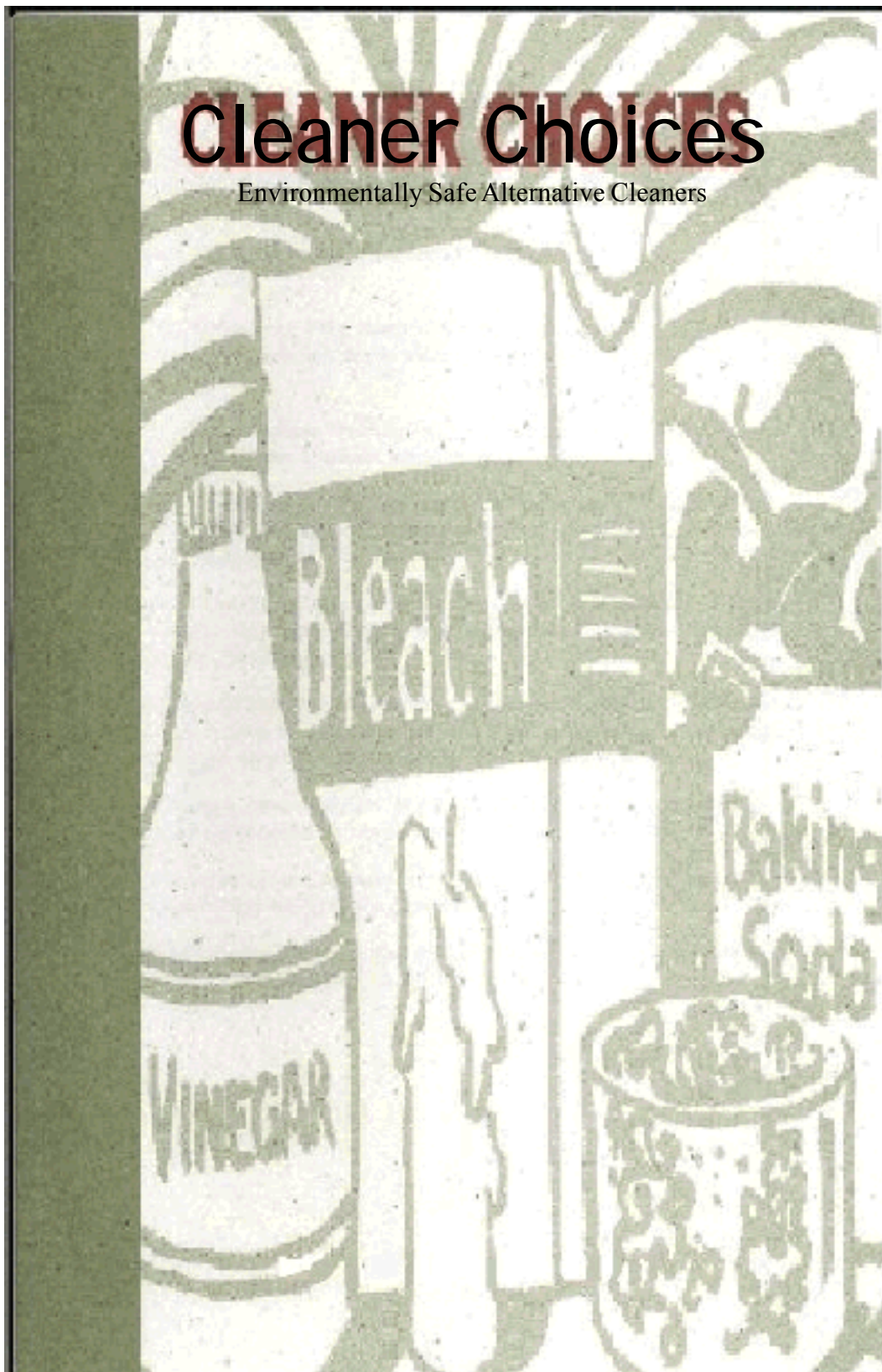


CLEANER CHOICES

Environmentally Safe Alternative Cleaners



Introduction

This directory is brought to you by the Clinton County Department of Waste Management (DWM). The DWM is the Designated Planning Agency responsible for solid waste planning in Clinton County. The responsibilities of the department include the preparation of a Solid Waste Plan every five years. The Solid Waste Plan ensures that landfill disposal capacity is available to manage waste generated within the County and identifies goals to reduce the amount of waste going into area landfills.

To meet the goals and objectives outlined in the Solid Waste Plan, the DWM implements a number of programs and services to help residents recycle, compost and otherwise properly dispose of their waste. This includes Clean Community Events, which are single day collection events that accept a wide range of hard to dispose of materials. These include household and small business hazardous waste, farm and landscaping chemicals, automotive fluids, electronic waste, bulky waste, scrap metal, appliances, tires, yard waste materials, reusable furniture, clothing and textiles.

In addition to the Clean Community Events, programs are available in Ionia and Ingham County to help residents properly dispose of hazardous materials. Clinton County residents and farmers may also dispose of materials, free of charge, to these programs. Materials accepted include agricultural and landscape chemicals such as fungicides, pesticides, fertilizers, herbicides, etc. Mercury and mercury-containing products are also accepted. For more information please contact:

Ingham County Health Department (Lansing) 517-887-4521
Ionia County Resource Recovery (Ionia) 616-527-8219

Also, for a booklet on how to dispose of just about anything, contact the DWM for a free copy of the Garbage Guide. This brochure will help assist in finding the right place for waste disposal. A copy of the guide can also be found at www.clinton-county.org/waste/waste_mngmt.htm.

Clinton County DWM offers many other programs and information related to integrated solid waste management. For further information related to waste reduction practices, reuse, recycling, proper waste disposal or when the next Clean Community Event is scheduled, please contact the DWM at 989.224.5186 or by email at waste@clinton-county.org.

