

Green Cleaning

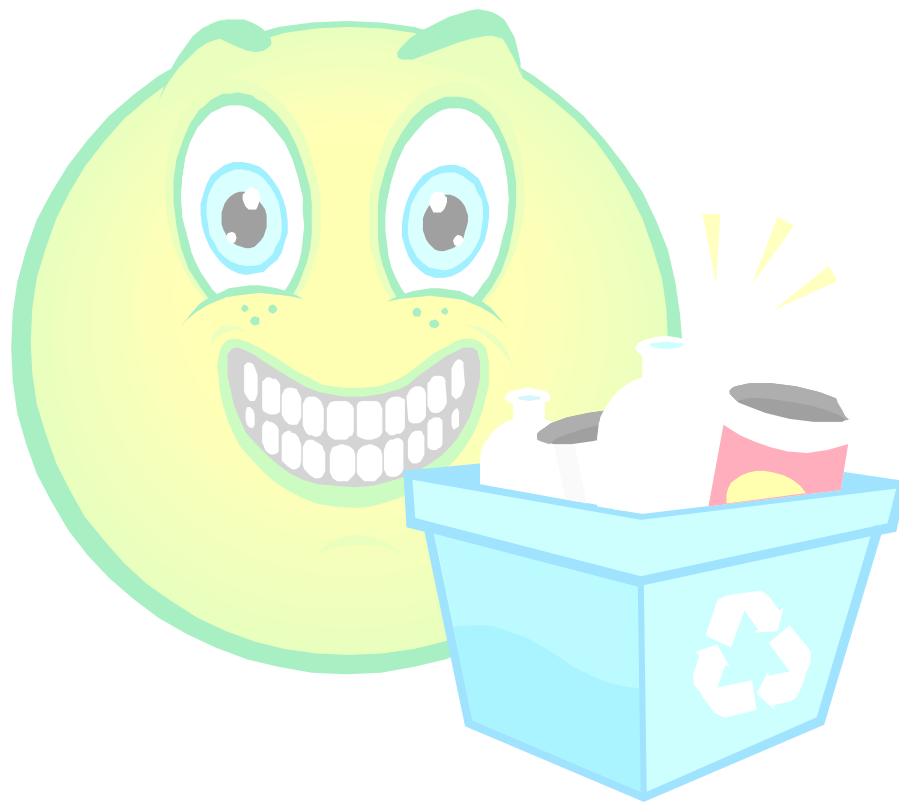


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PART I - BASIC GREEN CLEANING



INTRODUCTION

People need to be clean in order to protect their health. Cleanliness is essential to help our bodies fight diseases that can make us physically weak and vulnerable. But in our efforts to keep both our bodies and the surroundings where we live spotlessly clean, we have used materials that unwittingly have harmed what we wanted to keep clean in the first place.

Many people have now realized that we have to find a way to accomplish our need for cleanliness without harming the environment. And the way to do this is through a green cleaning program. However, such a program should involve more than the chemicals and equipments used for cleaning. It must also incorporate policies and procedures, training, empowerment and sharing of responsibilities that would help minimize the effects and impact of cleaning materials on our health and the environment.

The cleaning products and equipment we use now are efficient but currently, there are newer technologies that could make cleaning more effective and efficient but with lesser negative effects on our health and the environment. There is a need to switch to green cleaning products and equipment but beyond that, we also need to use those that will help create healthier surroundings while reducing environmental damage.

Green cleaning can make a difference in our lives – how we clean our surroundings and what products we use can greatly affect our physical health. Our choice of cleaning products and equipments can also significantly impact the lifespan of our housing materials and furnishings, and the environment as well. Any green cleaning program must involve the commitment of all stakeholders – house occupants, housing managers, visitors and products and services vendors. We all need to have open communications while implementing and carrying out such programs so each one understand their roles and contributions to the success of the program.



CHAPTER 1 – GOING GREEN

A Green Cleaning Program may seem to be expensive and an overwhelming task to setup and implement. However, this should not be the case; there are many manufacturers that are now offering certified green cleaning products and equipment that work just as well as traditional ones. Some of them may actually cost more indeed but this could be offset by other important factors such as superior performance, increased safety, higher morale and productivity of the worker and improved surroundings, including air and water quality.

The goals of a green cleaning program include the following:

- Maintain clean and safe household.
- Protect the health and safety of occupants.
- Reduce impact on the environment eliminating or reducing the use of environmentally hazardous cleaning products.
- Reduce cost by utilizing resources efficiently and effectively.
- Increase the satisfaction level of occupants.

These goals can be achieved by using certified green cleaning products. Green cleaners use a natural formula to keep our environment clean and fresh. Unlike commercial cleaning solutions and detergents, green clean products are is totally free from any kind of toxic chemicals. Using green clean products can help ensure that you are always safe from health problems linked with toxic chemicals coming from traditional cleaning products.

A. Non-toxic cleaning: An introduction to natural ingredients

We are all guilty of buying far too many **household cleaners** - kitchen cleaners, oven cleaners, floor cleansers, bathroom cleaners, leather waxes, chrome cleaners, window cleaners, furniture polishes, cream cleaners, toilet cleaners, disinfectants, washing powder, bleach, dishwasher cleaners, washing liquid - the list can go on indefinitely and is almost endless!

Unfortunately, all these products are costly and dangerous. We have always expected the cleaning products we use to do everything their advertisements promises to do for us. But what we did not realize soon enough was that they all contained chemicals to help cleaning easier and throughout the many years of being used, they have slowly affected our health and harmed the environment. Many of the chemicals contained in cleaning products did not go through strict or controlled testing and they have leached to the surroundings. For example, many of the commercially available floor and furniture waxes contain as ingredient neurotoxic petroleum-based solvents. Even in small doses, these types of chemicals can cause irritability, headaches or lack of concentration. Replacing these hazardous products with homemade natural products is cheaper and definitely better for every member of your family and the environment. Instead of choosing cleaning products that harm everything in their path, you can use natural products and equipment that keep your house clean and fresh-smelling without having the toxic side effects.

Why We Need to Practice Green Cleaning

To help us minimize risks of being harmed by toxic chemicals from conventional cleaning materials, it is important to understand how toxins are able to enter the body. Toxins can pass to the body by means of ingestion, inhalation and dermal exposure.

People may take in contaminants present in drinking water, foods and beverages, and from residues left by cleaning products on food preparation surfaces, as well as from improperly cleaned hands.

Inhalation is another route that toxins can take to enter the body. EPA reports that indoor pollutant levels may be 2 to 5 times, and even occasionally reach more than 100 times, higher than the pollution levels outdoors. Indoor air pollutant level is particularly alarming because most people are indoors about 90 percent of the time.

The last point of toxin entry to the body is by skin absorption. For example, the chemical 2-butoxyethanol, which is common in many conventional cleaners and degreasers can be readily absorbed through the skin and can affect the reproductive system and other major organs of the body.

Consider the following points:

- According to EPA estimates, indoor air pollution levels can be 100 times greater than outdoor air pollution levels. This indoor pollution is caused largely by volatile organic compounds (VOCs) that evaporate, or gas emitted by household decorating and cleaning products.
- Only approximately thirty percent of the 17,000 petrochemicals sold for home use have been tested for safe use and exposure to human health and the environment.
- About five billion pounds of chemicals are consumed annually by the institutional cleaning industry.

Environmental Attributes To Look For In Green Cleaning Products

Claims of certain cleaning products such as “eco-safe,” “non-toxic,” and “environmentally-friendly” are all but meaningless without an accepted standard in place. The term “natural” has no clear definition and is unregulated by the government and thus can be applied to just about anything, even to plastic, which is manufactured from naturally-occurring petroleum. What you need to do is look for specific ingredients that work effectively instead of volatile organic compounds rather than allowing yourself to be lured into buying because of the labels and witty appellations. For example, you will do better to choose products that have grain alcohol as a substitute for toxic butyl cellosolve or look for

products that use borax instead of bleach. Also, select those products that are “petroleum free” and stay away from products that contain phosphates (like dishwasher soaps). Try to avoid too, any PVC products or furniture polishes that have phtalates. Consider detergents containing coconut or other plant oils rather than petroleum; and disinfectants with plant-oil ingredients such as eucalyptus, sage or rosemary, rather than triclosan.

Consider this rule of thumb: if you can’t pronounce it, don’t use it. If you can’t determine the active ingredient in a cleaning product, then you might want to avoid splashing it all over your house. Don’t give in to the anti-bacterial craze as the FDA has concluded that soaps and hand cleansers that are supposed to be antibacterial do not work better than regular soap and water.

The usual perception people have about environmental damage is that it is mostly caused by industrial toxins that are being dumped openly into the air and water systems. But the truth is that domestic pollutants do more damage to the environment than industrial toxins.

The aim of developing a green cleaning program is to reduce environmental damage by substituting chemical cleaners with natural ingredients. There are natural alternatives to using chlorine bleaches and products that contain coloring agents.

Green cleaning products are:

- Made from natural, plant-derived ingredients
- Biodegradable
- chemical and CFC-free
- Free from animal derivatives
- Not tested on animals
- Hypoallergenic
- Made from ingredients taken from renewable resources
- Packaged in recyclable containers

Green cleaning products provide benefits that go beyond what most people expect. They are beneficial not only for individual households but to businesses as well. They help business owners maintain their responsibility to the environment and help also to promote the good name and image of their company.

Green cleaning can help us all do our share for the preservation and protection of the environment, our living and workspace, as well as keep our bodies healthier.

B. Health Effect of Green Cleaning

The average American home has some 63 synthetic chemical products. This is equivalent to about ten gallons of harmful chemicals that continuously assault the physical well-being of its inhabitants. It stands to reason therefore that by using more environmentally friendly products, including green cleaning products and equipment, consumers can reduce health risks. Less exposure to these harmful chemicals will yield healthier results for both human health and the environment.

Many studies have shown that green cleaning products is healthier for the house occupants, visitors and cleaning personnel. They show evidence of less incidence of chemical sensitivity, less allergies, less skin and eye irritation, decrease in nausea, headache respiratory problems. Implementing a green cleaning program at home contributes to productivity and efficiency by producing healthier and happy occupants.

Traditional cleaning products have VOCs that are released into the air as they evaporate. Thus, when used indoors, the air quality is affected. Using green products can actually reverse this process and help improve the quality of indoor air instead.

Traditional cleaning products also contribute to water pollution since the toxic chemicals they contain eventually end up in our water system. Thus, using green products can lessen or eliminate the chemicals that the water treatment plants need to remove from our water supply.

Using green cleaning products can contribute to home or building safety. Environmentally friendly products are less dangerous so spilling or other accidents poses less hazard to occupants, visitors and maintenance

workers. Implementing green practices such as proper use and waste disposal can lessen the risk of spills, fires and explosions.

Green cleaning products have no asthma-causing ingredients.

Asthma is the most common chronic disease among children of school age. It is also the number one cause of school absences due to chronic illness in the entire country. Work-related asthma has a high incidence for educational service workers such as teachers, instructional aides, and even janitors. A recent study conducted in California and three other states revealed that many teachers specifically associate exposures to cleaning products with the onset work-related asthma. Many more studies have confirmed that occupational and home use of traditional cleaning products is linked with increased risk of asthma. Green cleaning products are not allowed to contain asthmagens (substances that cause asthma) and are limited in their content of some asthma triggers (chemicals that worsen existing asthma). Traditional cleaning products also contribute to asthma indirectly as they release a host of reactive, volatile chemicals that form ozone, the chief ingredient of smog that can trigger asthma. Children who are reared in regions where smog is heavy have been shown to have scarred lungs, and they are expected to feel the effects of reduced lung capacity in a lifelong basis. To be certified as green, cleaning products must meet strict limits regarding the volatile chemicals they emit, thus reducing their role in the build up of smog and asthma.

Green cleaning products minimize use of harmful “antibacterial” agents.

Green hand soaps do not have antibacterial ingredients. A U.S. FDA scientific advisory panel has shown that “antibacterial” soaps are no better than regular soaps at eliminating germs or reducing the spread of infection. The American Medical Association (AMA) recommends not using “antibacterial” products at home, as they may induce bacterial resistance to antibiotics. An antibacterial agent called triclosan, often found in liquid hand soap, may upset thyroid and estrogen hormones, and they can form toxic byproducts in tap water and the environment. The Centers for Disease Control (CDC) has also found that triclosan has contaminated the bodies of 75 percent of the American population, due to prevalent use of “antibacterial” products.

Green cleaning products have been proven to be safer for workers.

Traditional cleaners pose safety risks to maintenance workers, especially from injuries like chemical burns to skin and eyes. Green cleaning products must meet standards that specifically address health and safety concerns of maintenance workers to ensure minimized on-the-job injury. A certified green cleaning product for example, should not be corrosive to eyes or skin. Green cleaner ingredients should also meet criteria regarding combustibility, acute and inhalation toxicity and skin absorption. Certified products should have the appropriate health and safety labels.

C. Environmental Impact of Green Cleaning

In 2005, United States Poison Control Centers received 218,316 calls about cleaning products exposure, of which 36 ended in death, and 121,498 cases involved children under the age of six. Cleaning liquids eventually flows down our drains and are treated along with sewage and other accumulated wastewater at treatment plants. It is a fact however that wastewater treatment plants are not efficient in removing some of these harmful chemicals so that they are discharged into nearby water systems where they become a threat to water quality including all the flora and fauna in the area.

Unwanted chemicals. Traditional all purpose chemical cleaners are saturated with ingredients that threaten both our physical health and the environment. Cleaners that have surfactants like alkylphenol ethoxylates (APEs), DEA and TEA; ammonia; chlorine; fragrances containing phthalates; nerve-damaging butyl cellosolve; the antibacterial triclosan; and petroleum-based ingredients must be avoided.

Manufacturers of cleaning products say that their ingredients are protected as trade secrets. However, their claims on their products usually do not have any meaning that can be aptly verified. In foods for example, “organic” refers to foods that are grown without being sprayed with synthetic pesticides. But when it comes to cleaners, it refers to carbon-based chemicals, which can include volatile organic compounds that release dangerous fumes and may cause cancer or brain damage. The National Organic Program of the USDA does not regulate home cleaning products at this time.

Even when it accurately describes a product, the label “biodegradable” doesn’t mean that the product itself is environmentally safe. Dichlorodiphenyltrichloroethanes (DDT) for example can biodegrade into DDD and DDE which the EPA rates as probable human carcinogens. DDT has been reported to be highly toxic to fish while it is only slightly toxic to birds. Reproductive problems as a result of exposure to DDT include thinning of the eggshell, lessening of number of hatched eggs, delays in bird pairing and egg laying, and decreased egg weight.

