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

Store Bought Cleaning Products

- Many contain hazardous chemicals
  - Corrosive
  - Reactive
  - Flammable
  - Toxic
- Produce fumes
- Pollute air, water, land
- Contribute to asthma, allergies
- Possibly cancer-causing

Hidden Dangers

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

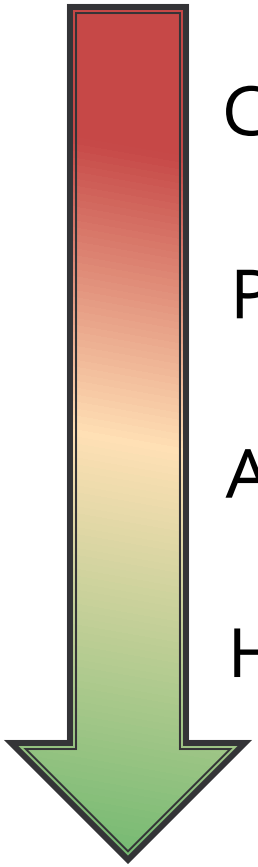
Disinfecting

- 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)

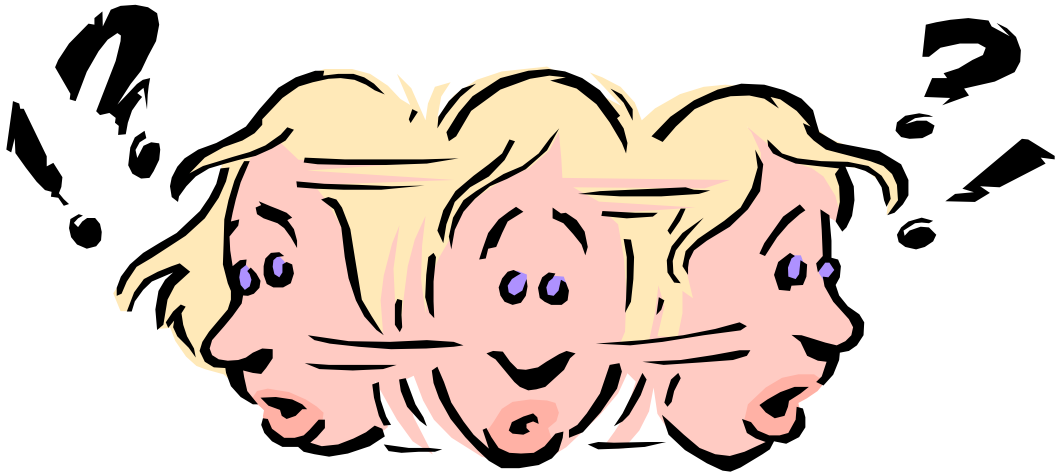
Ammonia (Quaternary ammonia)

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

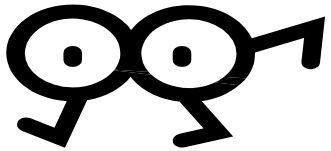
- Signal Words

Danger Level	Signal Word	What the Product Label Means
MOST DANGEROUS	**POISON**	Highly Toxic
	DANGER	Extremely flammable,corrosive or highly toxic
	WARNING	Moderate Hazard
LEAST DANGEROUS	CAUTION	Mild or Moderate Hazard

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

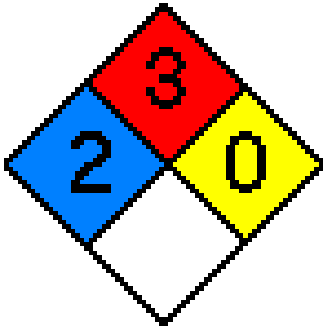
What to look for on labels



- 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?



JohnsonDiversey
Clean is just the beginning

Material Safety Data Sheet

GLANCE HC

National Fire Protection Association (NFPA)		Hazardous Material Information System (HMIS)	
Fire Hazard: 0		Health	3
Health: 3	Reactivity: 0	Fire Hazard	0
Specific Hazard		Reactivity	0

Protective Clothing 

Emergency Overview Clear Blue. Liquid. See Section 9.
DANGER. CORROSIVE. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED.

Section 1. Chemical Product and Company Identification

Product Name	GLANCE HC	**Code**	3063402 & 3165337 & 4967 & 5779
Product Use	Industrial/Institutional: Cleaning product. This product is intended to be diluted prior to use.	**PMS#**	3131938
MSDS#	114701001	**Validation Date**	7/29/2003
		Print Date	7/29/2003
		Supersedes	7/9/2003.
		In Case of Emergency	(800) 851-7145

U.S. Headquarters
JohnsonDiversey, Inc.
8310 16th Street
Sturtevant, Wisconsin 53177-0902
Phone: (800) 725-6737
MSDS Internet Address:
www.johnsondiversey.com