Remember, more important than the proper disposal of household hazardous wastes, it is to avoid generating them in the first place! As this guide will show, there are many alternatives to purchasing hazardous materials, some of which you may already have around your home or office. A special thanks to the Ingham County Health Department, who originally created this guide as a tool for all residents and business owners to assist in better disposal methods, and implement practices to reduce or eliminate the generation of toxic wastes!

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PREFACE

Increased awareness and concern over the decline of the environment and continued threats to our own health has many Michigan citizens wondering what they can do. It is easy to blame business and industry for many of the problems, but we need to look further than our home environment for solutions.

There are an estimated 27,000 hazardous materials, such as paint products, cleaning compounds, pesticides, and hobby products available at retail stores waiting to be purchased by us, the consumers. Many of the expensive “convenience” products purchased end up unused and unwanted in our basements, garages, and under sinks. This translates to an average of 50 pounds of hazardous waste per household. Improper use, storage, and disposal of this material can create serious threat to our health and the environment.

This booklet is designed to help you detect hazardous products around your home, read labels, understand “signal words,” minimize hazardous waste, properly dispose of hazardous waste encourage recycling of specific materials and finally, provide, inexpensive, non-toxic alternatives to many of these products. It is hoped that as an informed consumer you will take personal responsibility to keep your home, and by extension the environment as a whole, safe, clean and healthy.

State laws require counties to produce Solid Waste Plans, which identify goals and objectives for managing waste generated within the county. In order to meet these goals, Clinton County and local governmental units facilitate a variety of programs and services to increase recycling and reuse, and ensure proper disposal of waste. The Clinton County Department of Waste Management offers single day events targeted at a wide range of materials, including household hazardous waste. To find out more about County sponsored programs, call or visit us online at 989-224-5186 or www.clinton-county.org/waste/wastemngmt.htm.

Call the municipality you live in to find out more about services like dropoff sites, trash collection, or other programs they may facilitate. Clinton County residents & farmers may safely dispose of, free of charge, agricultural and landscape chemicals and mercury-containing products with both Ionia and Ingham County, who operate permanent drop-off sites through their Clean Sweep Program. Contact Ionia County at 616-527-8219 and Ingham County at 517-887-452. Please call ahead before you drop off the materials since the drop off sites are not open every day of the week and appointments are required.

CONSUMER TIPS

Before you buy a product

- Read the label. Make sure it is the product you want to buy and that you're not uncomfortable with the ingredients.
- Buy the least hazardous product. Let the signal word serve as a guide. With pesticides, "DANGER" means highly toxic, "WARNING" means moderately toxic, and "CAUTION" means slightly toxic.
- With household products, "POISON" means highly toxic, "DANGER" means extremely flammable, corrosive or highly toxic, "WARNING" or "CAUTION" means less toxic. Buying products labeled "NONTOXIC" may be a way of identifying a safer product; however, please be aware that word "NONTOXIC" is an advertising word and has no federal regulatory definition.
- Avoid aerosol products. Aerosol dispenses the substance in tiny droplets that can be inhaled deeply into the lungs and absorbed into the bloodstream. In addition aerosol cans may become explosive bombs when heated.

Once it's in your home, use it safely

- Read all labels carefully before using hazardous products. Be aware of their uses and dangers.
- Use the proper safety equipment when working with hazardous chemicals.
- Leave products in their original container with the label that clearly identifies the contents. Never put hazardous products in food or beverage containers.
- Do not mix products unless directed to do so by label directions. This can cause explosive or poisonous chemical reactions. Even different brands of same products can contain incompatible ingredients.
- Use only what is needed for a job. Twice as much doesn't mean twice the results. Follow label directions.
- If pregnant, avoid toxic chemical exposure as much as possible. Many toxic products have not been tested for their effects on unborn children.
- Avoid wearing soft contact lenses when working with solvents and pesticides. They can absorb vapors from the air and hold the chemical near your eyes.
- Use products in well-ventilated areas to avoid inhaling fumes. Work outdoors whenever possible. When working indoors, open windows and use an exhaust

fan, make sure air is exiting outside rather than being recirculated indoors. Take plenty of fresh-air breaks. 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 start a fire if the product is flammable.
- Clean up after using hazardous products. Carefully seal products. Properly refasten all childproof caps.
- Substitute safer products. Look for suggestions in “Safer Alternatives.” Be wary of products that fail to list their ingredients.

Store it safely

- Keep products out of reach of children and animals. Store all hazardous products on high shelves or in locked cabinets, away from food items.
- Make certain all hazardous products are clearly labeled before storing them.
- Never store hazardous products or wastes in food or beverage containers.
- Make sure lids and caps are tightly sealed and childproof.
- Make sure containers are kept dry to prevent corrosion. If product contained is beginning to corrode, place it in a plastic bucket with a lid and clearly label the outside container with contents and appropriate warnings.
- Store volatile chemicals or products which warn of vapors and fumes in a well-ventilated area, out of reach of children and pets.
- Store rags used with flammable products (furniture stripper, paint remover, gasoline, etc.) in a sealed, marked container.
- Keep products away from heat, sparks, flames, or source of ignition. This is especially important with flammable products.
- Store gasoline only in safety-approved containers, away from all sources of heat, flame, or sparks, and in a well ventilated area.
- Know where flammable materials are located and know how to extinguish them. Keep a working fire extinguisher in your home (see “Household Safety Equipment”).

GUIDELINES FOR SAFE DISPOSAL

The information contained in this guide is intended for use by households only. Any business which uses disposal information may be in violation of the law.

To avoid unintentional pollution of our health and environment, hazardous wastes from homes must be disposed of properly. Recommendation for proper disposal will be depend upon both the particular type of waste and the waste disposal options available in your community

These are general recommendations for household hazardous waste disposal. However, local ordinances pertaining to disposal may vary. For example, landfill owners have the right to decide what they will and will not accept for disposal. As a general rule, liquids containing hazardous substances (paint, for example) are discouraged in landfills as they create hazardous leachate which may contaminate the groundwater.