During normal use of cleaning products, volatile components are released to the environment through evaporation. Residual products from cleaned surfaces, sponges and other materials used in cleaning are then rinsed down the drain and eventually end up in our water system. Phosphorus or nitrogen contained in some products can contribute to nutrient-loading in bodies of water which can lead to ill effects on the quality of our water. Volatile organic compounds (VOC) in cleaning products can affect not only indoor air quality but can also contribute to formation of smog in outdoor air.



CHAPTER 2 – GREEN CLEANING MATERIALS

All of us inescapably use traditional cleaning products in our homes, in our offices, in the school, in fact almost anywhere we usually stay for a prolonged period. But in this war we wage against dirt and germs, we unwittingly make things worse, both for our own health and the environment.

Most of the cleaning products we have been accustomed to use are petroleum-based and as such they have serious impact on our everyday lives. Technological advances have loaded our homes with gadgets that make our life easier at home but at the same time, this technology also demands the use of toxic and polluting chemicals and substances for their maintenance. The cost of maintaining them can be high – both in terms of money and the burden they place on the people who use them and the environment. Based on the US National Center for Health Statistics, 1 in 3 people suffer from some form of allergies, including asthma, bronchitis or sinusitis. Among the recommended treatments for conditions such as these is the reduction of synthetic chemicals where they live. One way of doing this is to use green cleaning products and procedures that can keep a home clean and smelling fresh. Green cleaning products have no toxic side effects.

Many home-cleaning chores can be done using your own cleaning products using homemade substitutions for harmful chemical cleaners. They are inexpensive, safe, ready to use and generally healthier and environmentally friendly. Below is a list of readily available products at home that can be used as they are or in combination with others.

- **Soap** – use unscented soap in liquid form, flakes, powders or bars. They are biodegradable and will easily clean just about

anything that needs cleaning. Stay away from soaps which have petroleum distillates.

- **Baking Soda** – can be used for cleaning, deodorizing, softening water, and scouring.
- **Borax** - (sodium borate) like baking soda, it can also clean, deodorize, disinfect, soften water, clean floors, wallpaper and painted walls.
- **Lemon** – a very strong food-acid. It is quite effective against many household bacteria.
- **Washing Soda** – (salt soda or sodium carbonate decahydrate). It can cut grease, remove stains and soften water, clean walls, tiles, sinks and tubs. It has to be handled with care since washing soda can irritate mucous membranes. Never use it on aluminum.
- **White Vinegar** – can be used to cut grease, remove odors, mildew, wax build-up and some stains.
- **Cornstarch** - can be used for cleaning windows, polishing furniture, shampooing carpets and rugs.
- **Trisodium phosphate (TSP)** - made by mixing phosphoric acid and soda ash. Although it is toxic if ingested, it can be applied to many household jobs like removing old chipped paint or cleaning drains. Such jobs would usually need much more potent poisonous and caustic chemicals; it does not emit any fumes.
- **Isopropyl Alcohol** - is an outstanding disinfectant. However, there have been suggestions to replace this with 100 proof alcohol or ethanol in solution with water because there are indications that build up of isopropyl alcohol in the body contributes to illness.
- **Citrus Solvent** – are great for cleaning paint brushes, oil and grease, some stains. Care must be taken though since it may cause eye, lung or skin irritations for those people with sensitivities to multiple chemicals.

A. All-purpose household cleaners

Although traditional all purpose cleaners have been in use for a long time, they are also known contributors to indoor air pollution. They are poisonous if taken internally and can be equally harmful if touched or inhaled. They can irritate lungs and eyes. Green cleaners on the other hand, are equally if not more, effective and safe.

Here are some tips on what to look for when buying green cleaning products:

- **Disclosure of full ingredients:** Always purchase your green cleaning products from manufacturers that list the name of every ingredient on their product's package or in their web site. Manufacturers are not required to do this so it may be difficult. If the product you are buying lacks the specific list of ingredient, select those products that say what is not contained in the product, for example "No chlorine," "No ammonia," "No sodium lauryl or laureth sulfate." And "No petrochemicals"
- **Fragrance-free and dye-free products:** Fragrances and dyes are unnecessary additives and are normally obtained from petroleum. Fragrances are also known to contain phthalates that disrupts hormone functions.
- **Certifications from third-party groups:** Independent institutions such as the EPA's Design for the Environment program, Cradle To Cradle, Green Seal, and the Leaping Bunny analyze ingredients of products and give certifications to those that contain chemicals not posing any harm to health or to the environment.

Shopping tips:

- Do not fall for unsubstantiated and unclear claims, such as "organic," "natural," "non-toxic" or "ecologically friendly." "Biodegradable" is practically meaningless, as most substances will break down given enough time and the appropriate conditions of the environment.

- Choose products packaged in post-consumer recycled cardboard or plastic.
- Choose cleaners in bulk packages or large containers. Concentrates are good choices too since they use less water.

Usage tips:

- Most cleaners do not have a list of ingredients. However, it is possible to know something about the hazards of a product by reading its label. According to the Consumer Product Safety Commission (CPSC), the warning labels "Poison" and "Danger" are indications that a product is flammable or combustible, corrosive, a strong sensitizer or irritating, and that these products can cause serious personal injury or illness during, or as a result of, normal use. "Danger" or "Poison" labels on a product mean they are usually most hazardous. "Warning" or "Caution" labels indicate moderately hazardous products.
- Leave all products in their original packaging. Doing this will ensure that you have the instructions for use and information about first-aid procedures.

Here are some homemade all purpose cleaner formulas:

1. Vinegar and Salt. Mixed together, these two make a good surface cleaner.
2. Baking Soda. Four tablespoons of baking soda dissolved in 1 quart warm water will do for a general cleaner.
3. Put some baking soda on a damp sponge and apply on all kitchen and bathroom surfaces for cleaning and deodorizing.
4. Try using liquid castile soap and baking soda or Borax in varied ratios. Use lots of water with a little soap and soda/borax on

floors, counters and walls. Make use of more soap, soda/Borax for cat boxes, tubs sinks, or anything that can be rinsed well.

5. Try creating a paste made from baking soda and water or mix salt and water with a little vinegar to make a general, all-purpose cleaner.
6. Mix together 1/2 tsp. washing soda, 3 tbsp. vinegar, 2 cups hot water, and 1/2 tsp. vegetable oil based liquid soap, in a bucket or spray bottle. Apply on surface to be cleaned and wipe.

B. Scouring powders and scrubbers

Those conventional cleaning chemicals are usually washed down the drain and affect not just the environment but also affect your expenses. Not only are they expensive, they also have negative impact on our water system. It is better to make your own natural scouring powders at home and save a ton of money. Here are some recipes for gentler cleansers that can effectively handle heavy duty cleaning chores as well.

Needed materials:

- 1/2 Teaspoon lemon oil
- Vegetable-oil based liquid soap
- 1/4 Cup borax
- Table salt
- Baking soda

Procedure to make a natural, non-abrasive soft scrubber

1. Form a creamy paste by mixing the borax with enough soap in a bowl.
2. For a fresh scent, add some lemon oil and blend well.

3. Pour a small amount of the mixture onto a sponge.
4. Apply to the surface, wash and then rinse well.

Procedure to make a mildly abrasive scouring powder

1. Sprinkle a little salt on a damp sponge.
2. Sprinkle baking soda on damp sponge.
3. Scour the surface to be cleaned with either of the above and rinse.

You can use the soft scrubber formula in sinks, shower stalls and bathtubs. Baking soda is available everywhere, and is quite effective. It is made from soda ash, and is slightly alkaline. Baking soda absorbs odors from the air and neutralizes acid-based odors in water.

Baking soda sprinkled on a damp sponge or cloth can be used as a mildly abrasive cleanser for bathtubs, kitchen counter tops, ovens and sinks. Perspiration odors and even the smell of many chemicals can be eliminated by soaking clothes in water mixed with up to a cup of baking soda for as long as needed and then rinsing and laundering the clothes as usual. Baking soda can also be used as an air freshener, and a carpet deodorizer.

C. Disinfectants and mold cleaners

Molds are microscopic organisms and can be found almost everywhere, whether indoors or outdoors. Molds are present on plants, dry leaves, foods, and other organic material. They are needed for breaking down dead matter. Since mold spores are very tiny and lightweight, they can travel through the air. Mold growths often take the form of discoloration, ranging from orange to white and from green to black and brown. Large quantities of mold can often cause allergic symptoms similar to symptoms that are caused by plant pollen.

Many disinfectant and antibacterial products today contain hazardous chemicals that could be more dangerous than the germs they were supposed to kill. Some bacteria can be killed by regular cleaning using plain soap and hot water but if you need heavy duty bacteria killing to do, making your own natural disinfectant is the way to go.

Needed materials:

- Distilled White Vinegar
- 3% Hydrogen Peroxide
- Borax
- Tea Tree Oil
- Lemon Juice
- Baking Soda
- Clean Spray Bottles

1. Vinegar is known to be an excellent disinfectant. Undiluted distilled white vinegar can kill 99 % of bacteria, 82 % of mold, and 80 % of germs. A spray bottle filled with vinegar in your bathroom, kitchen or anywhere will go a long way in killing germs. Use it for an easy and quick way to disinfect most surfaces. Your home will not smell vinegary since the smell will dissipate as the vinegar dries. If you want, you can add any of your favorite essential oil.
2. Studies have shown that spraying 3% hydrogen peroxide after using undiluted vinegar is more effective than using either one alone. Keep both liquids in separate spray bottles. Use them one at a time. Which one you use first does not matter.
3. Borax has deodorizing and disinfectant. Try mixing $\frac{1}{2}$ cup borax into one gallon hot water or undiluted vinegar. You could also blend 2 tablespoons Borax, $\frac{1}{4}$ cup lemon juice and two cups hot

water in a spray bottle. This is an excellent natural disinfectant and all-purpose cleaner.

4. Terpenes and other phytochemicals present in tea tree oil are powerful fungus killers and antiseptics. Tea Tree oil are available at health food stores, but are not to be taken internally. A few drops of tea tree oil mixed with some water in a spray bottle is great for cleaning mold in the bathroom, disinfecting the floor after the dog has an accident, or cleaning up after your child has been sick. Add a few drops to a spray bottle filled with water and a few tablespoons of baking soda and Borax and you have a high-quality disinfectant/cleaner for your sinks and counters.

D. Air fresheners and odor removal

Should an air freshener be used for odor removal? Air fresheners mask the odor and usually paralyze the sensitivity of your nose; they don't actually remove the odor itself and the odor problem stays. You are still breathing the same foul air even if your nose does not sense it. The bad thing is, the offending odor will get into your blood and eventually poison your body. An air freshener is a quick fix solution for removing odors but there is hardly anything healthy in them. In fact many air fresheners can be carcinogenic and toxic.

The best way to remove indoor odor is to root out the problem in its source. Masking the symptoms will never work. Odor within the house is a signal that something requires your attention. Being inside your home, you can investigate and understand where the particular foul odor originates.

Air Fresheners/Deodorizers:

- Simmer lemon rinds or few slices of leftover orange in a pot of water for one to two hours.
- Place allspice, cinnamon sticks, cloves or any of your favorite scents in a pot filled with water and simmer for one to two hours.

- Two to three slices of white bread can effectively absorb odors from refrigerators.
- Put baking soda in an open receptacle and place it inside the fridge, closets, and other suitable enclosed spaces.
- Baking soda and lemon spray: Mix baking soda in two cups hot water put in lemon juice and transfers into spray bottle.
- A couple of drops of essential oil to the inside part of the cardboard toilet tissue roll will create an instant spin-fresh bathroom deodorizer. Fragrance is released into the room with each turn.
- Put some lemon slices in an open bowl anywhere in the kitchen.
- Pour vinegar in a bowl or cup to get rid of room odors.
- Charcoal in a bowl also rids any room of unwanted odors.
- Put some unscented kitty litter in a bowl to absorb odors in any room.
- Pour some vanilla extract in any shallow dish. Put it an isolated place.
- A lighted match or burning candle (scented or unscented) will "eat-up" foul smelling gases in the air.

Instant Kitchen Incense. Your stove can be turned into an instant, natural incense burner. Simply put a little sprinkling of ground spices on an electric stove burner and turn on the heat to the very lowest possible setting possible. Clove and cinnamon work best, but do some experimenting to come up with your own unique scent.

Stovetop Freshener. Mint is a wonderful and uplifting freshener. For the following formula, you can try using either fresh or dried mint.

Combine a handful of mint leaves and 8 cups of water in a pan. Put it in the stove and bring to a boil. Turn down the flame and simmer. Water will evaporate so simply replace the water as needed.

Vanilla Odor Remover. Vanilla beans have properties that reduce odors wonderfully. Put 1 to 2 teaspoons of natural vanilla extract in a small cup and set it anywhere you want the air freshened.

Sweet Green Mist Formula. Sprays and mists are an easy way to add wonderful, natural scent to your home and they are useful too in the fighting germs. Use the following formula liberally on non-staining surfaces or just spray upward in the room's center. Be sure to prevent contact with eyes. Using an eyedropper, place the following ingredients in a small lidded glass jar and mix well:

10 drops eucalyptus essential oil

20 drops sweet orange essential oil

10 drops lavender essential oil

To use, add four to eight drops of this base formula to a cup of distilled or purified water in a spray bottle. Shake to mix and spray.

Carpet Freshener. Sprinkle baking soda over carpets and let it sit overnight. Vacuum. You can also add some table salt to the baking soda. The salt absorbs moisture and since it acts as an abrasive, the effectiveness of vacuuming is increased.

Part II – Inside the House





CHAPTER 3 – THE BATHROOM

Cleaning the bathroom is not a welcome chore for anyone. Not only is it seen as a dirty work to do but also because the commercial bathroom cleaners used for the job contain harsh toxic substances that can harm you and your family's health and the environment too.

The primary goal in cleaning the bathroom might involve killing and controlling germs. And this usually means bringing in the heavy guns – disinfectants. However, thoroughness and a realistic amount of care can keep your bathroom hygienic and glistening even without using chemicals cleaners and disinfectants.

The objective of disinfecting something is to eliminate the microorganisms living on it. But the irony is that the disinfecting products themselves are often hazardous. We all want to be sure our bathrooms have no microbes that can cause illnesses. But the fact is, germs and microbes are all around us everywhere, and they will be always be present whether you get rid of them or not. It's just a normal part of living.

