



Volunteer Leader Training Guide

Clean and Green

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Introduction

A clean house is more pleasant than a dirty one – it smells better and it looks better! It can also mean fewer health problems and accidents for you and your family members.

Using appropriate cleaning tools and supplies will do a better job, will save time and may cost less. Read labels on cleaning supplies and know the job each ingredient is best for. For example, alkalis are good grease removers, while acids can remove hard-water deposits.

Many commercial cleaners are expensive and can be duplicated with products commonly found at home. Products made at home are usually not as “strong” as commercial ones. Additional time or a little bit more elbow grease may be needed for the homemade product to clean efficiently. However, in return, you have just as clean a home without the hazards to the environment or to your health. Plus you can also involve children in helping you clean.

Objectives

After this lesson Extension Homemakers will:

- Understand the potential hazards of caustic cleaners.
- Understand the pros and cons of “green” cleaning products.
- Learn how to clean safer by creating homemade cleaners.
- Learn that homemade cleaning products are safer for me, the earth and won’t cost me a bundle!

Target Audiences

- EHC members
- People with chemical sensitivities
- Friends and family
- People with asthma and allergies
- People who raise children or who are pregnant
- People who want to live a healthier lifestyle
- People who care about the environment
- People who want to save money

Handouts

- Clean and Green, MP492
- Handout 1: Hazardous Household Cleaning Products
- Handout 2: Green Labels: Are They Worth It?
- Handout 3: Cost Comparison of Cleaners Handout
- Evaluation: Pre and Post (to be copied front and back)

How to Prepare/Short and Sweet Version

You can bring some cleaning products from your home as demonstration pieces, or you can have members bring one cleaning product from home if you are able to contact them before class.

For a visual, you can bring a green tool kit. (See **MP492, Clean and Green.**)

You do not need to go over this entire handout. You can just focus on building a green cleaning kit. (*Starting section is entitled Clean and Green – Your Own Homemade Cleaners.*) However, if you'd like to give highlights from the other sections (conventional cleaners and green cleaners) highlight the following:

1. Conventional products can harm our health and environment by polluting the air we breathe and the water we drink.
2. Most conventional products have not been tested for long-term safety. Many ingredients in conventional products are toxic and can impact your health by disrupting your hormones, your nervous system and/or inducing cancer.
3. Green products are better for your health and the environment. Look for the third-party seals to know you are getting a quality product. If there is no third-party seal, read the ingredients and see if they have information on their website. (There are some very high-quality products that don't have seals.)

Give **pre-evaluation** to participants.

Something to Think About

“Chemicals have replaced bacteria and viruses as the main threat to health. The diseases we are beginning to see as the major causes of death in the latter part of (the 1900s) and into the 21st century are diseases of chemical origin.” – *Dr. Dick Irwin, Toxicologist, Texas A&M University*

What's Wrong With Cleaning Products?

*(Ask participants how many use conventional cleaning products on a regular basis. Then ask them why they use them. Refer to Handout 1, **Hazardous Household Cleaning Products.**)*

There are many cleaning products on the market that have been used for years. Are they all safe to use just because they're on the shelf? Do you even think about that?

They're pretty effective at getting all sorts of problems off countertops, bathrooms and mirrors.

However, many household cleaners are hazardous. This means that ingredients can be corrosive, flammable or toxic. If we use these kinds of products over a long amount of time, it can not only impact our health, but also our environment.

Did You Know?

- It takes 26 seconds for chemicals to show up in our organs.
- 17,000 petrochemicals are available for home use. (Only 30% have been tested for human safety.)
- Of chemicals found in homes, 150 are linked to birth defects, allergies, cancer and psychological abnormalities.
- There are more than 75,000 chemicals licensed for commercial use.
- Very few of these chemicals were in our bodies or the environment 75 years ago.

Using hazardous materials, such as cleaning products, on a regular basis over a prolonged period of time poses risks to our health because fumes contaminate the air we breathe.

Hormone disruptors are chemicals that can interfere with the body's hormones and have negative effects on people and animals. Some negative effects that may occur include those on development, reproduction, immunity and the nervous system. Research shows that the greatest harm can be done when a woman is pregnant and right after the baby is born, when organs and nerves are developing. But other people are also at higher risk – those with respiratory problems, multiple chemical sensitivities, children and elderly people.