Use it up

When products are fully used up as intended there is no hazardous waste to dispose. If you only need a small amount of paint, pesticide, or other hazardous product, check with friends, relatives, or neighbors to see if they have any excess they are trying to use up. Be a wise consumer. Buy only the amount need and look for safer alternatives whenever possible.

Throw it in the trash

When it is recommended that a waste be thrown into the trash, it means the final destination is the landfill. No other dumping, burning, or burying of hazardous waste is safe or legal. Trash disposal of hazardous materials which are flammable, explosive/reactive, corrosive/caustic, radioactive, or toxic can cause health risks to waste handlers and an environmental hazard if toxicants leach from the landfill into the groundwater. Be very careful about what you throw away and if you have any doubts, make sure that you your waste handler knows the substance is in there and be certain it is securely wrapped.

Objects that can puncture skin, such as hypodermic needles, broken glass and metal shards, are known as a “sharps.” Sharps should be placed in a rigid puncture-resistant container. Seal the container with heavy tape and place in the trash. Large breakable items, such as fluorescent light bulbs, should be placed alongside your trash container. These actions will help trash haulers avoid injury.

Hazardous wastes which are acceptable at some landfills include

- Empty aerosol cans.
- Empty, triple-rinsed pesticide containers.

If solidified, these products may also be acceptable

- Latex paint.

Flush it down the drain with plenty of water

Some household hazardous wastes can be flushed down the drain (the toilet is recommended) with plenty of water. This recommendation is given when the hazardous waste is neutralized by water or when the municipal or sanitary sewage system is able to remove the toxins or render them harmless. If you use a septic system or lagoon, it is preferable to give hazardous waste acceptable for flushing to a friend who is on a sanitary sewage treatment system. Heavy concentration of certain chemicals in a septic tank can slow down or destroy the microorganisms which make the system work properly.

When flushing hazardous waste down the drain, please take the following precautions

1. If you have any doubts, call your local wastewater treatment plant.
2. Never pour any chemicals down a basement drain or storm sewer; these lead directly into the waterways.
3. Make sure there is adequate ventilation in the area where you are flushing the waste.
4. Avoid disposal of chemical wastes in food preparation areas.
5. Never mix chemicals together either while pouring or when they are in the stool or sink. Wait atleast two or three hours between flushing ammonia and flushing bleach.
6. Wear globes and goggles when disposing of wastes to avoid eye and skin contact. Pour slowly and carefully to avoid splashing.
7. Flush wastes during the day so that waste will be carried quickly through the system and will not be left in the sewer system overnight.
8. Flush wastes using large volume of water.
9. Rinse the empty container with water before placing in the trash.

Recycle it

Recycling materials that can be used again helps preserve our environment and our natural resources. With hazardous products and waste, this is especially the case.

Recycling can mean giving your unwanted portions to someone who wants and will use the product (waste exchange). Paint is a great example: Many theater groups are happy to accept small quantities of leftover, usable paints.

Recycling may also mean distilling the potential waste so that the products are usable again. For example, sludge can be settled out of paint thinner leaving the usable thinner.

Other items contain substances which maybe reclaimed and reused. Used motor oil, automotive batteries, and household batteries are come common examples.

Some hazardous wastes that can be flushed down the drain

- Aftershave and perfume
- Ammonia
- Antifreeze
- Bleach
- Depilatories (hair removers)
- Deodorizers
- Disinfectant
- Drain opener
- Glass cleaner
- Isopropyl alcohol
- Rug shampoo
- Toilet bowl cleaner
- Windshield wiper fluid

For further information about household hazardous waste collections call your local Health Department or district Department of Natural Resources.



AIR FRESHENERS

- Open windows and doors.
- Track down the source of odor and eliminate.
- For mold smells, keep the area dry and light and if necessary, use a small bag of silica gel to absorb excess moisture from the air.
- Leave open boxes of baking soda in refrigerator, closets, and bathrooms.
- To reduce food smells, empty the garbage frequently. Sprinkle $\frac{1}{2}$ cup borax in the bottom of the garbage can.
- Saturate cotton ball with pure vanilla; place on a saucer in refrigerator or car.
- Set out white vinegar in open dishes to destroy odor.
- Use a stove fan when cooking.
- Set out potpourri in open dishes, baskets or in small sachet bags. Buy or make from favorite herbs and spices. Many books are available with recipes for potpourri.
- Simmer cinnamon and cloves. For ease of cleaning, place spices in a cheese-cloth bag and boil the bag.
- Burn scented candles.

- Houseplants absorb and neutralize air toxins. They work best in an enclosed space and the more plants the better. The most effective plants include English Ivy, spider plants and pothos.
- Dissolve 1 teaspoon of baking soda and 1 teaspoon lemon juice in 2 cups of hot water. Place in spray bottle and use as an air freshener.

SINK DISPOSAL ODORS

- Grind used lemons in the disposal
- Pour baking soda in the disposal

SURFACE, HAND AND UTENSIL ODORS

- Add a few drops of white vinegar to soapy water to remove odors from utensils, chipping blocks or hands.
- Rub hands with the cut end of a piece of lemon or a stalk celery.

DEODORIZERS

- For carpets or upholstery, sprinkle liberally with baking soda OR mix of 1 part borax to 2 parts cornmeal; vacuum up after 1 hour
- Sprinkle baking soda in the bottom of a cat box before adding kitty litter
- Sprinkle baking soda in the bottom of garbage cans to control odors.



In general, keeping helpful predators such as frogs, spiders, ladybugs, praying mantis and dragonflies around the home will keep populations of the pests to a minimum.