A. Toilet cleaners

In more ways than one, toilets have become dumping grounds of our waste. While it is natural to answer nature's call, our efforts to create a clean toilet has resulted to killing not only the germs and foul smell that emanate from it but also some good things in nature. We wage a never ending battle against all bacteria in the toilet so it can smell good and look good, and also for us to be healthy and strong too. There was a time when every new chemical product that promises to keep toilets looking and smelling cleaner was grabbed from the stores immediately. However,

we now know that many toilet cleaning products contain ammonia, hydrochloric acid and chlorine as ingredients. These chemicals are highly corrosive and can definitely shorten the lifespan of the cistern valve. They were made to kill bad bacteria but in the process they also kill helpful bacteria that help in breaking down our waste matter. Chlorine for its part reacts with other organic substances and generates harmful compounds like dioxins and furans.

Formaldehyde is another chemical present in toilet cleaning products, used primarily in chemical toilets used for camping and RV's. This chemical is a carcinogenic and has been shown to cause animal mutations.

Other environmentally damaging ingredients found in some popular toilet products:

- Diethylene glycol monobutyl ether - VOCs harmful to aquatic life forms
- Sodium dichloroisocyanurate - quite toxic to aquatic life forms and may cause long-term environmental damage.
- Chlorinated phenols – affect respiratory and circulatory systems of the human body.
- Triclosan - mainly used as anti-bacterial agent, but can also damage animals and plants, including aquatic life.

One particularly difficult problem with pinpointing environmental toxins in toilet cleaners is that manufacturers are not required by law to disclose all of their product's ingredients.

Greener toilet cleaners. Good hygiene and cleanliness is important, but no matter what the sellers might tell you, what we do to disinfect the average home are wasted and only help to breed stronger harmful bugs while eliminating beneficial bacteria.

Many manufacturers of earth friendly products are now using citric-based (e.g. orange oil) or acetic acid that fight bacteria within the immediate surrounding area, and then quickly lose their potency to avert damage to other organisms not being targeted.

One advantage in earth friendly toilet cleaning products is that they will be more likely to list their components as a response to demands by eco-savvy consumers.

Cleaning your toilet the environmentally friendly way. One of the best ways to keep your toilet looking clean is the regular use of a toilet brush to prevent buildup of gunk and stop the breeding of harmful bacteria. You only need a few seconds to do this daily. It's the classic cure vs. prevention scenario.

Schedule a twice a week toilet cleaning job:

1. Into the toilet bowl, pour two cups of undiluted white distilled vinegar. Allow it soak overnight. Use the toilet brush, and wash with warm water and vinegar the next day.
2. Use vinegar and baking soda to make a paste. Apply it and scrub away tough stains.
3. The toilet seat hinges can be cleaned using an old toothbrush and with a paste made from salt and lemon juice.
4. Between cleanings schedules, disinfect the toilet rim by simply spraying on vinegar and wiping it off after a little while.

B. Tub and tile cleaners

Mix $\frac{1}{2}$ cup of vinegar, $\frac{1}{4}$ cup of baking soda and one cup of ammonia with a gallon of lukewarm water in a suitable container. You can use this mixture to clean your bathtub or shower stall by dipping your sponge into the mixture and scrubbing away. Follow this by rinsing off the solution with warm water. Be sure to wear rubber gloves for the protection of your hands.

You can use a cloth dipped in ammonia to remove soap scum rings. Finish the job by rinsing it off with hot water. To eliminate mildew, mold and soap scum from your shower curtains, try wiping them down using undiluted white distilled vinegar. You may not like the smell but it will

dissipate after a few hours. Instead of wiping, you can pour it into a spray bottle and just spray it.

Use white distilled vinegar to make your shower doors sparkle again. To get rid of water spot from the metal frames of the shower door, use lemon oil furniture polish. Pour undiluted vinegar into the tracks of the shower door and leave it overnight to get rid of the gunk and mold that have accumulated there.

A tub or shower made of fiberglass can be cleaned by using a sponge and applying a paste made of baking soda and dishwashing liquid. The same paste can also be used to remove rust and hard-water stains on ceramic tile. But instead of a sponge, use a nylon scrubber to clean it followed by rinsing.

Stains on porcelain tubs and sinks can be hard to remove. Pour lemon juice over the stains, followed by a sprinkling of alum powder and thoroughly working into the stain. For best results, let the mixture sit on the stain overnight. The next morning, complete the task by adding more lemon juice, scrubbing the stain again, and rinsing.

C. Mold and mildew cleaners

Mold and mildew usually multiply during humid and hot summers. Mold can put your health in danger, even if you are not allergic. A lot of people react to mold exposure by getting easily tired and some even get depressed. The best way to deal with mold is to control moisture; you need to dry out anything that becomes damp, such as your basements and carpets. You also need to inspect your plumbing and roofs to see if there are leaks. Repair them as soon as possible. Always wipe spills promptly. In the shower, make sure that water does not escape.

There are 3 materials from nature that you can use to get rid of mold and mildew. These are the best substitute for bleach. The good news is you may already have them in your cupboard. These are tea tree oil, vinegar and grapefruit seed extract. There are advantages and disadvantages in using each, but certainly all three substances work wonders. The cheapest among them is vinegar; tea tree oil is a little expensive, but it is important to note that tea tree oil is a broad spectrum fungicide. It seems to be able eliminate all the molds that come into contact with it. It

has a very powerful smell, but it goes away after a few days. The last one, grapefruit seed extract may be expensive too, but one advantage of using it is that it has no strong smell.

Tea Tree. Used as a spray against mold and mildew, tea tree is the best. You can use it on a ceiling with molds resulting from a roof leak, on a musty cabinet, a moldy shower curtain or a musty rug. Yes it may be a bit expensive but only a little can last a long time and combat a lot of mold and mildew along the way. Here is the formula:

- 2 cups water
- 2 teaspoons of tea tree oil

Combine them in a spray bottle of your choice, shake to mix well, and you are ready to spray on moldy areas. Leave the spray mist and do not rinse. This recipe makes about 2 cups of spray mixture and can be indefinitely stored.

Grapefruit Seed Extract. The significant advantage of employing grapefruit seed extract instead of tea tree oil is that of being odorless. Here is the formula:

- 2 cups water
- 20 drops grapefruit seed extract

Combine them in a spray bottle of your choice, shake to mix well and you are ready to spray on moldy areas. Leave the spray mist and do not rinse. This recipe makes about 2 cups of spray mixture and can be indefinitely stored.

Vinegar Spray. Undiluted vinegar is known to kill 82 % of mold that comes into contact with it. Just pour some white distilled vinegar into a spray bottle, spray on the moldy problem areas, and allow it to sit without rinsing. You just have to stand the vinegary smell which will dissipate after several hours.

D. Drain cleaners

Did you know that the drains are where the highest concentration of germs in the bathroom is located? This makes cleaning them a really disgusting job. It involves pulling out chunks of slime and goo out of a sink and for this you would usually use harsh chemicals. Doing this chore however should not be so dangerous or gross. There is a safer and greener way to clean your drains.

Materials Needed:

- Water
- Vinegar
- Baking soda
- Pot

The first step is to remove the drain stopper. Then you need to pour one cup of baking soda and one cup salt down the drain. Following this, slowly pour one cup of white vinegar down the drain too. As you pour, the vinegar will react with the baking soda, producing bubbles. Do not pour the vinegar fast so as not to overtake the sink. Leave the mixture to sit and bubble for approximately fifteen minutes to obtain maximum cleaning effect.

In the meantime, boil at least two cups of water. This should be enough, but you can actually boil as much water as you want to pour down the drain to clean it. Pour the boiling water into the drain to wash away the vinegar and baking soda, together with the grime that has built-up. You may need to repeat these steps once or twice before the drain empties really fast. As a last step, finish the job by flushing the drain with cool water. Do this once a week to keep your drains clog free and smelling fresh.



CHAPTER 4 – THE KITCHEN

What we want to have is a kitchen that is both green and clean. To achieve this, we have to do away with all the cleansers that contain toxic chemicals we have been using all these years. For some cultures, the kitchen is readily the most important place in the home. The family gathers there, not only to share food but also to have some time together. And for this reason alone, the kitchen has to be cleaned many times and has to stay as clean as much as possible.

You may rightly have fears of having your kitchen become host to salmonella, E. coli and numerous other nasty germs. However, you don't have to be so obsessed with battling those unwanted critters. By reasonable care and attention everyday, and using natural cleaning ingredients, you can transform your kitchen into a clean and shiny place to prepare meals and have the family gathering. Avoiding the use of harsh disinfectants and cleaners can also help the environment recover.

It is a good practice to keep a basic green cleaning kit composed of a good amount of vinegar, a box of baking soda, and basic table salt. Baking soda is a very good green cleaning product to use, especially in the kitchen. It is odorless and it's also food-safe. Because baking soda is only mildly abrasive, using it as a scrub can't harm your kitchen surfaces.

Some cleaning recipes below call for lemon and lemon juice so you might also want to stock some of this fruit. Lemon and vinegar can sometimes serve the same purpose, but lemon definitely has a much nicer scent.

A. Sinks and countertops cleaning

The sink is often where you wash the dishes. You also use it while preparing the food your family will share for the day. If you have a stainless steel sink, it's best to start cleaning it by clearing everything out of the sink and then sprinkling baking soda in a sponge and start scrubbing away. The most effective way to clean the faucets and knobs is to use a toothbrush that has been dipped in baking soda. Do not forget to rinse thoroughly so everything will come out clean and shiny. Rinsing is an important step since baking soda leaves a harmless white colored residue if you fail to remove it all off at once. You can also do this to any stainless steel surface in your kitchen. If there are hard water deposits or soap scum around the sink, you can use lemon juice to remove them.

For a white porcelain sink, combine baking soda and vinegar on a sponge to remove minor stains. Porcelain can be stained very easily, so it's a good idea to deal with stains and spots as soon as possible.

Use undiluted vinegar to wipe your kitchen countertops once a day. If you want, you can also cut a lemon in half, sprinkle baking soda onto it, and scrub the countertop.

Laminate countertops can sometimes get stained with something that looks impossible to remove, like tomato sauce, red wine or blueberry juice. To get rid of these stains, apply a baking soda paste to the stain and allow the paste to dry. Then use a dry towel to rub the paste off together with the stain. You can also apply straight lemon juice, scrub and then rinse thoroughly.

Granite countertops should not be cleaned using vinegar-based cleaners. Instead pour about 1/8 cup of liquid soap into empty spray bottle; fill it with warm water and shake to mix together well. Spray the mixture onto a clean, soft rag and use this rag to wipe the granite surface clean. Use a microfiber cloth to dry the surface. For tough clinging stains, you can spray the mixture onto the surface directly and let it sit for 3-5 minutes. Finish by scrubbing the surface with soft cloth. Do not forget to dry the granite surface completely after cleaning.

B. Cabinet cleaning

Cleaning your kitchen cabinets can be done quickly and easily, or you can take long hours to do this task. It all depends on the length of time since you last cleaned them. Being in the kitchen, they are likely to be grimy and have grease, food particles, and anything else circulating through the air stuck to them. The main offender in this case is grease so what you want is to clean your cabinets with products that can cut grease but at the same time don't create any additional material buildup to make them feel sticky.

Vinegar is the best all-purpose natural cleaner you can use to clean and remove cabinet grease buildup. For regular cleaning, applying a solution of half vinegar and half water should be enough to do the trick. But for more stubborn grime, try undiluted vinegar instead. Make a paste of water and baking soda for a more formidable scrub to remove a lot of the dirt. Club soda and lemon juice will also do the job.

C. Kitchen appliances cleaning

Coffee makers: Remove old coffee grounds first from the appliance first. Insert a new filter into the filter basket and then fill the water reservoir with a solution of one part white vinegar to two parts cold water. Just run the coffee pot as usual and then let the machine cool off. Then run a full pot of cold, clear water. If needed, repeat the process. You can wash the decanter and the filter basket in hot, soapy water. Follow this with wiping the outside with a soapy sponge, rinsing and drying well. You can also use baking soda instead of vinegar.

Microwave Ovens: You can clean and deodorize your microwave oven at the same time by placing juice of a lemon and its cut up skin in a microwave proof bowl of water and microwaving it for about 5 minutes. Do not forget to wipe thoroughly the interior clean.

Ovens: To clean an oven the green way, sprinkle about a 1/4-inch layer of baking soda over the whole bottom area of the oven. Using a clean spray bottle wet the baking soda with water. To keep the baking soda moist, you need to spray it with water every so often over the next few hours. Let the baking soda mixture stand overnight. The following

morning, scrape and scoop the dried baking soda including the grime out of the oven with the aid of a damp sponge. Be sure to rinse the residue off very well.

The vents above your oven must be checked about every six months for grease buildup. Wipe them with a sponge soaked in undiluted vinegar. Dip an old toothbrush in vinegar and use it to get at the grime in the small crevices or hard-to-reach areas. The metal and removable filter can be a soaked in a vinegar solution and rinsed thoroughly afterwards.

Stovetops: You can easily clean spills on the stovetop by sprinkling it with salt first. The salt is absorbent and has a mild abrasive quality that will not harm the surface. Spills into your burner pans on the electric stove can be cleaned by sprinkling the spill with cinnamon and salt and wiping them away. The cinnamon can mask the burned-on smell when you use the burner next time. All stovetops, including ceramic glass ones, can be cleaned using baking soda and water. Dip a toothbrush in baking soda and use it to get into any tight corners. Make sure you rinse everything thoroughly so as not to leave a white residue.

Refrigerator: Do not forget to turn the temperature control off and unplug your fridge before attempting to clean it. Remove all food, throw away all expired items and place uncovered foods in airtight containers. Take out racks, drawers and shelves and then wash them in hot soapy water and completely dry. Use a soft sponge dipped into a solution of two cups of water and 2 tablespoons of baking soda to wipe all surfaces. Pay close attention to the door seals. Finish by rinsing and drying using a clean towel.

Refrigerators should be cleaned 2 to 3 times a year. You can maintain it by spot cleaning using non-abrasive cleansers. Greasy spills can be dealt with a solution of vinegar or lemon and water.

Dishwashers: This kitchen appliance does all the dirty work of making sure that our plates and glasses are clean. So it is important to clean it thoroughly too. Soap can buildup and leave streaks on your glassware and food can stick to the inner parts of the dishwasher. The best way to maintain your dishwasher is to clean it every month. Here are some easy steps to clean your dishwasher using natural and non-toxic vinegar as cleaner.

