until a household hazardous waste collection program is held in your area.
7. Certain household hazardous wastes identified in the following pages can be safely dried out or solidified. Cat litter (clay type with no chemical additives), disposable diapers, vermiculite and other products specifically designed for use with chemicals do not react with chemical wastes and may be safely used as absorbents. Air drying should always be done in a well-ventilated area away from children and animals.
8. Explosive wastes usually cannot be handled through household hazardous waste collection programs.

9. Explosives include not only ammunition, but certain chemicals, such as picric acid, ether, and concentrated hydrogen peroxide (household strength is not explosive). If you have any of these wastes, contact your local police department for further information.
10. This information is provided only for individuals who need to dispose of wastes derived from their residential use. Disposal of wastes which are the result of any commercial or industrial activity MUST comply with applicable hazardous waste regulations.
11. Acids and Bases
12. Both acids and bases are corrosive materials and may cause damage upon contact with the skin, eyes or respiratory system. They may also react violently if mixed with other substances, including water.

http://www.dec.ny.gov/docs/materials_minerals_pdf/hhwma.pdf

TRANSPORTED

Household hazardous waste must be transported with extreme care in labeled, sturdy, leak-proof containers.

TRANSPORTATION LIMITS: limit the amount you transport to 15 gallons liquid or 125 pounds solid hazardous material per vehicle trip.

http://www.dpw.co.santa-cruz.ca.us/www.santacruzcountyrecycles/Household_Hazardous_Waste/index.html

When transporting Household hazardous waste (HHW) items, please take the following precautions:

- Pack containers in a cardboard box lined with plastic. **Bring materials in original containers whenever possible (or clearly mark the containers)
- Pack items in an upright position **Do not mix different products together
- Tighten all lids before transporting **If container is leaking, pack it in a leak-free container.
- Place boxes in car trunk. If you must use the car, keep the car
- Do not smoke while transporting HHW.

DISPOSAL METHODS

Although many household cleaning products can be disposed of at home, it is better to use up leftover products than to wastefully throw them away. If you can't use them, friends, relatives, neighbors and community organizations may have a use for your leftovers.

DISPOSAL:

If you can't use a product up, find someone else to use it up, proper disposal depends on the type of cleaning product.

The first step is to decide what type of cleaning product you have:

Solvent-based cleaners: Spot removers and some floor and car waxes, furniture polishes, and degreasers are solvent-based cleaners. Look for these signal words on the label: "Flammable", "Combustible", or "Contains Petroleum Distillates".

Corrosive cleaners: Drain cleaners, oven cleaners, toilet bowl cleaners, concrete cleaners and naval jelly are common corrosive cleaners. Look for these signal words on the label: "Contains acid", "Contains lye", "Avoid skin contact", "May cause burns to skin".

Other cleaners: Laundry and dish detergents, rug shampoos, window cleaners, windshield solutions, scouring powders and liquids, and floor cleaners, waxes, polishes and bathroom cleaners are not hazardous wastes.

Once you have determined the type of cleaner you have, follow the disposal instructions for that type of cleaner.

DISPOSAL: Solvent-containing cleaners.

Cleaners containing solvents should not be disposed of down a drain, in the trash or down a toilet. Very small quantities of these cleaners-less than one cup (8 ounces)-can be evaporated and disposed of in the trash following the instructions below.

Step 1: Find an outside area away from children and pets. A locked screen porch or balcony will work well.

Step 2: Pour an absorbent material such as cat litter or sand into a cardboard box lined with plastic.

Step 3: Mix the cleaner with the absorbent materials and the box into the trash.

Step 4: When the cleaner has evaporated, you can throw the absorbent material and the box into the trash.

Spot removers, because they contain chlorinated solvents, should not be evaporated because inhaling the chemical can be a serious health hazard. Spot removers should be disposed of following the instructions below.

DISPOSAL: Spot removers and larger amounts of solvent-based cleaners.

Spot removers and more than one cup of their solvent-based cleaners should be taken to a household hazardous waste collection for proper disposal.

DISPOSAL: Corrosive cleaners

Very small quantities-less than one cup (8 ounces)-of corrosive household cleaners in liquid form and toilet bowl crystals can be flushed down the toilet with lots of water if your house is connected to a sanitary sewer system. When flushing the corrosive material, pour it very slowly and be extremely careful not to allow the chemical to contact your skin or eyes. Wear rubber gloves, a long sleeve shirt, long pants and goggles for eye protection.

If your house has a backyard septic tank, take small quantities of liquid corrosive cleaners to a house that is connected to a sanitary sewer system for disposal.