ANTS

- Good housekeeping is important; ants are in search of food, so keep counters, floors and pet feeding areas clean.
- Find where ants are entering the house and seal with caulking.
- Pour a line of bone meal, powdered charcoal, cinnamon, cream of tartar, red chili pepper, salt or dried mint or sage at the point of entry. Ants will not cross these barriers.
- Ants leave a trail of acetic acid to find their way back to the nest. Wipe any surface where ants have been seen with vinegar to eliminate the trail.
- For severe infestations, mix 1 tablespoon sugar and 1 tablespoon borax with 2 tablespoons of water to make thick syrup. Soak cotton balls in mixture and place on lids from jars. Ants will eat the mixture, take it back to the nest and die off slowly. **Keep away from children and pets.**

COCKROACHES

- Seal all food containers, clean dishes nightly, do not leave pet food out overnight, do not keep open bags of garbage in the house (take trash out daily).
- Close openings into the house with caulking, screening or cement.
- Mix equal amounts of oatmeal flour and plaster of paris, baking soda and powdered sugar or equal amounts of borax and brown sugar. Set out in dishes. **Keep out of reach of children and pets.**
- Use boric acid around infested areas. Make sure to get technical boric acid and not medicinal boric acid. Medicinal boric acid is a white powder is a white powder that can easily be confused with sugar or salt. Technical boric acid is just as dangerous, but is tinted blue for easy identification. Sprinkle it in corners, around baseboards, etc. it does not lose its effectiveness over time. **Boric acid is poisonous; do not use around food or in cabinets where food is stored. Keep out of reach of children and pets.**

ROACH TRAPS

- Trap #1: Rub grease on the side of the neck of a quart mason jar. Set the jar upright and put a piece of banana inside for bait. Place a tongue depressor against the side of the jar and the cockroaches will walk in and not be able to escape.
- Trap #2: Wrap masking tape around the outside of an empty jam jar. Fill the jar with mixture of beer, a few slices of banana and a few drops of anise extract OR boiled raisins, pet kibble, and a few pieces of apple, potato or banana peel. Finally, smear a band of petroleum jelly around the inside rim so the roaches can't climb out.

FLIES

- Keep flies outside by ensuring windows and screen doors are free of gaps and holes.
- Use fly swatter, flypaper, or traps.
- Keep kitchen garbage containers tightly closed. Clean periodically.
- Beat the yolk of an egg with a table spoon each of molasses and finely ground black pepper; set out in shallow plates; kill flies quickly.
- Make your own flypaper by boiling sugar, corn syrup and water together. Place mixture onto brown paper and hang or set out.

INSECTS ON PLANTS

- Gently sponge or spray with soapy water, then rinse.
- Mix 6 cloves, 1 crushed garlic clove, 1 minced onion, 1 tablespoon pure soap and 1 gallon hot water; let sit for 1 to 2 days; strain and apply.

MOTHS

- The absence of moths does not necessarily mean your fabric/clothing is safe. It is the moth larvae that cause the damage and they are often too small to be noticed.
- Always put clothing into storage clean. Moth larvae will feed on many fabrics such as wool, fur, cotton, silk, rayon and synthetics if they are dirty. Moths are attracted to dirt, lint, salt, or stains from sweat and food.
- Store clothes in airtight containers such as cedar chests or in sealed bags with cedar blocks. Cedar works by repelling the moth larvae.
- Make sachets of any of the following: dried lemon peels, dried lavender, bay leaves, whole cloves, cedar chips, whole peppercorns or mixture of dried rosemary and mint.
- For long term storage, periodically shake out the clothing or fabric to remove larvae. Furniture should be vacuumed and moved out from the walls for air circulation on a regular basis.

SILVERFISH

- The same methods and procedures used for roaches will work for silverfish problems.

RATS/MICE

- Caulk and seal holes, check where pipes and wires enter the house, make sure the foundation air vents are fully screened.
- Use spring loaded traps; baits with peanuts butter and clean frequently. It is more effective to use many traps for a short period of time.
- Live traps allow to catch and release method of ridding the house of critters.
- Obtain a cat which is a good mouser.



ALL-PURPOSE CLEANERS

- Mix 1 quart warm water, 1 teaspoon borax or TSP, and a squeeze of lemon or splash of vinegar.
- Mix ½ cup vinegar and 1 quart of warm water.

COFFEE POT CLEANERS

- Clean surfaces with a mixture of warm water and baking soda or vinegar.
- Clean interior with white vinegar according to manufacturer's directions.

DEGREASERS

- Use a non-chlorinated scouring powder with a nylon scouring pad or fine steel wool.

DETERGENTS

- Use ½ cup borax in 1 gallon hot water. To inhibit mold and mildew, do not rinse of borax mixture.
- Pour 2 cups boiling water over thyme leaves and cover; let steep for 10 minutes then strain; allow to cool before using.

DRAIN OPENERS

- Use a strainer on every drain to trap food particles and hair and clean out regularly. Collect grease cans rather than pouring it down the drain.
- Pour boiling water down the drain once a week to keep it unclogged
- Use a plunger or metal snake to unclog drain.
- Use a plunger followed by a handful of baking soda and $\frac{1}{2}$ cup of vinegar; cover drain and let sit for 15 minutes; rinse with 2 quarts of boiling water.
- Use a flexible metal snake to manually push the clog away.

FLOOR CLEANERS

- A few drops of vinegar in the cleaning water will help remove grease particles. No wax linoleum can be brightened by mixing $\frac{1}{2}$ cup vinegar with $\frac{1}{2}$ gallon water.
- For linoleum floors, damp mop using a mild detergent. Adding a capful of baby oil to the mop water will help to preserve the flooring. Adding sour milk to the rinse water will shine the floor without polishing.
- For wood floors, mix a 1 to 1 ratio of oil and vinegar into a solution and apply a thin coat; rub in well.
- For painted wooden floors, mix 1 teaspoon washing soda into 1 gallon hot water and wash into the floor with mop, sponge or soft brush.
- For brick and stone floors; mix 1 cup white vinegar into 1 gallon water; scrub floor, rinse with clean water.
- For ceramic tile; mix $\frac{1}{4}$ cup white vinegar into 1 gallon water. Use soft water; hard water with vinegar leaves a film.