Pour 1 cup of distilled vinegar into the bottom of your dishwasher. Set the heat on the highest level and run a full cycle. Temperatures above 140 degrees will disinfect everything and make the dishwasher sparkling clean.

D. Pots and pans cleaning

Expensive enamel cookware should not be cleaned with abrasives but it is okay to use and apply baking soda paste to clean tough spots and then scrub to clear away. Stubborn, baked on food on a casserole dish can be removed by adding boiling water and three tablespoons of salt. Allow it to stand until the water becomes cool and then rinse as usual.

Broiler pans and roasting pans are difficult to get clean and oftentimes the dishwasher cannot accommodate them and even when they do, the dishwasher still doesn't clean them well enough. To clean them, fill or cover the pan with very hot water and just allow it to sit. For more drastic measures, fill the pan with water and allow the water to boil on your stovetop for a few minutes. Wipe clean or scrub using a sponge sprinkled with some salt. For the most stubborn spots, pour salt directly and scrub. To finish, sprinkle the entire surface of the pan with baking soda and give it a nice once-over.

You can clean a greasy frying pan by boiling it on the stove with $\frac{1}{4}$ inch water and $\frac{1}{2}$ cup pure vinegar for about ten minutes. Wash as usual afterwards.

Clay pots can also be stained or take on foul odors. To clean a clay pot, fill it with water and add one to four tablespoons baking soda. Allow the mixture to stand for 30 minutes or more and then rinse and dry the pot thoroughly. For a clay cooker with spots of mold, brush the mold with baking soda paste and let it stand. Putting the clay cooker under direct sunlight will give it an extra boost. After 30 minutes, brush away the paste away from the pot and rinse it completely.

Copper-bottom kettles and pans can be made shiny once more with salt and lemon juice (or vinegar) paste. Use a cloth to rub the paste in, then wipe and rinse well.

E. Metal cleaners

Chrome: This metal can be cleaned using apple cider vinegar. You can also apply baby oil with a soft cloth and polish to remove stains from chrome on appliances, faucets and appliances, etc.

Copper: Many people find the patina of old copper attractive but copper can be cleaned by rubbing a soft cloth dipped in pure vinegar, before finally polishing with a clean, soft cloth. Or you can also soak a cotton rag in a pot of boiling water mixed with 1 tablespoon salt and 1 cup white vinegar. Apply the cotton rag to copper while it's hot, and then let cool. Afterwards, wipe it clean. For heavily tarnished copper items, let them boil in the mixture for a few hours.

Brass: Brass parts can be shined with a paste of salt and vinegar. You can also use onions to polish brass. Put coarsely chopped onions in pan with enough water to cover them and boil them. Use strainer to remove onions. Dip a soft cloth in the onion water and use it to polish.

Aluminum: Use a soft cloth with a paste of cream of tartar and water. For aluminum pan's interior, fill the pan with hot water and 2 tablespoons cream of tartar per quart of water. Boil and simmer for 10 minutes. Wash and be sure to dry as usual.

Bronze: Mix one teaspoon salt and one cup pure white vinegar to make a paste. Apply this paste and let stand for about 15 minutes to one hour. Wash with clear, warm water and use a soft cloth to polish dry.

Gold: Lightly scrub the item with toothpaste and a used soft toothbrush. Rinse in lukewarm, soapy water and dry using a cotton cloth. Polish it with a chamois cloth.

Silver: Use plastic or cotton gloves when handling silver. Remove tarnish by coating the silver with toothpaste, then running it under warm water while working in the foam. To clean stubborn stains or reach intricate grooves, use a soft toothbrush. You can also apply baking soda paste. Rub the paste in, then rinse, and polish dry using a soft cloth. Never use salt or vinegar on silver.

Stainless Steel: Clean stainless steel items using a cloth dampened with undiluted white vinegar or olive oil. Finish by wiping dry with clean cloth.

Pewter: Mix one teaspoon salt and one cup pure white vinegar to make a paste. Apply this paste to pewter item and let stand for about 15 minutes to one hour. Rinse with clean warm water, and polish dry.

F. Garbage disposal cleaning

A garbage disposal unit can be easily cleaned and deodorized by simply placing a few pieces of citrus peel down the disposal and pouring water down the drain while turning on the unit. The oils in the citrus peel will release fresh aroma as the blades chop the peel. You can also sharpen the blades at the same time if you add a few ice cubes. Make sure that you cut the peel into small pieces and place only a few pieces at a time.

G. Drain and septic cleaners

A commercial drain cleaner is one of the more caustic and hazardous products you may have in your home. You have probably used one of these notoriously corrosive cleaners. To clear your pipes, these acidic drain cleaners basically burn the slime in your pipes. Another way to clear your drain is to use high-pressure water treatments but quite often simply pouring a lot of boiling water down the drain will do the trick.

Once you have dealt with a clog, it is best to commit yourself to doing regular preventative maintenance in your sink. To begin with, be sure that no solid matter goes down the drain. This is especially important if you do not have a garbage disposal unit installed. Dump 1/4 cup baking soda down the drains and follow this with 1/2 cup vinegar. Allow this mixture to sit in the drain for about 20 minutes. In the meantime, boil some water on the stove and use this to finally flush the drains.

If there is a lot of grease, mix 1/2 cup salt and 1/2 cup baking soda together, pour into the drain, and finish by flushing with hot tap water.



CHAPTER 5 – FURNITURE

You would be quite familiar with this smell on furniture polish - lemon with a touch of engine oil. What you may not be familiar with is that this smell can cause irritability, depression, and other bad moods - the body's response to this smell.

The smell of traditional furniture polish can linger on furniture for long time, even weeks and months. It causes a low level of air pollution that strains the central nervous system. The solvents and petroleum distillates in commercial furniture cleaners and polish are highly neurotoxic.

Replacing them with a homemade formula is can help establish a healthier home for you and your family.

A. Wood furniture cleaning

Homemade Furniture Polish. Use $\frac{1}{4}$ cup vinegar and a several drops of olive oil or jojoba. The vinegar can pull the accumulated dirt from the material while the oil drops lubricate the wood to prevent it from dry out. Olive oil works but the best one is jojoba since it doesn't turn rancid. You can find jojoba in health food stores. Linseed oils sold in hardware stores contain synthetic chemicals and are not recommended for use.

You can use lemon juice instead of vinegar. In this case, apple cider vinegar (organic) is your best bet, although it could possibly cause staining. Test on a small hidden spot first and if you have furniture that could stain, use instead, white distilled vinegar.

Use a soft cloth, like flannel dipped in the oil and vinegar mixture to wipe your wood furniture.

Lemon Oil Duster. Many of the commercially available lemon oil are not derived from natural sources. In fact most of them may have petroleum distillates. You can get in touch of any herbalists for sources of pure lemon oil. Lemon oil is traditionally applied for furniture polishing because of its antiseptic and lubricating properties.

- 2 tbsp lemon juice
- 10 drops lemon oil
- Several drops jojoba or olive oil

Use a soft cloth, like flannel dipped in the lemon oil mixture to wipe your wood furniture.

Basic Polishing Cream Waxing Formula

- 4 ounces oil (2 ½ ounces jojoba or olive oil plus 1 ½ ounces coconut oil)
- 1 ounce carnauba wax
- 1 ounce beeswax
- 4 ounces distilled water

Using a double boiler, melt the waxes and oils using medium heat. After melting, remove from the heat. Next, pour in the water, and finally, use a hand mixer and mix until creamy and thick. Use a soft cotton rag dabbed with some of the cream to rub into the wooden furniture. Buff well to bring out the best shine.

Shelf life of this homemade polishing cream is six months to a year

B. Leather polishes and cleaners

Leather has always been one of the most versatile types of "fabrics" known in existence. It can be used to make shoes, clothing and accessories, and as upholstery materials on sofas, chairs, and car seats. Leather is derived from numerous sources: cattle or buffalo, alligators, pigs, snake skin, ostrich, and some other exotic critters.

It's probably a lot easier to hire a professional cleaner to clean your leather furniture, but since it is your objective to do it yourself instead, below are some tips to help maintain your leather looking always new.

Homemade Recipes. If you read ingredients contained in commercial leather cleaners, you will discover that they contain common ingredients such as lanolin, olive oil and some oils rendered from animal fats.

You can actually try to reproduce less expensively these products in the comfort of your own kitchen. An additional benefit to making them yourself is the easy cleaning and conditioning all done in one step. You don't need to buy any more additional expensive product.

- 2 parts food grade or raw linseed oil OR neat's-foot oil OR
- 2 parts olive oil
- 1 part white vinegar

Swirl this mixture on the leather using a lint free cloth. Leave it overnight and then for best shine, buff it. This leather cleaner will lift off all the accumulated dirt and then nourish the leather. The smell is quite lovely soon after the vinegar disappears, leaving an old leather and olive warmth to the room.

Make sure you ease up with this leather cleaner. It is so rich so you only need a little. Remember to wipe off the excess. You would not want to sit in excess oil on the surface. Use a basic, cheap olive oil and this cleaner will definitely be cheaper than those commercial chemical laden leather cleaners.

To get rid of mildew prior to regular cleaning, try this easy and inexpensive recipe:

Mix together:

- 1 part rubbing alcohol
- 1 part water

Use on a dampened cloth or spray on leather. Use a clean lint free cloth. Do not place under direct sunlight; allow to air dry. Or alternatively, you may turn on an electric fan and allow the air to gently waft over the furniture's surface.

C. Vinyl and plastic cleaners

According to a report taken from the US Center for Health, Environment & Justice and the Canadian Environmental Law Association in Canada, new vinyl shower curtains containing polyvinyl chloride (PVC) can give off more than 100 toxic chemicals for as long as twenty eight days. The study found out that the new shower curtain smell is made up of a toxic blend of organotins, phthalates, toluene, methyl isobutyl ketone, ethylbenzene, xylene, and a whole lot of harmful chemicals that may trigger nausea, headaches, and cause damage to the respiratory and reproductive system, central nervous system, and liver. With this information, you now know you have to avoid vinyl curtains. If you happen to buy a new shower curtain made of vinyl, do get rid of it or try air it outside for at least a month.

You can clean your vinyl or plastic curtains by using a cup of baking soda or vinegar and putting them in the washing machine with a load of white towels with the regular quantity of detergent at warm temperature. The towels will prevent the washing machine from destroying the curtains while also assisting the agitating action. Following this, simply hang the curtains to drip dry.

Another way is to dissolve 1 tsp. to ¼ cup washing soda in 1 cup boiling water. Use a sponge to apply the mixture. Finish by wiping off with a soft, damp cloth.

D. Fabric upholstery cleaners

One peculiar characteristics of some fabrics used for upholstery is pilling which is the excess fiber that comes off the fabric's surface, giving way to the formation of small balls or pills. This is not considered a defect of the fabric however. The pilling will stop once the excess fiber is gone. The look of the fabric cover can be restored by vacuuming and using a fabric/sweater shaver. Exposure to the sun, even indirectly, must be avoided as the ultraviolet rays can cause discoloration or fading of the fabrics. Try rotating or rearranging your furnishings regularly to allow for more uniform and even fading.

Fabric cleaning codes. These codes are standardized format for rating the methods to use for cleaning various types of fabrics. They were adopted by the home furnishings industry in the late 60's. You should be aware of the particular cleaning code for your new upholstered furniture because it will give you an idea about its use and care. It is for your best interest to be cautious when attempting to clean fabric upholstery. Do not forget to always pre-test in some small and inconspicuous spot.

- **Code "W"** - (man-made fabrics such as herculon, nylon, olefin, polyester and acetate. Frequent vacuuming or light brushing is recommended to remove dust and grime. Clean problem spots with a mild water-free solvent. Apply foam with a soft brush in a circular motion. Allow to dry and then vacuum.
- **Code "S"** - (fabrics made from organic material such as rayon, cotton, wool, silk, linen, velour, denim, tapestry, brocade, plain, acrylic and damask.) Clean the problem spot with a mild, water-free solvent. Frequent vacuuming or light brushing is recommended to remove dust and grime. Be sure to do your cleaning in a well ventilated room.
- **Code "W/S"** - Clean problem spots using either of the two previous methods. Frequent vacuuming or light brushing is recommended to remove dust and grime.
- **Cleaning Code "X"** - fabrics of this type should be cleaned only using a vacuum or by light brushing to prevent dust or grime accumulation. Never use water or solvent-based cleaning agents. Solvent-base cleaning agent or water-based foam

cleaners of any kind may cause excessive shrinking, distortion or staining of the surface pile.

E. Formica cleaners

Formica laminate is designed for durability and beauty. Just like any materials used for surfacing, it can be subjected to damage through carelessness and abuse. Used as recommended and cared for properly, Formica can give years of satisfactory service.

Cleaners that contain acid, sodium hypochlorite or alkali should never be use. These types of cleaners will most likely corrode, mar, etch, and permanently discolor the surface of Formica. Always make sure that rages, bottles, and other materials that have been contaminated with these cleaners never come into contact the surface of the laminate.

Formica laminate is very easy to clean. You only have to use a clean, nonabrasive, damp cotton cloth and a multipurpose cleaner such as the one featured below. Afterwards, rinse the surface with clean water with the use of a nonabrasive, clean cotton cloth. Make sure that you do not flood the Formica laminate, particularly near the seams since water can get inside and make the substrate swell up. Be sure to dry the surface of the laminate using a clean, soft nonabrasive cotton cloth.

Multipurpose cleaner for Formica laminate:

- 1 cup household ammonia
- ½ cup white vinegar
- ¼ cup baking soda
- 1 gallon warm water

Mix ingredients and store in tightly capped container.



CHAPTER 6 – FLOORS

It is quite unfortunate that almost all of the traditional cleaning products that guarantee sparkingly clean floors have great negative impact on the environment and our very own health. Fortunately on the other hand, there are ways to clean your floors without endangering both your health and the environment.

If you are still using traditional floor cleaning products, consider the potentially toxic substances that you are spreading on the most probably widest surface area in your house. Now think about the EPA's report that shows indoor pollutant levels that could range from two to fifty times higher than outdoor pollutant levels, with most of the pollutants coming from traditional household cleaning supplies, including some floor cleaners that contain toxic ingredients which cause dizziness, eye irritation, fatigue, loss of concentration, coughing, wheezing, asthma attacks, hypersensitivity pneumonitis and other respiratory infections.