Canadian Headquarters
JohnsonDiversey - Canada, Inc.
2401 Bristol Circle
Oakville, Ontario L6H 6P1
Phone: 1-888-746-5971

Section 2. Composition and Information on Ingredients

Ingredients	CAS #	% by Weight	Exposure Limits	LC50/LD50
Ammonium Hydroxide	1336-21-6	1-5	Not available.	ORAL (LD50): Acute: 350 mg/kg [Rat].
Sodium Xylene Sulfonate	1300-72-7	1-5	Not available.	Not available.
Sodium Lauryl Sulfate	151-21-3	5-10	Not available.	ORAL (LD50): Acute: 1288 mg/kg [Rat]. DUST (LC50): Acute: >3900 mg/m³ 1 hour(s) [Rat].
2-Butoxyethanol	111-76-2	30-60	OSHA (United States). TWA: 120 mg/m³ ACGIH (United States). TWA: 97 mg/m³	ORAL (LD50): Acute: 506 mg/kg [Rat]. DERMAL (LD50): Acute: 406 mg/kg [Rabbit]. VAPOR (LC50): Acute: 450 ppm 4 hour(s) [Rat].
Water	7732-18-5	30-60	Not available.	Not available.

Section 3. Hazards Identification

Routes of Entry Inhalation. Skin contact. Eye contact.

Potential Acute Health Effects

Eyes Corrosive. May cause permanent damage including blindness.

Skin Corrosive. May cause permanent damage.

Inhalation May cause irritation and corrosive effects to nose, throat and respiratory tract.

Ingestion Corrosive. May cause burns to mouth, throat, and stomach.

Medical Conditions Aggravated by Overexposure: Persons with pre-existing skin disorders may be more susceptable to irritating effects. Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc., may be more susceptible to irritating effects.

See Toxicological Information (section 11)

Johnson wax PROFESSIONAL

Material Safety Data Sheet

GLANCE NON-AMMONIATED GLASS CLEANER

National Fire Protection Association (NFPA)		Hazardous Material Information System (HMIS)	
Fire Hazard: 0		Health	1
Health: 1	Reactivity: 0	Fire Hazard	0
Specific Hazard		Reactivity	0

Protective Clothing None required.

Emergency Overview Blue. Liquid. See Section 9.
CAUTION: May be mildly irritating to eyes. May be mildly irritating to skin.

Section 1. Chemical Product and Company Identification

Product Name	GLANCE NON-AMMONIATED GLASS CLEANER	**Code**	3172641 & 3361936
Product Use	Industrial/Institutional: Cleaning product.	**PMS#**	3191797
MSDS#	F-00424001	**Validation Date**	7/8/2004
		Print Date	7/8/2004
		Supersedes	9/24/2003
		In Case of Emergency	(800) 851-7145

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JohnsonDiversey - Canada, Inc.
2401 Bristol Circle
Oakville, Ontario L6H 6P1
Phone: 1-800-668-3131

Section 2. Composition and Information on Ingredients

Ingredients	CAS #	% by Weight	Exposure Limits	LC50/LD50
Ethyl Alcohol	64-17-5	0.1-1	**OSHA (United States).** TWA: 1900 mg/m³ **ACGIH (United States).** TWA: 1880 mg/m³	ORAL (LD50): Acute: 7060 mg/kg [Rat]. VAPOR (LC50): Acute: 20000 ppm 10 hour(s) [Rat].
Alcohol Ethoxylates	68439-46-3	1-5	Not available.	ORAL (LD50): Acute: 1378 mg/kg [Rat]. DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].
Sodium Lauryl Sulfate	151-21-3	1-5	Not available.	ORAL (LD50): Acute: 1288 mg/kg [Rat]. DUST (LC50): Acute: >3900 mg/m³ 1 hour(s) [Rat].
Sodium Lauryl Ether Sulfate	9004-82-4	1-5	Not available.	ORAL (LD50): Acute: 1600 mg/kg [Rat].
Water	7732-18-5	60-100	Not available.	Not available.

Section 3. Hazards Identification

Routes of Entry Inhalation. Skin contact. Eye contact.

Potential Acute Health Effects

Eyes May be mildly irritating to eyes.

Skin May be mildly irritating to skin.

Inhalation None known.

Ingestion None known.

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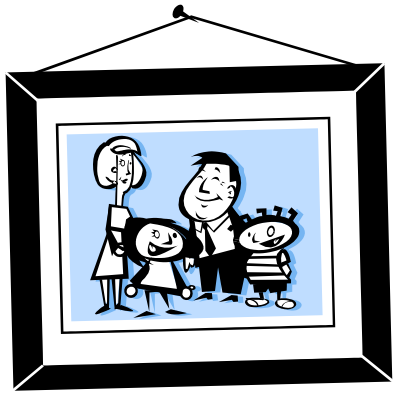
What about greener or environmentally preferable products?