GLASS CLEANERS

- Combine 1 quart of water with $\frac{1}{4}$ to $\frac{1}{2}$ cup white vinegar, 1 to 2 tablespoons of lemon juice or 1 to 2 tablespoons of rubbing alcohol; spray on surface and wipe clean with soft, lint-free cloth.
- Combine $\frac{1}{4}$ to $\frac{1}{2}$ teaspoon of vegetable oil based liquid soap, 3 table-
spoons vinegar and 2 cups water into a spray bottle. Spray on glass, wipe dry with a clean, lint-free rag.
- For scratches on glass; rub a little toothpaste into the scratch; polish

with a soft cloth.

- For stains or discolorations; make a paste of 3 parts dry mustard and 1 part white vinegar into a paste. Apply paste to discoloration or stain and rub until stain disappears. Rinse well with clean water. AVOID EYE CONTACT; DRY MUSTARD CAN BE DAMAGING TO CORNEA.

OVEN CLEANERS

- Wipe up spills while they are still soft
- Sprinkle salt on spills when they are warm; then rub.
- Scrub spots with baking soda, salt, and water paste.
- Mix 2 tablespoons liquid soap, 2 teaspoons borax and 1 quart of warm water; leave on oven for 20 minutes, then scrub with fine steel wool or a non-chlorinated scouring powder.

LIME AND MINERAL DEPOSIT REMOVERS

- Hard lime deposits around faucets can be softened for easy removal by covering the deposit with vinegar-soaked paper towels. Leave the paper towels on for about 1 hour.
- To remove deposits on metal showerheads, combine ½ cup white vinegar and 1 quart water; submerge showerhead and boil 15 minutes.

MILDEW CLEANERS

- Scrub mildew spots with baking soda or borax, or sponge with white vinegar.
- Scrub area with a paste of lemon juice or white vinegar and salt.
- To clean mildew from a shower curtain, machine wash with ½ cup soap and ½ cup baking soda; add 1 cup white vinegar to the rinse cycle.

PORCELAIN CLEANER

- Rub surface with cream of tartar sprinkled on a damp cloth. Works well on light stains.

UPHOLSTERY, RUG AND CARPET CLEANERS

- Use non-aerosol, soap based cleaner.
- Clean spill immediately with club soda
- Mix 1 quart warm water, 1 teaspoon mild liquid soap, 1 teaspoon borax or TSP and a squeeze of lemon juice or splash of vinegar; apply with damp cloth or sponge and rub gently; wipe a clean cloth and allow to dry.
- To clean red wine spill; rub a thick layer of salt on the spill then sponge up after the spill has been absorbed.

WAX REMOVER

- For vinyl tile; remove wax buildup by pouring a small amount of club soda on a section. Scrub in well. Let soak for a few minutes and wipe clean.
- For linoleum flooring; mix a solution of 3 parts of water to 1 part of rubbing alcohol; scrub in well and rinse thoroughly. Ventilate and wear gloves.

SCOURING POWDERS

- Use baking soda or salt.

TOILET BOWL CLEANERS

- Scrub with a solution of $\frac{1}{2}$ cup borax and 1 gallon of water for cleaning and disinfecting. For stubborn stains, mix enough borax and lemon juice into a paste which can cover the stain. Rub on paste; let sit for 2 hours and scrub thoroughly.
- Clean frequently with a solution of baking soda and vinegar; sprinkle baking soda into the bowl; then drizzle with vinegar and scour with a toilet brush.

TILE/TUB CLEANERS

- To clean grout, combine 3 cups of baking soda and 1 cup warm water and scrub into the grout; rinse well with water.
- To remove film buildup; apply vinegar full-strength to a sponge and wipe. Next, use baking soda as a scouring powder and rinse thoroughly.



GENERAL

- To remove smoky odor from clothes, fill your bathtub with hot water. Add 1 cup white vinegar. Hang garments above the steaming bath water.
- Eliminate soap residue by adding 1 cup of white vinegar to the washing machine final rinse cycle. Vinegar is too mild to harm fabrics but strong enough to dissolve alkalines in soap and detergents. Vinegar also breaks down uric acid, so adding 1 cup of vinegar to the rinse water is especially good for baby clothes. Do not use vinegar if you add chlorine bleach to your rinse water. It will produce harmful vapors.

CHLORINE BLEACH

- Use non-chlorine dry bleach or baking soda to whiten clothes. Dry bleach contains sodium perborate and is of low toxicity.
- Use ½ cup borax per load of laundry to whiten and brighten colors and to remove spots.
- Use sodium hexametaphosphate instead of bleach. It dissolves the mineral deposits and soap scum which make your clothes look dingy. This must be ordered through a chemical supply house (look in Yellow Pages)

DETERGENT

- Use a synthetic detergent without added fabric softeners or bleach.
- Use products which include washing soda. Washing soda brightens fabrics and costs less than bleach.
- Add ¼ cup vinegar to the wash cycle to brighten graying laundry.
- Add ¼ cup borax to wash cycle to brighten colored fabrics.

FABRIC SOFTENER

- To freshen and soften clothes, add 1 cup vinegar or ¼ cup baking soda during final rinse.
- To reduce static cling in synthetics due to tumble drying, dampen hands when folding, or line dry clothes.

SPOT/STAIN REMOVER

- See section on spot/stain removers.

PRESOAK

- Soak heavily soiled items in warm water with ½ cup washing soda for 30 minutes.
- Rub soiled areas with mild liquid soap.