Having your floors maintained regularly will mean floors that last longer. It also means having less waste as a result of doing repairs and having replacements. The best way to clean your green-friendly floors is to use green cleaners comprised mainly of natural ingredients. They can help keep a dirt-free surface and still promote a healthier atmosphere inside your home.

A. Carpet and rug cleaning

A lot of people design their home with wall-to-wall carpeting, thinking that it is a necessity of modern urban life. But the reality is carpets are the least healthy choices for your home's floor covering. Wall-to-wall is

not good since tiny particles of dirt still get trapped even if you vacuum it as best as you can. The particles just get smaller because they get ground down by constant walking and by attempts at cleaning. Smaller particles let your lungs breathe them in deeper, down to where they can do the worst to your health.

Additionally, many conventional carpet and rug cleaners available commercially are made from petroleum-based products. Their components break down on the carpet or rug and become part of indoor air problems. And at the end of their lifespan, the carpets and rugs go to the landfill where they will never break down into anything that nature can make use of.

Beware of conventional carpet or rug cleaners. They may be able to brighten and freshen the fibers and momentarily return them to their former beauty, but always remember that these cleaners will deposit and disperse chemicals you definitely don't want to breathe or touch.

You can try the following green recipe:

Green Carpet Cleaner. In a suitable container, mix one quart warm water, one teaspoon liquid soap, one teaspoon borax, and a splash of vinegar or lemon, whichever you prefer. Then apply this mixture to the carpet or rug with a damp cloth and gently rub it in. Finish the job by wiping with a clean cloth and letting dry.

You can use the following formula to deodorize carpets or rugs: mix two parts cornmeal to one part borax. Sprinkle this mixture onto the carpet or rug and let sit for at least one hour. Later, make sure to vacuum well. You can also try using baking soda instead.

If it is available and you can get one, use a vacuum with a HEPA filter built into the unit. This will give you a cleaner home and prevent you from breathing too much dust while you clean your carpet/rug.

Pet urine on carpets: To absorb as much urine as possible, dab the area with towels, wash problem spot with liquid dish detergent. Rinse the area using ½ cup white vinegar diluted in one quart warm water. To absorb excess water, lay towels or paper towels on the problem spot and weigh it down with suitable material and let sit for four to six hours. Remove toweling, brush and then allow the carpet or rug to completely dry. You can speed the drying process by using an electric fan.

Grease spots: First, try to absorb the liquid using a sponge. Then rub a large amount of baking soda into the problem spot. Let it sit overnight. The following morning, remove the excess and vacuum. You can also use cornstarch instead of baking soda.

Carpet freshener recipe:

- 4 cups cornstarch or baking soda
- several drops of any combination of essential oils you like

Place 4 cups of cornstarch or baking soda into a bowl and add your chosen essential oils. Stir until well mixed and no clumps are formed. Before vacuuming the carpet or rug, sprinkle the powder mix using a shaker type can or jar. Let the powder mix sit on the carpet for approximately 15 minutes then vacuum the area.

Herbal Carpet Freshener

- ½ cup lavender flowers
- one cup baking soda

You can release the flowers' scent by crushing them. Mix the crushed flowers with baking soda thoroughly and sprinkle the mixture liberally on carpets or rugs. After about half an hour, vacuum the area.

B. Hardwood, laminate, and linoleum

Hardwood: The first step before choosing the green alternatives materials to keep a wood floor always lustrous and clean is to find out what kind of finish is applied on the hardwood floor.

Polyurethane: use a damp mop dipped into a solution of 1 cup vinegar and one gallon water. Make sure that the mop is barely wet – just so to

pick up dirt and dust, and not wet enough to leave streaks of water on the floor itself.

Penetrating finish: Such a floor will have more of a matte finish. It may be possible for you to feel the wood's grain. These types of floors are protected by the wax or oil that has sunk into the wood. Examples of penetrating finishes are sealers or resins like Danish oils, tung oil and linseed oil. Never use a water-based cleaner but rather solvent-based. You can use a natural citrus solvent instead of a turpentine-based cleaner or a mineral spirit. Spray a light film on the area and mop using a dry microfiber or any regular mop. Spills must be immediately wiped up. Use a cloth lightly dampened with water and then buffed dry. You can remove white spots resulting from water spills employing the finest grade steel wool and a little quantity of natural citrus solvent. Rub the problem area gently using a circular motion until spot disappears. Complete the task by applying a drop of jojoba oil and buffing well.

Laminate floors: The top layer of this type of flooring is composed of a hard melamine wear layer over a layer of printed paper. This is very resilient and easy to clean. Never use soap-based cleaners since they tend to leave the floor cloudy. Avoid abrasive cleaners, scouring powder or steel wool which can leave scratches. Also do not polish or wax laminate floors. To clean, use a vacuum, a regular dust mop or wipe using a damp cloth. You can clean spills by wiping with a sponge or cloth.

Linoleum: Linoleum is made chiefly from linseed oil (hence the name), pine tree rosin, cork flour, wood flour, jute, limestone, and a variety of pigments. You can use vinegar as a natural cleaning agent because high pH cleaners and abrasives can do damage to a linoleum floor. Vinegar is cheap and causes no corrosion or damage to the linoleum floor.

Maintain your linoleum floor by sweeping, dust mopping or vacuuming frequently. Use a mop dampened with warm water mixed with a mild all natural liquid dish detergent. To rinse and increase the shine, you can use a mop dampened with ½ cup of vinegar added to the water. Get rid of scuffs by using a sponge dipped in jojoba oil and lightly rubbing it in and then wiping the area clean.

C. Tile, concrete, rubber, and vinyl floor cleaning

Ceramic tile floors: Before using any type of cleaner, you need to pre-wet a ceramic tile floor. This is an important step because the water fills up the porous tile and stops the cleaning agents from going deep into the body of the tile. Ceramic floor tiles must always be rinsed completely after cleaning. Never use harsh abrasive cleaners that could leave scratches in the glaze. Avoid acid-based cleaners since they can cause damage to the complex silicates present in a glaze.

Regular maintenance of ceramic tile floors must include vacuuming, dry or damp mopping, or sweeping. Always begin cleaning using the gentlest method, such as using warm water. Do a damp-mopping using a low pH mild detergent formula. Finish drying the floor with the help of a soft cloth to prevent streaks.

Concrete: Concrete is made up of very porous materials and can soak up stains quite quickly. While we want to use natural materials, sealing a cement floor with a commercial sealer will save time eventually since the sealed floor will need little maintenance and cleaning. For unsealed concrete floor, you need to sweep up the loose dirt on the surface and then wash the floor with the homemade cleaning solution described below.

The concrete garage floor soak up grease and oil stains, and collect piles of litter and road dirt. Kitty litter can help you clean up this space. Start by spreading some kitty litter around the problem areas to absorb the grease and oil present. Try keeping the garage door closed to prevent leaves and other windblown debris from collecting inside your garage. Sweep out the dust and dirt and spread the kitty litter using a stiff broom. Start from the back and work your way to the front of the garage. Then use the garden hose to flush the floor. Scour tough dirt with a stiff broom or blast them away with a jet of water from the hose. After getting rid of the loose dirt, use the heavy-duty cleaner describe below. Apply the cleaner to the concrete floor using a sponge mop. Apply pressure for tough areas. For spotless finish, follow this by rinsing with cool water and let the concrete floor dry.

Heavy-duty homemade floor cleaner:

- Mix together in a suitable container: $\frac{1}{4}$ cup low-suds, all-purpose cleaner, one cup ammonia, and $\frac{1}{2}$ gallon cold or cool

water. (Always wear rubber gloves, and work in a well-ventilated area)

Rubber Tile Floors: This type of flooring materials gives an anti-static surface suitable for rooms with computers and home offices. Care is necessary because rubber tile floors be damaged easily by strong cleaners. The best way to clean a rubber-tile floor is to use an all-purpose cleaning solution. But be sure to test it first in a corner before applying the cleaner on the entire floor area. Never use solvent-based products because they can soften and damage it. Keep hot water, strong soaps and scouring pads away. Flooding with water will certainly cause a lot of big problems since the tile adhesives can be loosened by excess water.

Vinyl Floors: A no-wax vinyl floor can be easy to keep clean. Here are some tips on how to do it:

- Wash the floor using a natural all-purpose cleaning solution. Be sure to test it first in a corner before applying it on the whole floor.
- If a no-wax floor happens to dry with a film, simply mop it again using water mixed with one cup of white vinegar.
- Never scour or flood vinyl flooring with water since water can penetrate into the seams and loosen the tiles' adhesives.
- You can clean your old, no-wax type vinyl floor with an all-purpose cleaner. After cleaning, rinse the tiles using clear water. Let the floor to dry and then apply two thin coats of a self-polishing floor finish, making sure that you allow the floor to dry in between applications of coats.



CHAPTER 7 – WINDOWS, WALLS, AND CEILINGS

Every home has windows, walls and ceilings. They are important parts of a home that need constant cleaning and maintenance. They are exposed to dust and grime; they accumulate dirt faster than any other parts of the home. You will never have a fresh feeling inside your own home if you do not have these parts as clean as possible.

A. Window Cleaning

A lot of people who used vinegar and water to clean their windows for the first time have complained that their windows didn't get any cleaner at all; in fact their windows were left with unsightly streaks. The simple reason for this was that the traditional window cleaner they used before switching to vinegar had left behind a fine film of wax on the window surface. Even pure vinegar alone was not strong enough to get rid of it, resulting to windows with ugly streaks. The solution is to add a drop of liquid soap to the water and vinegar solution and the film of fine wax would be removed easily, giving you a perfectly clean and streak-less window.

You can try following one of the methods listed below depending on your circumstances.

First time using vinegar: If you have been using conventional window cleaners until now and want to switch to green cleaners such as vinegar and water for the first time, you have to put in an additional ingredient to

make sure that the residue left behind by commercial products are removed.

- ¼ cup white distilled vinegar
- 2 cups water
- ½ teaspoon liquid dish soap

Mix together in a spray bottle; spray on window surface and wipe thoroughly.

Normal dirt: After using the above formula to remove the wax residue from your windows, you can start with a diluted white vinegar solution to clean normal accumulated dirt.

- One cup white distilled vinegar
- One cup water

Mix together in a spray bottle; spray on window surface and wipe thoroughly.

Very dirty: Extra dirty windows require extra strength cleaning solution. Windows with hard-water mineral stains or dried paint are difficult to deal with. You can try warmed up full-strength white distilled vinegar and apply it directly to the surface of the windows.

Window wipes: Even after adding a drop of liquid soap to the vinegar and water solution, streaks can still appear on your windows if you don't use the right wiping material. But to prevent streaks, it is important to let the window dry as fast as possible once you have washed it. Normal cleaning cloths are not ideal because they leave tiny lint on the surface. An alternative is paper towel since they do not leave lint but unfortunately, you need a lot of them so they are very wasteful. Newspapers seem to work for some people - it's free of lint and its texture works well on dirt and grime. However, you may not like newspaper ink

on your hands and the ink may leave smudges on your white window sills or frames so you will have to use another material. Other good choices are squeegees and microfiber cleaning cloth. With squeegees, you only need one towel for wiping and once you have gotten used to handling them, they do eliminate streaks quite effectively. Microfiber cloths are perfect for just about anything that needs wiping, windows included.

B. Wall Cleaning

Walls that are cleaned routinely can be kept fresh looking for as long as possible. There will be less frequent need for any major cleaning. Typically, walls, including ceilings, are painted with either alkyd or latex paint. Alkyd paint (oil-based) is washable as it is durable. Latex on the other hand is water based and is quite easy to clean after it has set for a time period. Both latex and alkyd paints come in four finishes, namely: flat (ideal for ceilings and walls), satin (for doors and trims), gloss (good for bathroom and kitchen walls, and woodworks), and semi-gloss (best for walls). Painted walls can be cleaned using all-purpose cleaners such as the one below.

A homemade all-purpose cleaner for painted walls and ceilings:

- 1 cup clear ammonia
- ½ cup vinegar
- ¼ cup baking soda
- 1 gallon warm water.

Mix all ingredients together in a suitable container and apply to the wall using a sponge. Rinse with clear water afterwards. If the texture of your walls is rough, make use of old socks or nylon stockings instead of a sponge since they will not tear easily and leave bits that are hard to remove

Warning: Always wear rubber gloves, and work in areas with good ventilation when using this strong solution.

Start to clean your walls by vacuuming the room. Use the small brush attachment and vacuum walls. Go behind mirrors and pictures. Remove cobwebs. Be careful not to press them against the wall. When ready to clean the wall, use the all purpose cleaner above for cleaning walls that are washable. It would be good if you test the cleaner first in an inconspicuous spot to make sure that it doesn't harm the wall finish.

Some suggestions for wall cleaning:

- Start washing walls from the bottom and work your way to the top. Make sure you overlap the cleaned areas in order to prevent streaks.
- Remove transparent tape with the use of a warm iron. Place a protective cloth over the tape and press the iron over it in order to soften and then loosen the tape's adhesive backing.
- Always remove smudges while fresh, but never scrub with much pressure or use abrasive cleaners or synthetic scouring pads.

Decorative tile: These types of tiles are often vinyl-coated. They are resistant to stains and grease. Use a sponge dipped in an all-purpose cleaning solution and wipe to keep them bright and fresh.

Metal tile: Metal tiles are easy to clean using a piece of cloth dampened in all-purpose cleaner. Finish by buffing using a soft cloth.

Mirror tile: These tiles can be cleaned like wall mirrors. Use the glass cleaner formula on a paper towel or piece of newspaper to remove spatters and spots and spatters.

Brick Walls: This wall type needs very little attention. Use the all purpose cleaner formula to remove all the accumulated dirt and stains.

C. Wall Paper Cleaning

You can employ the same techniques and all purpose cleaner used in cleaning washable wall paint to clean washable wallpaper.

The first step is to dust using a clean dust mop or vacuum with a small brush attachment so you can go around picture frames and mirrors. It's a good idea to dust non-washable wallpaper every 6 months, and do a weekly spot-dusting or as necessary for routine maintenance.

Depending on its capability to go through the rigors of washing, wallpapers fall into any one of 3 categories:

1. **Washable:** can be washed in the same way as washable wall paint. Just pat the wall dry quickly following the washing process to stop water from penetrating into the seams of the wallpaper.
2. **Nonwashable:** examples are fabric, antique and hand-painted wallpapers. You can attempt to remove spots with an art gum eraser or commercial wallpaper-cleaning putty but normally you should leave to professionals.
3. **Scrubable:** wash scrubable wallpaper in the same way as washable wallpaper. Scrub hard to remove spots with the use of an old toothbrush and a mild scouring cleanser.