Using hazardous chemicals on an everyday basis pollutes our environment. Hazards get into our soil, our septic system, ground water and surface water. Our wastewater management system cannot handle the entire load that is going through it...so it ends up back in our homes and in our bodies when we drink water.

Read Labels

Every cleaning product will have a label on the back of the bottle. (*Ask participants to reach for the nearest product.*) The following (as you can see in the handout) lets you know how risky the product is: from “DANGER,” which means the product has extremely dangerous ingredients in it, down to “CAUTION,” which means the ingredients can have chemicals in it that will cause irritation.

- **Caution:** Hazardous chemicals are present. Moderate hazard. Reduce your use.
- **Warning:** Hazardous chemicals are present. Moderate hazard, stronger than “caution.” Drastically reduce use.
- **Poison:** Product is highly toxic. Do not use.
- **Danger:** Ingredients present are corrosive, flammable or highly toxic.

Household products can be expensive, especially if you use many specific types of cleaners. In today's economy, many families try to cut dollars in any way they can. Even a few dollars makes a difference.

So why do we continue using household cleaning products?

Many people never make the connection that products easily available on the market can be hazardous to us and our earth. But scientists are starting to discover better ways to clean our homes, and this is what I'd like to share with you today.

Household products can be VERY effective. They come in all types of very strong formulations and can clean up messes very fast. Oftentimes, people will choose a household cleaning product because there is a perception that it is "stronger" and more effective than anything else.

The convenience of readily-available household cleaning products is also nice to have. So there are many reasons why we use popular household cleaning products.

The "secret formulas" in chemical cleaners are just the ingredients in old folk recipes, except they're artificial.

How is acid in a lemon different from an artificial acid (except it doesn't have the health hazards).

Green? (Refer to Handout 2, **Green Labels: Are They Worth It?**)

There are more and more "green" labeled products coming onto the market. However, there are a few things to know if you want to purchase them.

Let's look at the **pros**.

- Truly "green" products are safer for humans and the environment than conventional products.
- They are less irritating.
- They are biodegradable, meaning less waste.
- They usually mean there was less energy and resources used to create the product.

The **cons** are that some of these products tend to be expensive, sometimes more expensive than conventional products. However, studies show that Americans would rather pay more if the product will leave less of a carbon footprint. Also the prices ARE starting to come down and even rival conventional products. There is no standard definition of what is safe, and although there may be safer ingredients in the product, by law, products do NOT have to label all the ingredients that are in the product. Although these products are SAFER, there is no guarantee they are completely safe. It is still important to keep them away from children and pets.

Beware of “Greenwashing”

As a consumer who wants to get more “green,” you will need to be aware of greenwashing. Greenwashing is a form of advertising that encourages consumers to buy their product because it is “green.” Sometimes the ads are legitimate, other times they are not. How can you know?

Be careful of vague labels.

Products do not need to have all ingredients listed; so the more that is disclosed on the product, the more confident you can be you are getting a legitimate product. Sometimes the product label won’t have much room, but they should have a website or other contact information where you should be able to do your research. If not, be suspicious. Words such as *vegan*, *nontoxic*, and *natural* don’t really mean anything because there are no standards. However, if you see the word *certified*, it means something because you can double-check to see paperwork for the labwork done. *Biodegradable* in itself has no meaning, but *certified biodegradable* does.

Sometimes companies lie.

You will need to do research to see how reputable a company is with its “greenness.” A simple Google search on the Internet should be all you need to find the information.

“Natural” doesn’t mean nontoxic.

If the product claims to be *natural*, it doesn’t mean it’s nontoxic. For example, arsenic is natural but you wouldn’t want to eat it. You wouldn’t want to breathe it in either because it can cause severe bodily damage. It’s a powerful toxin and endocrine disruptor. D-limonene is a natural ingredient in orange peels, but it is also a powerful solvent that can cause severe reactions in some people. Essential oils are natural but can cause skin irritations if not used properly.

Lesser of two evils

Look at the big picture and overlook the specific claims. Organic cigarettes may not have pesticides in them, but they’re still not safe to smoke. Chlorinated products may have “natural essential oils” in them, but chlorine is a dangerous toxin and pollutant.