SPRAY STARCH

- For regular fabrics, dissolve 2 tablespoons cornstarch in 1 pint cold water; store in a spray bottle
- For delicate fabrics, dissolve 1 package unflavored gelatin in 2 cups hot water; store in a spray bottle. To test solution, tip corner of fabric in solution; if fabric becomes very sticky when dry, add more water.



OUTDOOR PESTS

GENERAL PEST-CONTROL TACTICS

- Before using any eradication methods, identify the pest! The county cooperative extension horticulture agent or a master gardener can help with pest identification.
- Grow plant species which are least prone to damage and are well adapted to the climate, soil conditions and light levels. Plant a variety of vegetables and flowers so that no single pest can destroy your garden. Plant species which repel insects i.e.: marigolds around vegetables (also called companion planting)
- Maintain vigorous growth with appropriate water, nutrients and light. Healthy plants can withstand plant infestation more readily than weak plants. A common mistake is to water too often and too shallowly. A long, slow soak is preferable. Watering in the early morning rather than late in the evening will reduce the chance of mildew problems.
- Some insect pests (and plant diseases) can be greatly reduced if you do not plant the same crops in the same place every year. Rotate your crops in the garden on a regular basis.
- Physical controls include screening, which prevents insects from laying their eggs on plant leaves, or barriers to deter slugs or ants. Hand picking of insect eggs and larvae or removal of infested leaves is also examples of physical controls.
- Provide biological controls. Some important predators for insect pests are birds, other insects, or parasites. An effective control for caterpillars is *Bacillus thuringiensis* or B.t.
- Insecticidal soaps are the least toxic chemicals for many garden pests. Some prefer to make their own mix of liquid soap and water. Garlic or crushed hot peppers can be added and may make the mixture more effective.

ALTERNATIVES

ANTS

- Place sticky adhesive materials around the base of the plants and trees to deter ants, which carry and colonize aphids. Ants are attracted to the sweet secretions of aphids and will protect them from natural enemies.
- Border gardens with bone meal.
- Plant pennyroyal, spearmint, southernwood, or tansy around the home to deter ants and aphids.

APHIDS

- Mix 1 teaspoon of liquid soap in a gallon of water, spray directly on insect.
- Introduce beneficial insects (ladybugs or lacewings) to your garden.
- Plant garlic, chives, petunias and nasturtiums to repel aphids.

BEEES, WASPS AND HORNETS

- If the insects are a distance from the home, consider leaving them alone.

CATERPILLER

- Apply products containing *Bacillus thuringensis*
- Pick a cupful of caterpillars, place in blender with a small amount of water. Blend together, filter and place in spray bottle. Spray on affected plants as needed.

RODENT CONTROL

- Set out spring or cage traps.

SNAIL AND SLUGS

- Encourage natural predators such as garter snakes, grass snakes, box turtles, salamanders, ducks and larvae of lightning bugs. All feed on snails and slugs.
- Plant onions or marigolds to repel them.

- Place overturned clay pots near shady side of plants; make sure there is room under the edge for snails and slugs to enter; remove and destroy snails and slugs which gather under the pot during the warm part of the day.
- Place out shallow pans filled with stale beer below ground level. The fermented liquid draws them in and they drown.
- Place barriers around young seedlings, such as tin cans with both ends removed or aluminum screenings.
- Sprinkle sand, lime, or ashes around as a protective border. Snails and slugs will avoid these areas.

WEED CONTROL

- Pull or hoe weeds when they first begin to appear, before they begin to flower.
- Cover garden with garden fabric or plastic in the fall to prevent weed germination.
- Use organic mulch in garden areas. Use carpet, fiber-side down, under mulch for additional weed control.

FUNGUS CONTROL

- Use less toxic products such as sulfur dust, sulfur spray and dormant oil spray which does not contain copper.
- Avoid over watering.

MOLES

- Whip together 1 tablespoon castor oil and 2 tablespoon liquid detergent in a blender until the mixture is like shaving cream. Add 6 tablespoons water and whip again. **Keep this mixture out of the reach of children and pets.** Take a garden sprinkling can and fill with warm water. Add 2 tablespoons of the oil mixture and stir. Sprinkle immediately over the areas of greatest mole infestation. For best results, apply after a rain or thorough watering. If moles are down to your lawn because of the grubs feeding in the soil, try spreading milky spore disease to kill the grubs.



SAFER USE OF PERSONAL CARE PRODUCTS

- Many beauty and hygiene products contain petrochemicals, fragrances and preservatives which can be highly irritating. Since they are often applied to some of the most sensitive parts of our bodies, the result can be rashes, itches or irritation. Read product labels carefully and avoid those containing ingredients which you find irritating.
- Be alert for the words hypoallergenic and natural. "Hypoallergenic" means the most common allergens have been removed, but may still contain ingredients to which individuals are sensitive. "Natural" has no legal definition and companies trying to capitalize on the market may add natural sounding ingredients such as herbs, jojoba oil or honey, but still contain usual fragrances, preservatives and artificial colors.
- Health food stores, co-ops and many catalogs carry products which do not contain the irritating ingredients.
- Always use non-aerosol products.

ALTERNATIVES

ANTIPERSPIRANTS

- Mix $\frac{1}{2}$ cup vodka, $2\frac{1}{2}$ cups water, 1 tablespoon alum and 1 tablespoon zinc oxide in a blender or food processor. Place in spray bottle. Shake before using.

DEODORANTS

- Apply pure, dry baking soda directly under the arms
- Mix baking soda with cornstarch, wheat starch, rice starch or clay.
- Mix 2 teaspoons alum into 1 pint warm pure water. Place in spray bottles and spray under arm.