If you are not sure about your wallpaper's category, try to spot-wash a small and inconspicuous spot with the cleaning solution you are going to use and then let it dry totally. Examine the area to see if the glue is not undone and the cleaner has not done any damage to the paper.

D. Ceiling Cleaning

Just because they are high up above your head, ceilings are not exempted from getting dirty as the remainder of the entire house. This means that they also require routine and regular maintenance and cleaning. There are different ways to clean ceilings, depending on the type and how dirty the surface has become.

1. Use a round-headed brush for removing cobwebs. Such a tool allows you to run through edges and into the far corners. Bear in mind that some cobwebs are not so easily visible so be sure to look carefully.

2. Use a long-handled duster to dust the ceiling surface. Get one that will extend long enough to allow you to reach the highest part of your ceilings. If possible, get the "magnetic" type to maximize the pickup of dust and retention.
3. Use a vacuum to clean dirt-prone areas especially around light fixtures and vents. Use a long extension with a soft brush tip to prevent dust from spreading around.
4. For dirty or oil painted ceilings, dip a sponge mop in a mild solution of all-purpose cleaner and mops the ceiling. Make sure that the mop does not drip. To prevent the formation of water spots, try to dry the wet ceiling immediately with rags or towels.
5. For wallpapered ceilings of the washable type, a sponge mop and a mild solution made of water and dishwashing soap is best. Make sure that the mop does not drip. Wipe ceiling at once with dry towel or rag.
6. For spray-on textured ceilings, avoid using any wet or wipe-down cleaning methods as this ruin the texture effect. Instead, use a vacuum with a long extension and a soft brush tip.

E. Metal Cleaning

Conventional metal cleaning products are filled with harmful substances and chemicals that pose a grave threat against our health and the environment. Making your homemade versions of these cleaners is cheaper, safer and effective. Harnessing your own creativity and with little time, elbow grease and some common household items that may already be in your kitchen you can clean most metals without resorting to the use of expensive, toxic and harsh metal cleaners and polishes:

Aluminum: Use a soft cloth dipped in a solution of water and cream of tartar.

Brass or bronze: Polish this metal using a soft cloth and a solution made of baking soda and lemon, or salt and vinegar solution. Make sure to

disconnect first light fixtures from the electrical power source prior to cleaning.

Chrome: Polish using vinegar, baby oil or the shiny side of aluminum foil.

Copper: Dip a cotton rag in a pot of boiling water mixed with one tablespoon salt and one cup white vinegar. Apply the cotton rag to copper while hot and let cool. Wipe clean when cool. For hard to remove stains, put lemon juice or baking soda on a soft cloth, and then use it to wipe the metal. For cleaning copper light fixtures, put salt on a wedge of lemon, then scrub it on the fixture.

Gold: Clean with a paste made of vinegar, salt and flour, or toothpaste.

Silver: Line a suitably sized pan with aluminum foil. Fill it with water and add one teaspoon each of salt and baking soda. Bring the water to a boil and carefully immerse silver items. Finish by polishing silver with soft cloth.

Stainless steel: Clean with a cloth dipped in olive oil or undiluted white vinegar. For curtain rods made of stainless steel, use a soft cloth dipped in a solution made of 4 tablespoons baking soda and one quart of water. Wipe curtain rods dry with a clean cloth.



CHAPTER 8 – LAUNDRY

Using natural laundry products translates to having clean clothes and at the same time better health for your family and the planet as well. The dirty fact is that conventional detergents have synthetic brighteners as well as surfactants and fragrances that disperse pollutants on our water systems. These substances can cause skin allergies and some are possible hormone disruptors and human carcinogens. Many are petroleum-based so they eat up a nonrenewable resource.

Switching to natural options for your laundry is simple. You only need to swap traditional bleaches, detergents and softeners for natural materials. Homemade green laundry products will help you save money as you will be using fewer, more concentrated products readily available, if not already present at your home such as distilled white vinegar, lemon juice and baking soda.

A. Laundry Soaps

Making your own laundry soap can certainly save you money but there are other reasons too. Homemade laundry soap uses natural materials and thus reduces phosphates and other harmful substances that are dumped into our water supply systems. In addition, you minimize the use of plastic bottles used to contain commercial laundry detergents and soap.

Detergents vs. Soap

Detergents and soaps are made using different ingredients. Detergents are petroleum-based and use alcohol, foaming agents and phosphates.

Soap is made up of natural fats and oils, either plant or animal-based combined with lye which goes through the process of saponification, which produces soap. Soap produced using the "cold" process retains its natural glycerin and is phosphate-free.

Here is a recipe to make homemade laundry soap:

Ingredients:

- Bar of soap
- Grater
- Large pot
- Five gallon container
- Powdered Borax
- Washing Soda
- Measuring cup
- Wooden spoon
- Essential oils

Procedure:

1. Heat 4 cups of water in a pot.
2. Grate the bar of soap while the water is heating.
3. Turn of heat and pour the grated soap into the water. Use a wooden spoon to stir until the soap melts.
4. Pour and stir in ½ cup of borax.
5. Pour and stir in one cup of washing soda.

6. When the solution is liquid, add essential oils if you want.
7. Some soap makers want to pour in some liquid castile soap for an extra cleaning power and scent.
8. Pour the resulting solution into a 5-gallon container.
9. Pour enough hot water to make the solution at least 4 gallons.
10. Let the soap sit overnight. The mixture will appear to be liquid and gelatinous goo. Stir again and use as desired.

This homemade laundry soap is appropriate for washing machines.

B. Stain removal

Food Stains: It is best to run cold water over the stained part as soon as possible after the clothing is stained with food. Do not attempt to wipe the food off the fabric since this will only spread the stain. Fold the fabric and rub the two sides together. You will have better chances to successfully remove the stain if you rinse the stain from the fabric sooner. Drying will make removal more difficult.

Blood Stains: Start by running cold water over the fabric. In a bowl, mix one teaspoon salt for every 500 mL of cold water. Soak the blood stained fabric in the water for half an hour and then using a soft scrub brush, scrub the stain off the fabric.

Coffee: This is not difficult to remove if you get to it with soap and water immediately.

Fruit: Put lemon on the stain first and rinse.

Mildew: Depending on the fabric, use warm or hot water with oxygen bleach to wash the fabric. Line dry or dry flat the garment under direct sunlight.

Oil and grease: Shake over some baking soda or cornstarch on the stain, and then place the stained piece of clothing stain side down, on a rag on top of an ironing board. Set the iron on maximum heat and iron on the wrong side of the stain. This technique usually works only for oil and grease.

Rust: Soak rust-stained fabric in a 1 part lemon juice and 1 part water solution for at least half an hour.

Tea stains: These can be difficult to remove. Soak tea stained garment in cool water and apply bar soap.

Sweat stains: Line-drying the shirts under the sun usually work. This will keep sweat stains from turning yellow.

Home-made laundry stain remover:

Stain Remover I

- ½ cup white vinegar
- ½ cup ammonia
- 2 Tablespoon liquid castile soap
- ¼ cup baking soda
- 2 liters water

Put all ingredients in a spray bottle and mix together thoroughly. Be sure to shake the spray bottle well before using. Spray liquid directly onto the stain and let stand for several minutes. Launder as usual.

Stain Remover II

- ¼ cup borax
- 2 cups cold water

Soak the stained clothing in this mixture or apply directly using a sponge. For extra cleaning power for removing odors, grease and mold, add washing soda or baking soda to this mixture.

If all of these steps and formulas fail, just be prepared to live with the stain.

C. Laundry bleach

Sodium hypochlorite is the chief ingredient in chlorine bleach. Chlorine is a skin irritant, and toxic if inhaled. If mixed with ammonia or vinegar, sodium hypochlorite can create poisonous chlorine gas. It may also be a neurotoxin and can cause liver damage. If combined with organic matter, sodium hypochlorite forms organochlorines which have been shown as highly toxic to aquatic life.

A less-toxic alternative to bleach is hydrogen peroxide. You can use $\frac{1}{2}$ cup per load of wash.

Home-made formula:

- Pour $\frac{1}{2}$ cup Borax in washer. Make sure you do not inhale powder.
- Pour $\frac{1}{8}$ to one cup sodium hexametaphosphate (a mineral powder) per 5 gallons of water in regular wash cycle and reduce soap by half. Amount needed depends on how hard the water is. Sodium hexametaphosphate is a fabric whitener and can also get rid of accumulated detergent film.

Exposure to sunshine will whiten linen and cotton. Do not combine chlorine bleach with vinegar or ammonia as extremely toxic fumes will be created.

D. Fabric softeners

Vinegar, with its naturally abrasive smell, is surprisingly a natural fabric softener. Half a cup of it poured in the wash cycle is enough to soften

the entire load. (Caution: do not use vinegar with bleach at the same time because this will create toxic fumes.) Vinegar is also naturally anti-viral and anti-bacterial. It is very affordable and eliminates build up of soap residue on clothing.

Here is a recipe for fabric softener:

- 2 cups white vinegar
- 2 cups baking soda
- 4 cups water

Put all ingredients in a plastic or glass container and mix well. Before each use, shake the mixture well. Add $\frac{1}{4}$ cup to the final rinse. For hard water areas, use $\frac{1}{3}$ cup only.

Brittany

Vinegar accomplishes two goals in your laundry:

1. You get the same results and benefits of commercial fabric softener but cost less and are environmentally friendly.
2. If you use borax, white vinegar rinses its build up in the washing machine. People who use white vinegar report no problems with borax build-up.

E. Laundry starch

Laundry starch makes ironing easier. However, commercially available starch can damage old linens, or worse, some contain synthetic ingredients that do not decompose naturally. Here is a recipe that is to make using natural ingredients:

- 1 tablespoon corn starch
- 1 pint cool water

Put both ingredients in a spray bottle and mix well. Other starches will work as well but corn starch seems to be the most convenient to use. Try to find an organic product since it doesn't contain the extra chemicals that generic corn starch has.

Be sure to shake the spray bottle before each use to re-dissolve the starch. You can refrigerate the unused portion but let the mixture return to room temperature before applying it to your laundry.

More home-made starch alternatives:

Light-colored starch

Mix and dissolve two or three teaspoons cornstarch in two cups water. Pour into spray bottle and use as desired.

Dark-colored starch

Mix and dissolve two or three teaspoons of cornstarch in one cup of water. Add half a cup black tea. Pour into spray bottle and use as desired.

F. Water softener

Hard water simply means water that contains more minerals than ordinary water. These minerals usually are calcium and magnesium. The degree of water hardness depends on the amount of calcium magnesium dissolved in the water. Soap doesn't readily dissolve in hard water.

Water softeners remove in most cases, calcium and magnesium in the water. The most effective to soften water is to use a water softener unit, but for those who want to go green, the best way is to add baking soda to the water in the washing machine, leave it for 10 minutes, and then add the laundry and soap. You may have to experiment on your own since water contains varying quantities of the said minerals. Begin with $\frac{1}{4}$ cup and if you have very hard water, you can increase to $\frac{1}{2}$ cup or more. Baking soda not only softens water but also deodorizes and softens

clothes. Bear in mind however that too much baking soda can leave deposits on clothes.

G. Green washing techniques

Green laundry involves three factors, namely: energy, water, and cleaning products.

- **Energy:** Washing machines and dryers are high energy users. In fact old model dryers use more electricity than many new refrigerators. When you are in the market for new machines, make sure that you buy those with an Energy Star rating.
 - Run dryer loads consecutively so you do not let the dryer cool down in between loads.
 - Whenever possible, hang your laundry to dry under the sun or in a warm room.
 - Do not fill up the washing machine with more water than is actually needed to avoid using more energy.
- **Water conservation:** Some new washing machine models are quite efficient in using much less water and still get your clothes cleaner. Adjust your load size; use the bathroom sink for delicates. You don't need a machine when you can hand wash.
- **Softeners, detergents and brighteners:** Many traditional laundry products have chemicals that are hazardous to human health and the environment. Dirty laundry water goes to the local water treatment plant but certain contaminants leach out to the nearby lake, river, ocean or bay. If you are buying packaged green cleaners, be sure to look for:
 1. Vegetable-based surfactants
 2. Bio-degradable ingredients
 3. Non-chlorine whiteners

4. Phosphate-free cleaners
5. Unscented varieties, or scents from essential oils

Any product that is labeled “chlor-???” , “phosph-???” or anything that you cannot pronounce and have a name that’s long and chemical-sounding, should not be trusted as it probably is not safe for you and the environment.

But if you don't want to buy a packaged green product for your laundry, just use the recipes above for green home-made laundry cleaners:

H. Green drying techniques

You don’t always have to use your machine dryer to completely dry your laundry. You can hang your clothes first to dry outside under the sun before putting them in the dryer for just five minutes or so. This should be enough to soften the clothes and let you save some money since you used your dryer for only about five minutes instead of forty five.

Drying tips

1. Do not dry your laundry completely. You can make use of drying racks to spread each garment out to do complete the remaining ten percent of drying. Hang a couple of pieces of pipe from the ceiling where you do your laundry and place the drying clothes on hangers to be hanged on the pipes.
2. Wash and dry synthetics and cotton fabrics in separate loads. Take note that the synthetics cause most of static problems. Think about not using the dryer at all for rayon, nylon and other synthetics. Anyway, they usually dry quickly when hung out to dry.
3. To add fragrance, place a few drops of essential oil you like on a cotton cloth and put it in the dryer together with the wet clothes.



CHAPTER 9 – FIREPLACE AND CHIMNEY

The fireplace is a traditionally cherished part of many American households. Many familiar scenes have been played out in front of it: the entire family, happy and sweater-clad relaxing and enjoying the warmth of the gently glowing fireplace on Christmas Eve. This is indeed a very nice scene but did you know that on average, fireplaces are never fully efficient in heating your home? They lose about 90% of their heat energy through the chimney, bringing your warm air and dollars along outside. You only get to enjoy approximately 10% of your fireplace’s heat output. And that is if you keep your fireplace and chimney in top condition. Just imagine how much you are actually losing if you do not put them in order. Even the Department of Energy is saying that they “should not be considered heating devices.

A. Fireplace Cleaning

Your fireplace needs regular cleaning and on going care so it can give you safe and efficient service. A hazardous substance called creosote can accumulate inside the chimney that if not removed, can pose a real danger. You need to routinely clean your fireplace including all accessories connected with its operation during the entire heating season.

- To prevent the buildup of creosote tar, ashes and soot, use only well-dried wood for burning.

