Toxics in Your Home?
Look Under the Sink

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Objectives for Participants

- State two major reasons for switching to green cleaning products.
- Determine if the ingredients in a cleaning product are potential hazards.
- Demonstrate how to implement green cleaning in the home.
Today’s Topics

- Why make the switch from toxic to “green”? 
- What can you do? 
- Green cleaning 
- Breathe Easy While Cleaning Program
Common household cleaners contain hazardous ingredients?
True    False
Store Bought Cleaners

- Negatively impact:
  - Human Health
  - Environment
Many contain hazardous chemicals
  ▪ Corrosive
  ▪ Reactive
  ▪ Flammable
  ▪ Toxic

Produce fumes
Pollute air, water, land
Contribute to asthma, allergies
Possibly cancer-causing
Chemicals:

- > 80,000 chemicals registered
- Only 10% known health & environmental effects
- Traditional testing is for immediate health and safety effects; single chemicals
- Exposure to complex mixture of chemicals
Hidden Dangers

- Leave behind harmful residues
  - Can affect children & pets

- 7.3% of all toxic exposures reported were from an exposure to cleaning products
  (U.S. Poison Control, 2010)
  - More than half of those occurred to children 5 years old or younger.
Disinfecting

- Ammonia: Fumes irritating & corrosive
  - Damage to eyes, liver, kidneys, and lungs due to no ventilation or repeated exposure.

- Bleach: Corrosive
  - Can cause severe skin & eye irritation
  - Most accidental poisoning of children <6 years old

- Phenols
  - Found in spray, liquid, and wipe disinfectants
  - Corrosive to eye, skin

Bleach + Ammonia = toxic gas
Soap & Hot Water with mechanical action works for most situations.

If need to disinfect:
- Use least toxic disinfectant
- Use appropriately
Risk

Most toxic

- Chlorine (Bleach) /Sodium Hypochlorite
- Phenols (Disinfectants)
- Ammonia (Quaternary ammonia)
- Hydrogen Peroxide

Least toxic
What Can You Do?

Make an informed decision
What Can You Do?

- Purchase safer products
  - Read labels
  - Buy the least amount of product for the job
  - Avoid scented products
  - Avoid aerosols
  - Look at packaging
What to look for on labels

- Signal Words

![Image of a label with a warning]

PRECAUTIONARY STATEMENTS
Hazards to humans and domestic animals.

DANGEROUS CORROSIVE
May cause severe irritation or damage to skin, eyes, and lungs. Avoid prolonged use, wear gloves. Wash with soap and water. Wash hands after handling. Do not touch eyes, nose, or mouth with unclean hands. Do not use on sensitive skin. Do not use near direct sunlight. Do not use near food or drink. Do not use near pets or plants. Do not use near electrical appliances. Use in a well-ventilated area. FIRST AID: IF IN EYES: Rinse gently with water for 15 minutes. If on skin: Remove clothing and wash skin with soap and water. If swallowed: Call a poison control center or get medical advice immediately. Do not induce vomiting unless told to do so by a doctor. Do not give anything by mouth to an unconscious person.
<table>
<thead>
<tr>
<th>Danger Level</th>
<th>Signal Word</th>
<th>What the Product Label Means</th>
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<tbody>
<tr>
<td>MOST DANGEROUS</td>
<td>POISON</td>
<td>Highly Toxic</td>
</tr>
<tr>
<td></td>
<td>DANGER</td>
<td>Extremely flammable, corrosive or highly toxic</td>
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<tr>
<td></td>
<td>WARNING</td>
<td>Moderate Hazard</td>
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<tr>
<td>LEAST DANGEROUS</td>
<td>CAUTION</td>
<td>Mild or Moderate Hazard</td>
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What to look for on labels

- List of ingredients
  - Not required to list, but good ones do
  - May see a partial list without hazardous materials listed
  - Active ingredient
What to look for on labels

- Look for health effects
- Look for personal protective equipment (PPE) and disposal requirements
MSDS (Material Safety Data Sheet)

- Look for health effects
- Health Rating 0-1
- Ingredients – quaternary ammonia, phenol, chlorine
- Personal protective equipment (PPE)
- Where can you find a MSDS?
Section 1. Chemical Product and Company Identification

Product Name: GLANCE HC

Section 2. Composition and Information on Ingredients

Ingredients | CAS# | % by Weight | Exposure Limits | LC50/LD50
--- | --- | --- | --- | ---
Ammonium Hydroxide | 1336-21-8 | 1.5 | Not available | CAC(VI): 350 mg/kg (Rat)

Section 3. Hazards Identification

Exposure to this material may cause eye and skin irritation. In case of contact with eyes, flush with water for 15 minutes. In case of contact with skin, wash with soap and water.