BATH PRODUCTS

- Add one of the following to a tubful of warm water.
 - ½ cup or more of baking soda
 - 1 quart of whole or skim milk
 - Slices and juice of several lemons
 - ¼ cup of white vinegar
 - Juice of 1 large grapefruit
- Place 5 to 10 chamomile, mint or other type of tea bags in very hot water in bathtub. Steep 5 to 10 minutes and add rest of the bath water at normal temperature.
- While standing in bathtub, rub your entire body with your favorite warm oil. Scrape it off with damp loofa sponge. Follow with a hot bath.
- Dissolve 1 cup honey in 1 cup boiling water. Add 2 cups milk. dissolve ½ cup sea salt and 2 tablespoons baking soda in warm bath water and add honey/milk mixture.

HAIR SPRAY AND STYLING MOUSSE

- Chop 1 lemon, place in a pot, cover with 2 cups water and boil until only half remains. Cool and strain. Place in a fine spray bottle and test on hair. If it's too sticky, add more water. Store in the refrigerator or add 1 ounce vodka per cup of hair spray as a preservative (you can keep this hairspray unrefrigerated for up to 2 weeks.)
- Put 2 to 5 teaspoons of honey in a spray mist pump dispenser with about a cup of warm water and shake well. The more honey in the spray the greater holding power. But too much honey will make hair sticky.
- For a mousse-like hold, dissolve ¼ teaspoon of plain, unflavored gelatin in 1 cup of boiling water and let sit at room temperature until slightly set. Rub into wet or dry hair with fingers and blow dry. It leaves no residue but

gives lots of body.

BODY POWDERS

- Use cornstarch or oat powder
- Mix 3 ounces white clay, 2/3 teaspoon magnesium carbonate; add 1 teaspoon calcium carbonate.

INSECT BITES

- Rub bites with apple cider vinegar to relieve itching or apply baking soda paste.
- For bee stings apply a thick paste of baking soda and water or apply half onion to relieve pain and swelling
- For chigger bites, rub with moist aspirin tablet to soothe pain and itching.
- For mosquito bites, soak bites in salt water or apply paste of salt and shortening.

MINOR CUTS, BURNS AND RASHES

- Spread the juice of an Aloe Vera plant on minor cuts or burns.
- Rub raw onion over a minor burn to relieve pain
- To relieve rash from poison oak/ivy, place a hot compress sprinkled with salt over the rash; cool, remove (allowing the salt to stick) and dry.
- To relieve sunburn, apply Aloe Vera juice or a solution of baking soda and water.



PET CARE

FLEAS AND TICK CONTROL

It is important to note that fleas and ticks can never be completely eradicated from your pets. Or from your home as long as you have pets. The key is to keep the flea population from exploding using a combination of the alternatives listed below. If the population has already gotten out of hand, a pump spray containing a juvenile growth hormone (Precor) can be utilized to break the cycle (observe all of the precautions mentioned in the safe use section). Continue to use the alternatives listed.

- Vacuum house frequently; remove, seal and dispose of vacuum bag outside the home and away from the pets.
- Remove and clean pet bedding regularly.
- Rub pet with pennyroyal oil on a regular basis.
- Wash pet with soap and water, dry thoroughly, apply a rosemary herbal rinse (add ½ cup rosemary in 1 quart boiling water, steep for 20 minutes, strain cool, then spray or sponge on pet); then allow pet to air dry.
- Wash pet with flea soap (not shampoo), citrus oil product or herbal shampoos or dips.
- Use a good flea comb to remove fleas from pets; drop fleas removed into a bowl containing soapy water.
- Feed pet vitamin B, garlic tablets, or brewers yeast. **Note:** Brewers yeast given in large doses or with dry food can cause intestinal discomfort. Check dosages with veterinarian before adding to your pet's diet.

- Add 1 teaspoon of white vinegar to 1 quart of pet's drinking water (per 40 lbs. of pet weight).
- Place fennel, Eucalyptus, pennyroyal, rosemary or sassafras leaves, or red cedar shavings under and around pet's sleeping areas.

DEODORIZERS

- Line the bottom of your cat's litter box with baking soda before adding kitty litter.
- To remove pet odors from carpet, mix 1 part borax to 2 parts cornmeal, sprinkle liberally on carpet and vacuum up after 1 hour.
- To remove skunk odor, soak with tomato juice or vinegar and water solution, then rinse out.

PET STAIN REMOVER

- To remove urine stains and odors from carpet; blot up as much moisture as possible; rinse area with warm water; apply a white vinegar and liquid soap solution; leave on 15 minutes then rinse with clean water and blot dry. Test for color fastness in an inconspicuous area first.

ANIMAL DETERRENTS

- To keep cats from clawing furniture purchase a scratching post or make one from carpet scraps and/or rub the herb rue on the upholstery. Rue is a bitter herb with cats detest.
- Fence areas where pets are not desired.

GROOMING AIDS

- To make a dry shampoo, rub baking soda or cornmeal into animal coat, brush.
- To retard shedding, rub olive oil, coconut oil, or lanolin every 10 days.



POLISHES

FLOOR POLISH/WAX

- To clean vinyl floors, combine $\frac{1}{4}$ cup Trisodium Phosphate (TSP), $\frac{1}{4}$ cup borax, or $\frac{1}{4}$ cup vinegar with 1 gallon warm water and apply with mop to remove dull greasy film. Polish with club soda.
- To clean wood floors; damp mop with a mild vegetable oil soap (such as Murphy's oil soap); dry immediately.
- For painted or finished wood floors; combine 1 teaspoon of washing soda and 1 gallon of hot water; wash floors with a rag dampened with mixture; rinse with clear water; dry immediately

FURNITURE POLISH

- Polish unfinished wood with mineral oil.
- To clean and polish finished wood:
 1. Put a dab of mayonnaise on a soft cloth and rub into wood.
 2. Use mild vegetable oil soap.
 3. Combine 1 part lemon juice with 2 parts vegetable or olive oil and polish with a clean, soft cloth.
 4. mix 3 parts olive oil with 1 part vinegar; polish with a clean, soft cloth
 5. For oak; boil 1 quart beer with 1 tablespoon sugar and 2 tablespoon beeswax. Cool, wipe onto wood and allow to dry. Polish when dry with a chamois cloth.