- Check the firebox, chimney and flue every year before the start of the wood-burning season. Make sure that there is no blockage or creosote accumulation.
- Vacuum clean the hearth area regularly, preferably every week. Ensure that there are no smoldering embers and that they have been extinguished for twelve hours at least.
- Never use water in extinguishing a fire except when an emergency warrants it. Water will turn the ashes to a messy paste.
- Do not use cleansers with abrasive properties to clean the inside part of the fireplace. A lot of conventional commercial cleansers have unsafe chemicals that leave a residue that are flammable and could start an unwanted fire.
- To keep the dust down, shake over moist coffee grounds on the cooled ashes.

Removing soot. You have to be very careful you don't blister your hands when scrubbing so put on a pair of latex gloves. Place a plastic drop cloth where you will need to kneel and also have a trash can of appropriate size lined with two trash bags ready. Remove the andirons and grate and place them outside. Get rid of the excess soot with a wire brush. Be sure that no hot embers and remove the loose ashes that have accumulated using your fireplace shovel. Transfer them to the trashcan and have the loose dust swept up. You can also use a fireplace vacuum for this purpose. Now line the fireplace with old newspapers, making sure your overlap the edges of the drop cloth you put in place earlier. Set the newspapers in such a way that they go up the fireplace walls by two to three inches. This will ensure that the soot will land on them.

With a wire brush and scraper, loosen the soot from the walls. Start from the top and work your way down. Put the accumulated soot on the newspapers in the trash can.

Fireplace walls deep cleaning. For this purpose, you need a phosphate-free TSP (Tri-Sodium Phosphate). Remember that TSP substitute is caustic and can burn your skin and eyes. Avoid getting it on any part of your body, carpet, or fabrics. Place several layers of

newspapers in front of the fireplace and put on a pair of gloves and goggles to protect yourself. Dissolve ½ cup of the phosphate-free TSP in a gallon bucket of warm water and place the bucket near the fireplace. Use a stiff scrub brush and scrub brick surface starting from the top. On older fireplace models, some areas will probably remain black even if they have totally cleaned. Afterwards, rinse with plenty of warm water. Repeat process if some soot or greasy stain remain. Take the wet newspapers and place them in the trashcan. You can add more TSP substitute to the mixture if necessary, up to 1 cup per gallon.

Give the floor of your fireplace the same treatment. Wipe the walls and floor using clean water and paper towels or rags. After drying the fireplace, replace back the andirons and grate.

B. Chimney cleaning

You have to clean your chimney before the wood-burning season starts, preferably in the early Fall. One important reason for this is the fact that birds and other wild creatures like to go inside chimneys and make their nests there. After this initial cleaning, you will only need to check your chimney's interior weekly, depending on the frequency of use. It will also depend on the kind of wood you burn in the fireplace. A good rule to follow is that you must clean your chimney as soon as at least 1/8 of an inch of creosote has accumulated.

Chimneys have to be inspected periodically and have to be cleaned thoroughly to keep its efficiency and to minimize the chance of a dangerous chimney fire. Creosote and soot buildup on the chimney can reduce the draft required by the fireplace and this can cause smoke to be generated and come out of the door or opening. Creosote is highly flammable and can quickly ignite a chimney fire. Regular cleaning during the wood-burning season and correct wood burning practices will allow you to have a trouble-free service from your fireplace and chimney.

Remember always that if a fire has occurred, make sure that you have your chimney inspected by a certified professional before using it again.

If you intend to clean your chimney yourself, you have to put on protective clothing, such as a pair of coveralls or even a simple long-sleeved shirt and an old pair of pants. You should also protect your hair

by wearing a ball cap or scarf. A dust mask should also be worn to protect your nose and mouth, and a pair of work gloves for your hand's protection.

A trouble light, a chimney brush and a small, stiff wire brush are also needed. A good-quality chimney brush is expensive, but it will pay for itself after using it a few times.

Use cheap drop cloths to protect the area around the fireplace or just use old newspapers instead. Make sure that the cloth or papers extend to cover an area about three to four feet from the fireplace. Now reach up inside the fireplace and try to locate the handle of the damper. Once you get a hold of it, open the damper up and clean it using the stiff wire brush. Detach the damper by taking out the cotter keys that hold the damper in place and lay it out of the way.

Using a spray bottle, moisten a large blanket (an old one will do) thoroughly with water. Hang the blanket over the fireplace opening, or depending on its construction, you can probably drape it over the mantle. Afterwards, push the sides of the blanket in and hold them in place using weighted items. The moist blanket helps in preventing the soot, creosote and other debris in the chimney from getting inside your home.

The next step is to attach a long rope to the handle of the chimney brush. Go up the roof of your house with the chimney brush and place it inside the chimney. Push and pull it several times, making sure that you reach as far down as possible. This will clean the chimney. After this, go back to the fireplace and remove the moist blanket. Use a fireplace vacuum to clean the soot and creosote.

After dealing with the mess and putting it out of the way, you have to reach up inside the chimney using the stiff wire brush to clean off the sides. You need to reach as far up as you can. Following this, replace the metal damper. Do a finishing clean up of the whole area.

To finish the job, head down to your basement and open the door at the bottom of the chimney. Use your fireplace vacuum to eliminate any soot and creosote that has fallen and accumulated down there.

Remember that when you clean your chimneys yourself using any method, you need to wear appropriate protection for your body. Make

sure you cover fireplace stove or opening and all furniture and rugs where you will be working. Corrosive debris that is produced as you clean may cause damage. When working with ladders and working on the roof, be sure to have proper safety precautions. Be aware of fire and electrical at all times. Use utmost caution when handling brushes - brush wire with tempered spring can puncture skin and severely injure eyes. As with medicines, keep brushes out of reach of children.

Part III – Outside the House





CHAPTER 10 – GARAGE AND WORKSHOP

The best time to get organized and remove clutter from your garage and workshop is now. Of all the rooms in your house, these places are where unused and unwanted items tend to collect. And while you are organizing and sorting things out, it is also the best time to apply some green ideas on how to get things clean and in order.

Anything you no longer have any need for should be disposed of, either by selling them or donating them to charity, if still usable. Do not donate damaged articles since most charitable institutions that receive them do not have the adequate resources to have them fixed.

Chemical supplies should be collected and categorized according to their function. Those you do not need should be disposed of properly or taken to a proper center for disposal which handles hazardous waste materials. Do not throw them to the garbage or dump them down the drains.

A. Garage Floor Cleaning

Your biggest challenge in green cleaning your house is actually the garage floor, especially if it is concrete. Cement floors normally soak up grease and oil stains and allow the build-up of road dirt and all kinds of debris. However, you know that few people stay there for a long time so there is no need for frequent clean up. The best way to treat and absorb oil and grease stains on concrete garage floor is sweep the dirt and dust out and spread some kitty litter with the use of a stiff broom. Start doing this from the back of the garage and work your way to the entrance. The next step is to flush the floor with clear water using your garden hose.

For tough grease and oil stains, scour the problem areas with a stiff broom and use the garden hose to blast them away.

Another way to get rid of oil and grease stains is to use the following formula for heavy duty floor cleaner. Use it after taking away the loose surface dirt on the floor of the garage. This formula can work as good as any commercial heavy duty cleaner laden with hazardous chemicals, and it's a lot cheaper too. To use, have a sponge mop dipped in the solution and wipe it on the concrete floor, applying harder pressure for heavily stained parts. Use your garden hose to rinse the floor with clear water. Allow the floor to dry before allowing it to be used again.

A Heavy-Duty Floor Cleaner: Mix together in a suitable container: $\frac{1}{4}$ cup low-suds, all-purpose cleaner, one cup ammonia, and $\frac{1}{2}$ gallon cold or cool water. (Always wear rubber gloves, and work in a well-ventilated area)

B. Car Cleaning

Green cleaning can also apply to your car by using non-toxic, non-polluting and environment friendly cleaners whose ingredients can normally be found at your home.

1. Make your own homemade car wax by mixing $\frac{1}{4}$ cup carnauba wax, $\frac{1}{2}$ cup white distilled vinegar and 1 cup linseed oil in a suitable container. Melt the carnauba wax first and then stir in the vinegar and linseed oil. Allow this mixture to cool and then use it like a conventional chemical-laden wax on the car.
2. Dissolve 1 cup water in 3 cups white distilled vinegar to make your windshield cleaner. Pour this mixture into the windshield washer reservoir and fill it. Wipe down the windshield with vinegar to loosen the bugs on it and then wash it off using hot soapy water.
3. A homemade car carpet shampoo can be concocted by mixing $\frac{1}{4}$ cup white distilled vinegar, $\frac{1}{4}$ cup ammonia and 1gallon water. Baking soda can deodorize the carpet; sprinkle some of it all over the carpet and let it sit there for about half an hour. Finish by vacuuming up the baking soda.

4. You can remove salt residue and carpet stains by using a solution of 2/3 cup water and 1/3 white distilled vinegar. Use a sponge to apply the solution onto the stain and let it sit for 15 minutes. Afterwards, blot the spot using a dry towel. Start from the outside of the stain going inwards; this will stop the spread of the stain.
5. To wash the car windows, use a solution made of 1 cup white distilled vinegar and 3 cups water. Wipe off the excess but leave them damp and allow to air dry. This also helps prevent fogging and ice buildup.
6. Use linseed oil and vinegar to polish and condition the vinyl and leather components of your car. Boil the linseed oil in a pan. Allow it to cool down, and then mix in 1 cup distilled white vinegar. Dip a soft, lint-free cloth in the mixture to polish the leather. Use a soft cloth dipped in undiluted vinegar to buff chrome.
7. Grime stuck on your car's floor mats can be scrubbed off with a mixture of 2 cups ammonia and 1 gallon of hot soapy water.
8. Mix 1 cup baking soda and a gallon of hot soapy water to make a solution that can remove grime and salt from the body of your car. This can also help prevent rust. You can scrape off unwanted decals by pouring undiluted vinegar onto them and letting them soak for several minutes. Repeat if necessary.

Other Options: You can opt for waterless car wash when your car is not too dirty. Instead of a garden hose, use a water spray bottle and wipe off using a soft cloth. To reduce waste, do not use paper towels. Consider using microfiber towels since they rinse easily with only a small quantity of water.

C. Workshop Tools Cleaning

Owning a good selection of tools is a wise decision and a good investment. If you take pride in doing a good job, you will also enjoy

working with the best tools. And as long as you treat and maintain them properly, they will never need to be replaced.

Tools come in a variety of materials. The most common is steel, wood, and brass. Steel comprise the working parts that receive all the force and blows; wood makes up the handles and bodies of many tools; and brass is mainly used for supportive or decorative parts. Wood and metals have different treatments so, for cleaning, tools must be categorized by their materials instead of by their use.

Basic Cleaning: All old tools that have been unused for a long time only need superficial cleaning. Just dusting with a soft brush along with a vacuum cleaner will get rid of most dust. More stubborn dirt on varnished wood components can be eliminated using a damp cloth. This should not be applied to wood that appear to be unfinished since moisture could allow the dirt to get into the surface. You can use mineral spirits on a soft cloth to degrease metal parts.

Disassembly: Before attempting to clean, it is always best to disassemble a tool as much as possible. For example, before trying to remove rust from the steel blades of old planes you should remove the blades first from the wooden wedges that keeps them in place. The assessment of the condition of the wood in the wedges of old planes is quite difficult, so you should apply only light pressure to remove a blade. You need to remove the wedges with just slight finger pressure. If it is not enough, use a soft headed mallet to tap it lightly.

There are cases that disassembly can damage the tool so you need to make sure it is possible to detach the parts safely without employing excessive force. Always use the right tool for any job at hand.

Wood Parts: Linseed oil is the traditionally choice to maintain the wooden parts of tools in good condition. It forms a protective coating against moisture. A lot of the oil rubs off during use so there is no risk of oil build up that can darken and disfigure the wood component. But for unused tools, linseed oil can indeed build up so use white paste wax instead.

Metal Parts: If a steel part had a bright finish, try to bring back that state; if the part was black when new, do try to retain the same black color. Most of the time brass develops a stable surface after long use. The finish may not be bright, but since it is stable, there is no need for

further treatment. You need to avoid polishing brass parts since they will re-tarnish soon and will need further polishing. And consider also that once polished, their appearance may not be as attractive as you hoped; in fact, in some cases it was never the intention to have them brightly finished.

Storage: The tools' sharp edges must be protected. You need to lay your tools neatly. Do not pile them all together in a toolbox or in any closed space. Do not allow them to roll or bump each other when you open or close drawers where they are kept. Place a layer gripper mat or a soft, stable foam plastic made for tool boxes below the tools.

Tool kits are often sold with leather or fabric pouches specifically designed to fit the tools. Such pouches give adequate protection for the surfaces and edges of tools. However, when stored for a long time, the tools must be taken out and inspected from time to time to make sure that they are not being subjected to corrosion or molds.

D. Paint and other Chemical Problems

Most paints are flammable and are hazardous to human health and the environment. Traditional paints have three worrisome groups of chemicals, namely: volatile organic compounds (**VOCs,**) biocides and fungicides. Many paints may have toxic pigments too. VOCs act as the main solvent in paints with an oil base while they come as a component of water-based paints. Fungicide and biocide chemicals extend paint's shelf life and prevent the formation of mildew after application. Harmful ingredients include arsenic disulfide, formaldehyde, phenol and mercury. Paint with lead levels reaching more than 660 parts per million is now illegal in the US. However, homes that were painted up to the 1970s may still contain lead paint. These chemical toxins may cause developmental damage, reproductive toxicity and neurotoxicity.

When painting, an organic vapor cartridge can usually filter them out but a half or full face mask is usually sufficient to protect your lungs. However, you still need to wear gloves when you prep with chemicals or solvents, and never wash your hands using lacquer thinner. The porous nature of your skin will allow the absorption of chemicals into the bloodstream and long term exposure can lead to cancer. Some paint chemicals attack the nervous system too. Latex enamel paints used for

painting house interiors typically does not contain as many hazardous chemicals as the other types. However, for older houses that were originally painted with lead paint, chipping or sanding down paint may become a problem.

Dust particles from sanding paint can get into the lungs and aggravate respiratory system problems. Dust mask can reduce your exposure.

Disposal: Laws that regulate paint disposal exist. Some local governments even have programs that take harmful products from the people so these do not end up being deposited in landfills.