Potential Acute Health Effects:
- Eye Irritation: May cause temporary damage to existing vision.
- Skin Irritation: May cause permanent damage.
- Inhalation: May cause respiratory irritation.

Medical Conditions: Prolonged contact with this material may affect the respiratory system.

Section 4. Technical Information (section II)

Section 1. Chemical Product and Company Identification

Product Name: GLANCE NON-AMMONIATED GLASS CLEANER

Section 2. Composition and Information on Ingredients

Ingredients | CAS# | % by Weight | Exposure Limits | LC50/LD50
--- | --- | --- | --- | ---
Ethyl Alcohol | 64-17-5 | 0-1 | OSHA United States, TWAC: 1500 mg/m³

Section 3. Hazards Identification

Exposure to this material may cause eye and skin irritation. In case of contact with eyes, flush with water for 15 minutes. In case of contact with skin, wash with soap and water.

Potential Acute Health Effects:
- Eye Irritation: May cause temporary damage to existing vision.
- Skin Irritation: May cause permanent damage.
- Inhalation: May cause respiratory irritation.

Medical Conditions: Prolonged contact with this material may affect the respiratory system.
What about greener or environmentally preferable products?
“Green” Cleaning

- Means using non-toxic or less toxic cleaning products
- Healthier for you & your family
- Better for the environment
Green Store-Bought Cleaners

- Safe – 3rd party certified
- Many found in health food stores
- More now available in grocery stores (consumer-driven)
  - E.g.: Seventh Generation, Dr. Bronner’s, Planet, others online.
  - (CT DPH & CT DEEP do not endorse any products or companies).
What to look for on labels

- Seals
  - Green Seal, Eco-Logo (3rd party certifiers)
- Logos
  - DfE
Look for products that are:

- Plant-based not petroleum-based
- Concentrated
- Pump-spray bottles
- Packaged in recycled content containers
Beware of Greenwashing!

- Natural
- Biodegradable
What Can You Do?

- Clean less 😊
- Make Your Own
Homemade Cleaners

- Naturally milder
- Many work as well or better
- May need more “muscle”
  - Hard to match dissolving power of toxic chemicals
- Safer around kids
Making Your Own Cleaners

- Can find most ingredients in grocery store
- Others found in health food stores & on-line
- Getting started/making transition may take extra time (mixing & labeling).

Start simple.
Shopping List

- Vinegar
- Borax
- Liquid soap (dishwashing liquid)
- Baking soda
- Scrub pads
- Spray bottles
- Measuring cups & spoons
- Microfiber cloths
All Purpose Cleaner

Pour:  3 tablespoons of vinegar
       1 teaspoon borax
       2 cups of water into a spray bottle.

Shake to dissolve.

Add 1 teaspoon liquid soap (or dishwashing liquid) to the bottle.

Shake again.

Spray on surface, wipe clean.

For tough dirt, leave cleaner on for a few minutes and then wipe off.
Label and Storage

All Purpose Cleaner

Pour 3 Tablespoons vinegar, 1 teaspoon cornstarch, 1 cup hot water into a spray bottle. Shake until dissolved. Then add 1 teaspoon liquid soap (dishwashing liquid) to the bottle and shake again. Spray on surface and then wipe down with a cloth. For tough dirt, leave cleaner on for a few minutes, then wipe off.

Avoid getting the cleaner in your eyes. Keep out of the reach of children.
**Cost**

- **If Homemade**
  - Products are one-tenth the store price
  - Don’t have to deal with as many type of cleaners

- **If Store Bought “Green”**
  - Typically slightly more expensive
Q: “I have been using bleach and ammonia for years and I haven’t had any problems. Why should I switch?”

A. Maybe none that you can notice
   - Chlorine Bleach is corrosive; Ammonia fumes are irritants and corrosive. Many are respiratory irritants.
   - Long term and cumulative effects; increased sensitivity
Q: “How can I make sure everything is disinfected if I change to less toxic cleaning products?”