Irrelevant

Some claims are downright irrelevant. For example, CFCs are popularly displayed on many aerosol products. This means there are no chlorofluorocarbons (which deplete the ozone and are highly toxic to the environment). However, CFCs were banned many years ago, so they would NOT be found in products. Finding this on a product is irrelevant.

What Can a Consumer Do?

You can read labels and do your research on a company, but the fastest way to get a good feel for the integrity of a product is to check for a third-party seal.

Third-party seals indicate standardization

- Standardized and third party
- Environmentally MORE preferable than conventional products
- Seals that indicate high standards:



Clean and Green – Your Own Homemade Cleaners

Making your own cleaning supplies is one alternative. Are they effective? Yes...they are effective, though you may need to put in a little bit more elbow grease or wait a little longer for cleaning. They are inexpensive and easy to make. Many of you have these supplies in your cupboards for eating and washing. Even if you don't, they are easily available, and you can mix them up in a jiffy.

What's in a Cleaner?

Take a look at the types of cleaners we ordinarily use when we purchase cleaning products. This will help us understand how to create our own cleaners.

Types of Cleaners (See MP492, **Clean and Green**.)

There are several types of cleaners. Knowing the basics will help you put together your own cleaning product without a recipe. *(The handout also has recipes if you're interested in those.)*

- Alkalis
- Acids
- Detergents
- Abrasives
- Sanitizers
- Spirit solvents

*(Discuss each type of cleaner using the chart on page 3 of **Green and Clean**. Be sure to discuss what it does, the conventional type of cleaner and the alternative cleaner. It would be great if you had examples of each one. Check with your FCS agent to see if there is a kit you can check out.)*

Basics of Homemade Cleaners

Refer to the MP492, **Clean and Green**, and discuss your basic green clean toolkit. You probably have many of these items in your house already, so feel free to bring them in to show others.

What You Need to Know Before You Start

Use mild cleaners first. Use harsher concoctions if mild cleanser won't do the job. This usually is applicable for the bases (alkalis/detergents) such as baking soda, borax and washing soda. Warm water always cleans better than cold.

- Baking soda:
 - Deodorizes, neutralizes acids, removes pesticides from produce, can be used as an alternative shampoo, scours, softens water.
- Washing soda/borax:
 - Like baking soda, but much stronger (be careful of inhaling). Borax is medium strength and washing soda is very strong.
- Castile soap:
 - This is a soap made from vegetable oil. Add it to the stronger cleaners to better lift off dirt.
- Vinegar:
 - Deodorizes, removes mineral deposits, cuts grease, removes mildew and mold; powerful bacteria reducer. You can also clean fruits and vegetables with vinegar. If you also add salt or hydrogen peroxide (but not together), the disinfecting power increases. Vinegar will clean up most bacteria. Adding tea tree oil to the vinegar will also boost its disinfecting power. You will need to leave the vinegar on the surface about 10 minutes to do a complete job of disinfecting.
- Tea tree, lavender and pine essential oils
 - Each are natural sanitizers/disinfectants and also help the homemade cleaner smell better. Other essential oils will help to add to the air freshening but will not disinfect.
- Lemon juice
 - Gets rid of bacteria (strong acid), deodorizer

Note of Caution: Never add anything to bleach, including vinegar or lemon juice. It will release a chemical called chlorine. One part per thousand is a large enough dose to be lethal.

Give **post-evaluation** to participants (on the back of pre-evaluation; no names are needed).

Resources

- University of Minnesota Cooperative Extension, Safe Home, Clean Earth: Background information on household hazardous products. <http://www.extension.umn.edu/distribution/naturalresources/components/6680b.html>
- University of Minnesota Cooperative Extension. What is a Household Hazardous Product? <http://www.extension.umn.edu/distribution/naturalresources/components/6680d.html>
- University of Georgia Extension. Cleaning Healthy, Cleaning Green. <http://www.fcs.uga.edu/ext/pubs/hace/HACE-E-73-2.pdf>

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- Minnesota Pollution Control Agency. How to Reduce Toxic Chemicals in Your Home. <http://156.98.19.245/toxics/index.html>
- University of Georgia Cooperative Extension. How to Prepare the “Green Cleaning – Recipes for a Healthy Home” Recipes. <http://www.fcs.uga.edu/ext/pubs/hace/HACE-E-73-1.pdf>
- The Vinegar Institute. <http://www.versatilevinegar.org>