To reduce exposure to toxic substances contained in paints, look for super-low or zero-VOC paints and stains. Also, use paints with "biocide-free" labels and natural pigments. If your home was built before 1970, check your home and test the blood lead levels of our family members, especially the children. To reduce dust and chipping, paint over lead-based paint.



CHAPTER 11 – DRIVEWAYS, PATIOS AND BACKYARD

Many new homeowners who want to have outdoor improvements mistakenly regard them as projects worth doing on their spare time only. But the truth is, all those projects will become real parts of their property, even the house itself and will add to their property's value.

It is important to plan your outdoor improvements in such a way that they can stand up under the destructive power of wind, sun, snow and rain, as well as make sure your new driveway, patio, and backyard are as environmentally friendly as possible.

A. Driveway and Walkway Cleaning

Grease, oil or brake fluid spill on a porous surface like aggregate or concrete is easier to clean if you can deal with it before getting totally soaked into the surface. The following remedies are for still moist oil and for treating small spots. You can probably apply these treatments to bigger spills but you will perhaps need to use a stronger professional grade cleaner.

Mix well together a cup of sand or a cup of fine grain kitty litter with a box of baking soda. Sift the mixture over the surface of the problem spill. Let the mixture sit on the spill for about two hours. The mix should turn darker as it continues to absorb the oil.

After about two hours and you see that the mixture has absorbed the oil, or at least most of it, use your garden hose to spray it off with clear water. Mix several drops of liquid soap with one gallon of warm water,

and then slowly pour it over the spill area. Using a wire brush, scrub with light circular motions. Do not scrub too hard so as not to loosen some of the stones. Repeat the process until all the water is used up and the spill is gone. Blot the area gently with old cloths or rags but never apply too much pressure since any oil left will be pushed deep into the surface and will be absorbed and thus hard to get rid of.

For added protection for your concrete driveway against oil stains, get a shallow metal pan, such as a disposable backing pan, and fill its bottom with sawdust, or some similar absorbent material. Place the pan under your parked cars so it can catch any dripping oil. Replace the absorbent material as needed.

For asphalt driveways, you can clean it by using the same method for concrete driveways. You need to seal your asphalt every 2 to 3 years with an outdoor asphalt sealant to protect your driveway from decay. Ask your local hardware stores for their recommendation for the best sealant for your climate, region, etc.

If your brick or stone driveway is turning green because of mildew, you can scrub it using a long handled deck brush and one part bleach (try non-chlorinated bleach) to ten parts hot water. You can also try a mixture of baking soda, borax, and lemon juice. If there is moss growing along the edges, remove it by putting some non-chlorinated bleach in your watering can and filling it with water and then pouring it on to the paths. Another suggestion is to just pour boiling water onto them. To keep moss from sprouting in your stone or brick, you can put garden lime in between the cracks. Remember to wear a mask and gloves when you do this. Ordinarily, sweeping, blowing or pressure washing will be enough to keep your driveway clean.

Driveways made of gravel do not need frequent cleaning. What they do need is a good raking every so often to even out the gravel surface and to keep the top layers alternating with the bottom layers. Raking also turns the stones and hides dirt and oil drips. Remember to weed the edges in order to keep it always looking good. Also, do not forget to put a fresh layer of gravel on top every two years.

With today's modern lifestyle, driveways are considered an extension of the home. As such, there is certainly a need to keep them clean.

B. Outdoor Furniture Cleaning

In the past, cleaning outdoor furniture always involved steel brushes, dirty clothes and rolled up sleeves, and toxic cleaning chemicals. But there is an alternative, non-toxic, cheap and easy way to do the job: washing soda.

Washing soda or sodium carbonate is also called soda ash. You can get in the laundry section of any supermarket. As washing soda, it helps get your laundry clean but it has many other uses too such as neutralizing and eliminating odors.

Here below are some formulas you can use for cleaning your outdoor furniture.

Plastic Lawn Furniture cleaner: Dissolve half a cup washing soda in a one gallon bucket of hot water. Wear your gloves and with the use of a sponge, sprinkle the mixture onto the furniture and let it stand for about ten minutes. Afterwards, rinse with clear water. For tougher stains, repeat the process but leave the mixture on the plastic furniture for another extra ten minutes before rinsing.

Mold and mildew cushion cleaner: Mix two teaspoons tea tree oil and two cups water in a spray bottle. Before using the mixture on the entire item, do a spot test first to make sure it will not discolor the cushion. Spray the mixture on the cushions but don't rinse. The tree oil's smell and the mold will disappear in a few days. Tea tree oil is a broad spectrum fungicide which you can find in health food stores.

Cushion Cleaner: After killing the mildew and mold off the cushions, spot clean them by using the plastic lawn furniture cleaner featured above. Rinse thoroughly afterwards.

Wicker cleaner: Wicker outdoor furniture can be cleaned with a water hose or pressure washer. You only need to remove the cushions and spray off spills and dirt. You can use a sponge with mild soap and cold water to wash really dirty wicker furniture. Let the furniture to dry thoroughly afterwards and to keep it water resistant and shiny, apply paste wax to the frame. Weather-resistant wicker is easier to care for. During off-season, you need to keep frames covered and store cushions indoors.

Wooden outdoor furniture: You can use soapy water to clean wooden furniture coated with an exterior-grade varnish. Make sure to thoroughly rinse using clean water. However, remember that wooden furniture, with the exception of cedar and teak, must be kept indoors during winter.

Fabric outdoor furniture: Cloth chair and hammocks must be machine-washed using the gentle cycle. Add bleach substitute (look for the formula somewhere in this ebook) for white items and hang outside to dry. To prevent shrinkage of the material, stretch them back over the frame before the fabric becomes completely dry. Fabric furniture must be stored indoors during the winter season.

Umbrellas: Wash covers with a soft-bristled brush dipped into a mixture of cold water and mild soap. Lubricate the joints of a wire-frame umbrella with a spray lubricant. Apply paste wax on a wooden-frame umbrella to restore its shine.

Acrylic cushions: They have to be removed first from the frame before you clean them. Spot clean with a sponge dipped in a mixture of water and mild soap. Rinse thoroughly afterwards using clean water. To stop mildew formation, let them dry completely before storing or using. Some cushion types are already mildew-resistant, but if you have a problem with mildew, use the formula and method above for mold and mildew cushion cleaner. Do not wrap cushions in plastic for storage since it prevents the cushion from breathing and can cause mildew growth if moisture is trapped inside.

Resin furniture: Requires very little care. Spray dirt off using clean water and let it air dry. Use a gentle abrasive to remove scuff marks. Mildew can be removed using the formula and method above.

Aluminum, wrought iron and steel frames: Clean with mild soap and water. Most modern metal frames are manufactured rust-free or rust-resistant. If the furniture you have is not, you can apply naval jelly or paste wax to protect them from rusting or corroding.

C. Backyard Grill Cleaning

Outdoor parties are not complete without the grill. But in some cases, once the guests have taken a look at the grill, they might decide to go to the nearest fast-food joint instead. Cleaning grills is never an easy task.

Here is a cleaning process that is both simple and neat:

Soak the grills overnight in a pan containing a mixture of one to two cups washing soda and hot water. The pan should be large enough to accommodate the grill and the water should be able to cover the grills. The grime on the grill should come off easily the next day. Wash with water and soap, and rinse thoroughly.

Another way to clean a grill rack:

1. Using paper towels cover the rack and partially slide it into a plastic bag big enough to accommodate the rack.
2. Put ammonia in a spray bottle and with it saturate the paper towels. Close the bag and it leave overnight.
3. The next day, before opening the bag, make sure that you point it away from your face and you stand way back. Carefully open the bag and remove the paper towels. They will be dirty.
4. Use hot soapy water to wash the grill. Remember to heat the rack on the grill for approximately 5 minutes before using it again.

One more recipe for cleaning grill rack: Let the grill rack cool off first. When cool, wrap it with a sheet of heavy-duty aluminum foil, with the shiny side toward the rack. Put it inside a closed grill for about fifteen minutes to ½ hour on high heat. Allow to cool and carefully unwrap it. The burned-on food on the rack should come right off.



CHAPTER 12 – LAWN AND GARDEN

If you are going to put up your very own lawn and garden, you would want it to be lush and green. And the only way to achieve it is by having regular lawn and garden maintenance program. However, your lawn and garden may have all the features of the best ones in the world but if you do not get out and enjoy them, those features would not matter at all. Walking through your garden and playing in the lawn will give you the occasion to check and keep tab of what goes on there and what problems you and your loved ones are being exposed to, even as you enjoy being there. You need to stay on top of any maintenance issue so they will not take hold of your lawn and garden without you being aware of what is going on.

A. Lawn Mowers and Other Tools

Taking good care of your lawn and garden should not leave you with pains and aches after each time you work in them. The tools you use should help you enjoy your time maintaining and growing plants there instead of torturing you and giving you a bad time. Here are some pointers and tips on how your gardening tools can help you enjoy your time in the garden.

- Before you buy any tool you like, first practice the motions you'll be doing with that particular tool in your garden. It should let you keep your body in a position where you don't need to twist or bend uncomfortably. Make sure that the handle has the right length. The materials must not be too heavy for you and the tool grip must be comfortable to handle.

- Look for ergonomically designed tools, especially if you have arthritis or some other painful condition. A tool that does not comfortably fit your hand can cause extra pain and fatigue.
- Inform yourself about the store's return policy on tools before you purchase them. You should have the option to return a tool if it will turn out to be uncomfortable for you.

Choosing a Green Lawn Mower: Consider the following points:

- Reel lawn mowers have no emission issues
- Electric lawn mowers produce very little pollution
- Power-driven lawn mowers contributes to environmental damage

Lawns have green grass that needs maintenance. Keeping them trimmed to the right height needs the right mower to achieve.

Mowing your yard with a reel mower can save you a trip to the gym. It has no engines or batteries that require their own maintenance work and because they don't need gasoline, you don't have to store fuel in your garage and they don't generate any foul emission that contributes to air pollution.

Electric lawn mowers are best for small lawns and gardens. Indeed they do not produce any emissions during operations, but these mowers get their power from local electric plants that could be burning non-renewable fossil fuels. They are friendly in terms of air quality and they're quiet too. Some models come equipped with a grass catcher and mulch capabilities. They are lightweight and can be stored easily. Cordless electric mowers can be charged overnight and give you up to 40 minutes of mowing operations the following day.

While newer power-driven lawn mowers are more efficient, they still produce carbon monoxide and smog-forming chemicals. Such lawn mowers are not equipped with catalytic converters that treat the exhaust fumes before they are expelled and eliminate environment-damaging hydrocarbons, nitrogen oxides, and volatile organic compounds.

The US EPA is now working on legislation that would make the

installation of catalytic converters in lawn mowers compulsory.

Mowing Tips:

- The best time to mow is in the morning or evening.
- Know the recommended height of your particular grass type and follow it when mowing.
- Do not cut more than 1/3 of the grass blade length at any one time.
- Prevent grass lean by doing alternate mowing patterns.
- Mow as frequently as needed and let your grass clippings stay. A little amount of grass clippings will not harm your lawn.
- Never mow a wet lawn because this spreads contagious plant disease and can clog lawn mowers.

B. Fertilizer and Pesticides

Although fertilizers are necessary to have healthy lawn and garden, and they are supposed to nourish the plants in the soil, they are also capable of killing microbes, ruin soil structure and fend off useful earthworms.

Generally, fertilizers are applied when the plants are starting to grow and never on periods of dormancy. Your local nursery can give you advice regarding proper timing in your specific area. But whenever you need to fertilize, do not over do it as too much fertilizer can damage the grass. Excess fertilizer will just end up being wasted and washed away by rains and make their way to the water system, contributing to water pollution.

Natural Lawn Fertilizer: This type of fertilizer does not contain any chemical ingredients that could destroy vital microbes living in most plants. While chemical fertilizers can suppress plants from growing if not administered properly, organic lawn fertilizer can always help sustain plants to keep them vibrant and strong.

Other benefits of using organic lawn fertilizer include a more efficient release of available nutrients. Nutrients are dispersed slowly and more consistently to cover the entire area. This fertilizer also helps the grass resist disease because it improves the soil. It also assists in soil moisture retention, increase oxygen and water preservation capability of plants that results to the deepening of the grass' natural root system and help develop the density of the lawn that in turn, encourage soil movement.

C. Reducing Chemical Residues

The chemical fertilizers, pesticides and herbicides you apply on your garden are poisoning not only the soil and water in your garden but also the people in your neighborhood. The use of these dangerous chemicals is actually not necessary. You can take care of your lawn the natural way while reducing your pest and weed problems.

1. The best method to control weeds is to hand-dig them. Use your hands to remove annual weeds even before they seed, do not forget to take out the roots of perennials. An old fork or knife will do too.
2. Allow some weeds to grow and let beneficial plants to co-exist such as clover for its nitrogen-fixing properties.
3. Have your soil tested for ph, organic matter content and nutrients. The information will let you take steps to balance your soil's needs. The nutrient-holding capacity of the soil can be increased by more organic matter as well as improve water retention and aeration.
4. Get a step ahead of weeds by reseeding bare spots before they fill them in. Plant a mixture of grasses instead of a single variety to prevent total destruction of your lawn. Diseases can be selective and attack just one variety.
5. Aerate the lawn. This will encourage deeper rooting and will allow nutrients, water and organic matter to nourish the soil. Earthworms are excellent aerators. The presence of many worm holes means they are doing the job for you.

6. Remove thatch if it is more than half an inch thick. It prevents water, air and precious nutrients from going into the soil, and encourages almost all possible problems that could arise in having a lawn.
7. Mow the grass at the proper height - 2 ½ to 3 inches high. Cutting more than 1/3 of its height will make the grass go into shock. Always keep the blades of your mower sharp.
8. Use natural organic fertilizers. They provide long-term benefits and are not needed as frequently as chemical ones. They help improve the ability of the soil to retain and release nutrients.
9. Water more deeply & less frequently. Water your lawn only when soil has dried out down into the root zone. Water not absorbed quickly may be a sign that the soil is in need of aeration.
10. When you mow, leave the grass clippings. They start to decompose almost as soon as they are cut. Grass that is free from chemicals becomes natural fertilizer.
11. Control pests the natural way. Pesticides containing chemicals indiscriminately kill both pest and other beneficial insects and earthworms. They also deter birds that prey on pests.
12. Practice these green gardening steps to promote earthworms and micro-organisms presence in the soil. These will also allow birds and beneficial insect entry into your lawn.

Thus, above and below the soil, these steps will let reduce your lawn's dependence on chemicals and promote a healthier environment for your family and wildlife.

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