A. Everything does not have to be disinfected. Your own family’s germs are the germs in the home. Only be concerned about disinfecting when someone is sick and then disinfect only in the “sick room.”
Making the Switch

- If you decide to “Go Green”:
  - Dispose toxic products properly
    - DO NOT throw in trash or dump down drain
    - Give to someone who won’t make the switch
    - Bring to Household Hazardous Waste Collections
      - Check town for HHW days
      - DEEP website: [www.ct.gov/deep/hhw](http://www.ct.gov/deep/hhw)
  - Store safely before disposing
Breathe Easy While Cleaning Program

- Display case and caddy
- Take Home Recipe Cards
- Pledge Forms
- Outreach Record Event
TOOLBOX DEMONSTRATION
The Cleaning Caddy

- Contains:
  - Spray bottles (labeled)
  - Measuring cups & spoons
  - Squeeze bottle (vinegar)
  - Dishwashing liquid
  - Borax
  - Box & shaker baking soda
  - Scrubbing brush
Display Case (borrow or make own)
  - Set up directions, content
Cleaning Caddy & checklist
Training Package:
  - Program Details
  - Sample Presentation Outline
Recipes for Healthy Cleaners

**All Purpose Cleaner** - Pour 3 Tablespoons vinegar, 1 teaspoon borax and 2 cups hot water into a spray bottle. Shake until dissolved. Then add 1 teaspoon liquid soap (or dishwashing liquid) to the bottle and shake it again. Spray on surface and then wipe clean. For tough dirt, leave cleaner on for a few minutes and then wipe off.

**Glass Cleaner** - Pour 2 Tablespoons of vinegar and 2 cups of water into a spray bottle. Add 2 drops of liquid soap (or dishwashing liquid) and shake to mix. Spray on glass and wipe with lint-free cloth. Dry off with a second lint-free cloth.

**Sink, Tub and Tile Cleaner** - Sprinkle on baking soda, rub with wet sponge or scrub cloth and rinse. For mineral deposits, soak a cloth in vinegar and leave it on the deposit for about an hour and then clean off area. For soap scum deposits, spread liquid soap or clarifying shampoo on the surface and leave it for about an hour. The deposits will be softened and then can be cleaned away with a scrub cloth or a brush. For mold or mildew, make a paste of borax and water and put it on the surface to be cleaned. Leave paste on the area for about an hour and then scrub it off.

**Toilet Bowl Cleaner** - Squirt vinegar from squeeze bottle under the rim. Pour about ½ cup borax into the toilet and use a toilet brush to clean the bowl. For mineral deposits, leave mixture in toilet for at least an hour. Then use the brush again to clean. Use the all-purpose cleaner and a sponge or scrub cloth to clean the seat and outside of the bowl.

**Oven Cleaner** - Make sure oven is turned off. Make a paste of baking soda and water and put on the sides and bottom of the oven. Let it set overnight. Scoop out baking soda and then wipe clean with damp cloth. Use scouring pad for tough spots.
Green Cleaning Pledge Card

Reducing Toxic Products in Your Home
I received a “Breathe Easy” healthy cleaners recipe card at the __________________________. (fill in date and event)
I will be trying out a healthier cleaner in the next month.
I understand that someone will get in touch with me to answer any questions I might have and to see how I like using the product.

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Breathe Easy Pledge

- Make the commitment to TRY at least 1 alternative non-toxic cleaners
  - Sign pledge
- Take recipe cards
- Be willing to follow-up
  - Call, email
- Bring hazardous cleaners to HHW
Marketing

- Distribute Recipe Cards
- Green Cleaning “Parties”
- Health Fairs
  - Community
  - Employee
  - Earth Day
- Parents Groups
Resources

- Household Alternatives for Reducing Toxic Products in Your Home
  www.ct.gov/dep/cwp/view.asp?a=2708&q=323956&depNav_GID=1646
- Indoor Air Quality (IAQ) House
  www.epa.gov/iaq/iaqhouse.html
- EPA Healthy Homes Booklet
  www.epa.gov/ne/healthyhomes/pdfs/healthyhomes.pdf
- Household Products Database
- Women's Voices for the Earth website
Contact Information

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GREEN CLEANING

Healthy & Better for the Environment