"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

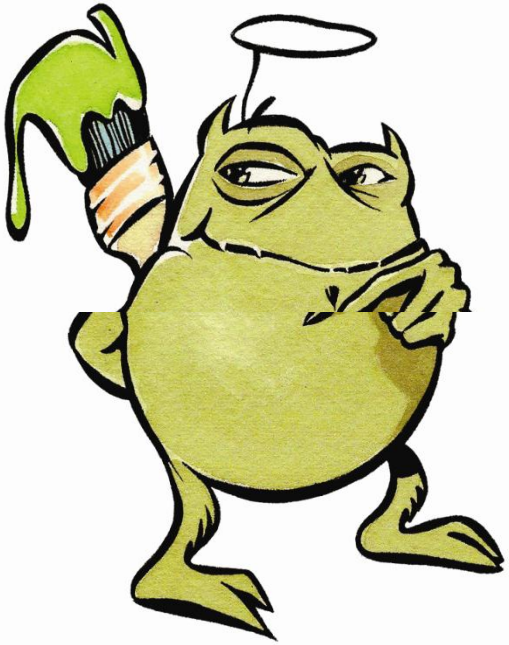
Environmental Impact

- Look for products that are:
  - Plant-based not petroleum-based
  - Concentrated
  - Pump-spray bottles
  - Packaged in recycled content containers

GREENWASHING

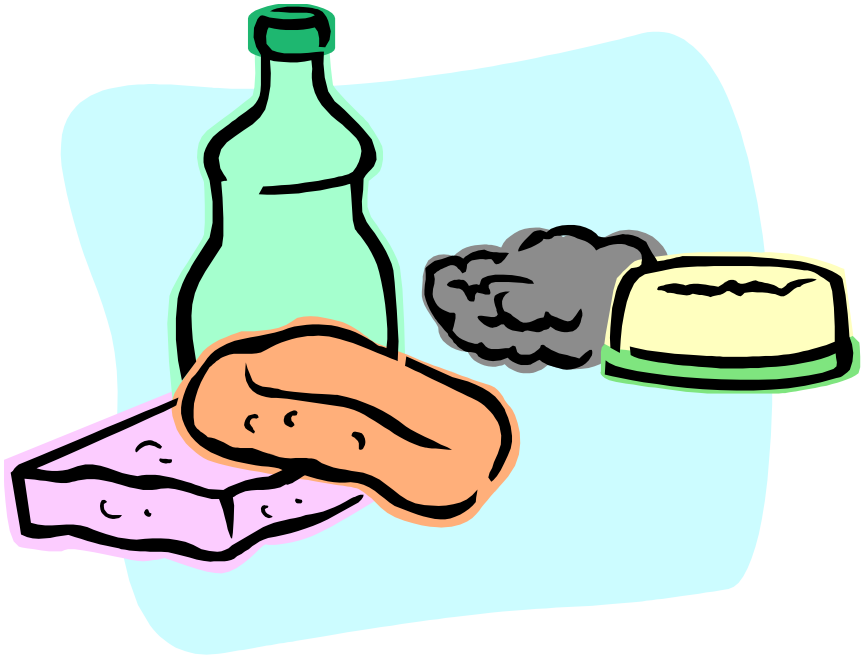
Beware of Greenwashing!

- 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

Recipes

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

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

Doubters

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

Doubters

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
    - 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

Breathe Easy While Cleaning Program

- Display Case (borrow or make own)
  - Set up directions, content
- Cleaning Caddy & checklist
- Training Package:
  - Program Details
  - Sample Presentation Outline

Breathe Easy Card- Recipes

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 $\frac{1}{2}$ 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)

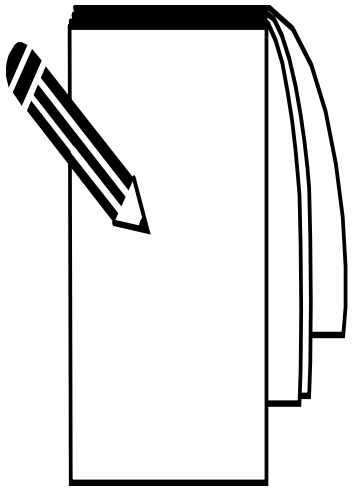
I will be trying out a healthier cleaner in the next month.

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.

NAME	STREET ADDRESSS	TOWN & ZIP CODE	BEST DAY TIME TELPHONE #	EMAIL

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



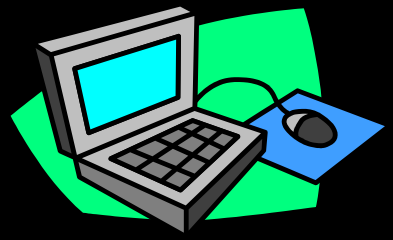
Marketing

- 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
  http://householdproducts.nlm.nih.gov
- Women's Voices for the Earth website
  http://www.womensvoices.org/making-products-safe/safe-cleaning-products/

Contact Information

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GREEN CLEANING

Healthy & Better for the Environment