- Wash painted wood with 1 teaspoon of washing soda in a gallon of hot water; rinse with clean water.
- For water spots; rub gently with toothpaste on a damp cloth
- For scratches; mix equal parts of lemon juice and salad oil. Rub into scratches with a soft cloth until scratches disappear.

METAL POLISHES

- To polish aluminum:

1. For stain and discoloration removal from cookware; fill cookware with hot water and add 2 tablespoons cream of tartar to each quart of water. Bring to a boil and simmer 10 minutes.

- To polish brass:

1. Use Worcestershire sauce or scrub with toothpaste.
2. Pour on tomato juice or ketchup, let sit and wipe dry.
3. Use water in which onions have been boiled.

- To polish brass/copper:

1. Use lemon juice and salt paste.
2. Make a paste of lemon juice and crème of tartar. Apply and leave on for 5 minutes; rinse with warm water and dry.
3. Brass will look brighter if rubbed with a bit of olive oil after each cleaning.

- To polish gold:

1. Wash in lukewarm soapy water and dry with a cotton cloth. Polish with a chamois cloth.
2. Clean with toothpaste and a soft toothbrush.

- To polish pewter:

1. Dissolve 1 teaspoon salt in 1 cup white vinegar. Add enough flour to make a paste. Apply paste to pewter and let sit for 15 minutes to 1 hour. Rinse with clean warm water; polish dry.

- To polish silver:

1. Soak silver about 5 minutes in 1 quart warm water containing 1 tablespoon baking soda, 1 tablespoon salt, and a piece of aluminum foil.

- To polish chrome:

1. Wipe with apple cider vinegar, rinse with water, and then dry.
2. Shine chrome fixtures with baby oil and a soft cloth, a piece of aluminum foil (shiny side out), or newspapers.

- To polish stainless steel:

1. Rub stainless steel sinks with olive oil to remove streaks.
2. To clean and polish: moisten a cloth with undiluted white or cider vinegar and wipe clean. Can also be used to remove stains on stainless steel cutlery.
3. To remove streaks or heat stains: rub with club soda.

SHOE POLISH

- Avoid products containing trichloroethylene, methyl chloride, nitrobenzene, and mineral spirits.

- For leather shoes:

1. Apply olive oil, walnut oil or beeswax to shoes then buff with a chamois cloth.
2. Polish black or tan leather shoes with lemon juice then buff with a clean cloth.
3. To clean leather, rub equal parts of white vinegar and linseed oil into leather; buff with soft cloth.
4. Remove water stains by rubbing with a cloth dipped in a vinegar and water solution.

- To shine and protect patent leather shoes, rub with a dab of petroleum jelly.

- To clean dirt marks from suede, rub with an art-gum eraser then buff lightly with sandpaper or an emery board.



FABRIC STAINS

- To remove **blood** stains:

1. Immediately clean stain with club soda or sponge with cold water, dry with towel; repeat if necessary.
2. Rub with cornstarch or cornmeal and water paste, let dry in sun; brush off.
3. Pour hydrogen peroxide directly on stain; rinse with water; wash as usual.
4. Apply mixture of 1/4 cup borax and 2 cups water; rinse and wash.

- To remove **chocolate**, soak in cold water, rub with soap and a mild borax solution, rinse then wash in the hottest water the fabric will stand.

- To remove **coffee** stains, follow the same steps as chocolate removal.

- To remove **fruit** stains, soak in cold water 30 minutes; rub soap into remaining stain; wash in hottest water the fabric can take; bleach with lemon juice and sunlight if needed.

- To remove **grass** stains; rub stain with glycerin; rinse with warm water.

- To remove **grease**:

1. Apply paste of cornstarch and water; let dry then brush off.

2. Cover with baking soda or cornmeal; let dry and brush off.
3. Scrub spot with toothpaste.

- To remove ballpoint **ink**; sponge with rubbing alcohol, rub with soap, rinse and wash. To remove felt-tip ink, rub with soap, rinse and wash. If ink has set on white fabric, wet with cold water and apply paste of cream of tartar and lemon juice; let sit 1 hour and wash.
- To remove **oil** stains, scrub spot with toothpaste before laundering.
- To remove **perspiration** stains; sponge stain with a weak solution of white vinegar or lemon juice and water.
- To remove **rust** stains, moisten spot with lemon juice, sprinkle with salt and expose to sunlight. For rust stains on white fabric, cover the stain with cream of tartar, gather up the ends of the article so that the powder stay on the spot; dip the whole thing into hot water for 5 minutes, then wash as usual.
- To remove **tea** stains; stretch fabric over a basin and pour boiling water over stain; wash as usual.
- To remove **wine** stains:
 1. Clean stain immediately with club soda.
 2. Immediately pour salt or hot water on stain; soak in milk before washing.
 3. On rugs, dab out excess moisture with an absorbent cloth and sprinkle with lots of salt; let sit for several hours; vacuum when dry.

STAINS ON METALS AND PORCELAIN

- To remove stains from porcelain: make a paste using 3 table-spoons borax and 1 tablespoon of lemon juice OR 3 tablespoons of cream of tartar and 1 tablespoon of hydrogen peroxide; scrub with nylon scouring pad and rinse with water.
- To remove coffee/tea stains from china cups; rub with moist salt.
- To remove streaks of heat stains from stainless steel, rub with olive oil, club soda or white vinegar.

STAINS ON WOOD

- To remove watermarks from wood furniture, rub toothpaste on spot then polish with a soft cloth.

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