Larger quantities of corrosive cleaners and solid forms of these cleaners-like drain cleaner crystals-should be taken to a household hazardous waste collection for proper disposal.

DISPOSAL: Other cleaners

Cleaners that are not corrosive and do not contain solvents can be flushed into a sanitary sewer system if they are liquid, or thrown in the trash if they are solid. Never mix cleaners containing ammonia with those containing bleach-a very toxic gas will be produced.

http://www.stclaircounty.org/offices/landfill/house_cleaners.aspx

Follow these suggested guidelines for disposing of products safely:

1. Acids and caustic products. Acids and caustics are found in some cleaning products like drain openers. Use these materials completely according to label directions. These products are usable even when a few years old.
2. Aerosols. Empty aerosol containers completely before disposing with other trash to prevent an explosion hazard.
3. Antifreeze. Store out of reach of animals and children, as they are attracted to the sweet taste of antifreeze. Don't pour used antifreeze on the ground— dilute it thoroughly with water and pour down the drain.
4. Bleach. Try to use up the entire product. NEVER mix chlorine bleach with ammonia or acidic products such as drain, toilet bowl, or metal cleaners, as toxic fumes (strong enough to be fatal) will result.
5. Cleaners and polishes. Cleaners and polishes (rug, floor, and oven cleaners and furniture polish) should be used completely whenever possible. Seal empty containers and dispose of them with the rest of your garbage.
6. Disinfectants. Use the products completely according to label instructions and with caution.
7. Gasoline. Avoid buying more than you can use at one time. Use completely by mixing old gasoline with fresh gasoline. Store in an approved container in a cool, dry place.
8. Insecticides. Use insecticides completely according to label directions. If you can't use the material, save to dispose of on a hazardous collection day in your community. NEVER reuse the containers. Dispose of excess according to label directions.
9. Paint. if possible use the product completely or mix with other paints to use. Allow any remaining paint to dry out and harden. Once the paint is solid, put it in the trash.
10. Solvent. Clean used solvents (paint thinner, turpentine, varnish) by allowing the paint or direct particles to settle out in a container. Drain off the clear liquid for re-use. Do not dump remaining material onto soil or down sewers, drains or the toilet.

http://aces.nmsu.edu/pubs/_g/g-312.pdf

ENVIRONMENTAL RISKS

Air Pollution

The Healthy House Institute estimates that more than 80,000 chemicals are used to produce consumer products, including household cleaners. According to the U.S. Environmental Protection Agency, or EPA, volatile organic compounds (VOCs) in house cleaners contribute to smog and air pollution. VOCs also adversely affect the quality of indoor air. In fact, the EPA says that even low levels of VOCs may cause acute health problems in humans. In addition, some VOCs are known carcinogens, or cancer-causing agents.

Groundwater Contamination

Most water treatment systems adequately remove chemical contaminants from municipal water supplies. However, household chemicals can infiltrate groundwater if they are permitted to seep into the soil, which happens when empty containers are buried in landfills. Surface runoff may also transport these chemicals to lakes and streams. EDTA, an acid used in laundry detergents, binds with heavy metals in waterways and results in an overload of toxic metals.

Land Use

The average American produces 3.5 pounds of waste materials every day, some of which comes from discarding empty household cleaner containers. While recycling efforts have significantly reduced the environmental impact of these materials, a percentage still ends up in landfills across the country. According to Annie Berthold-Bond, author of "Clean and Green," more than 75 percent of the landfills in the U.S. have reached maximum capacity, and more than half of those remaining are expected to "max" by the year 2020.

Fish and Wildlife

Many chemicals in household cleaners pose a specific threat to fish and other aquatic organisms because they are stored in fatty tissue, a process known as bioconcentration. For instance, detergent surfactants such as alkylphenol ethoxylates are toxic to fish. In addition, this substance is a known endocrine disrupter, which means it interrupts the reproductive cycle of various species of wildlife. Other chemicals from household cleaners that are stored in the fatty tissue of living organisms include methylene chloride and phenols, which are found in oven cleaners and toilet bowl cleaners, respectively. In addition, naphtha, an ingredient found in many liquid dish detergents, is a neurotoxin. These and other chemicals may have the same effects in humans, in addition to producing skin and respiratory irritation. Many of these chemicals are also suspected of being carcinogenic in humans.

<http://www.livestrong.com/article/188661-how-do-house-cleaners-affect-the-environment/>

http://www.capecodextension.org/docs/haz%20waste/Environmental%20Conservation/HHforHomeowners/Cleaning_Products_Safety.pdf