

Toxics in Your Home?

Look Under the Sink

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You will learn

- Major reasons for switching to green cleaning and home improvement products.
- Ways to determine if the ingredients in a product are potential hazards.
- How to implement green cleaning and other alternatives in the home.



Common household products
contain hazardous ingredients?

True



False



Store Bought Household Products

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



Typical Products Found On the Workbench



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

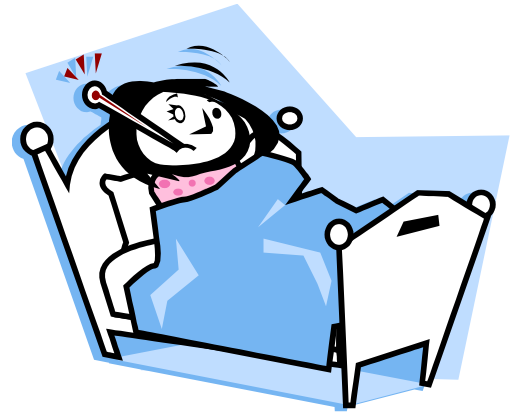


- Ammonia: Fumes irritating & corrosive
 - Damage to eyes, liver, kidneys, and lungs due to no ventilation or repeated exposure.
- Bleach: Corrosive
 - Can cause severe skin & eye irritation
 - Most accidental poisoning of children <6 years old

Bleach + Ammonia = toxic gas
- Phenols
 - Found in spray, liquid, and wipe disinfectants
 - Corrosive to eye, skin

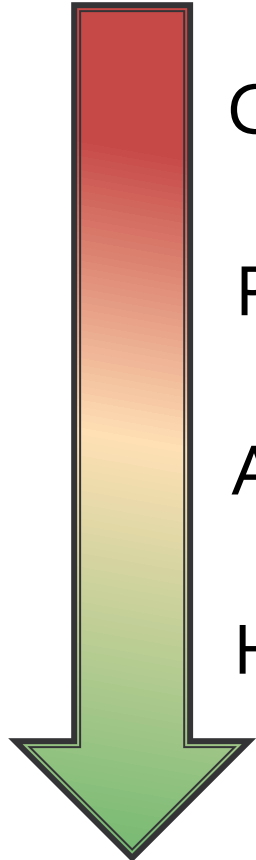
Disinfecting

- Soap & Hot Water with mechanical action works for most situations.
- If need to disinfect:
 - Use least toxic disinfectant
 - Use appropriately



Risk –toxicity of disinfectants

Most toxic



Chlorine (Bleach) /Sodium Hypochlorite

Phenols (Disinfectants)

Ammonia (Quaternary ammonia)

Hydrogen Peroxide

Least toxic

Hazards of Solvents

PRODUCTS:



- Oil-based paints
- Varnishes
- Lacquers
- Glues & adhesives
- Degreasing/cleaning agents
- Spot removers
- Paint thinners and strippers
- Pesticides (insecticides, fungicides)

HEALTH HAZARDS

- Eye and skin irritant
- Headaches, nausea, dizziness
- Coughing, shortness of breath, asthma

- Repeated exposure may result in kidney, liver, lung, or nervous system damage
- Known carcinogen, mutagen, and teratogen

Chemical: Organic Solvents

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



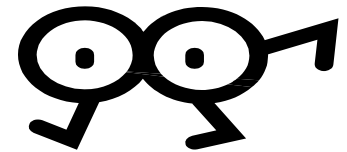
Danger Level	Signal Word	What the Product Label Means
MOST DANGEROUS	POISON	Highly Toxic
↓	DANGER	Extremely flammable, corrosive or highly toxic
	WARNING	Moderate Hazard
LEAST DANGEROUS	CAUTION	Mild or Moderate Hazard

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

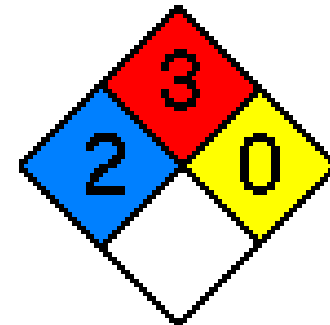
What to look for on labels

- Look for
 - Health effects
 - Personal protective equipment (PPE) and disposal requirements



MSDS (Material Safety Data Sheet)

- List health effects
- Health Rating 0-1
- Ingredients – quaternary ammonia, phenol, chlorine
- Personal protective equipment (PPE)
- Where can you find a MSDS?



GLANCE HC

National Fire Protection Association (NFPA)		Fire Hazard	Hazardous Material Information System (HMIS)	Health	3
				Fire Hazard	0
				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
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
		Print Date	7/29/2003
		Supersedes	7/9/2003.
		In Case of Emergency	(800) 851-7145

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 Lauryl Sulfate	1330-72-7 151-21-3	1-5 5-10	Not available. Not available.	Not available. ORAL (LD50): Acute: 1288 mg/kg [Rat]. DUST (LC50): Acute: >3900 mg/m ³ 1 hour(s) [Rat].
2-Butoxyethanol	111-76-2	30-60	OSHA (United States). TWA: 120 mg/m ³ ACGIH (United States). TWA: 97 mg/m ³	ORAL (LD50): Acute: 506 mg/kg [Rat]. DERMAL (LD50): Acute: 406 mg/kg [Rabbit]. VAPOR (LC50): Acute: 460 ppm 4 hour(s) [Rat]. Not available.
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	<i>Eyes</i> Corrosive. May cause permanent damage including blindness. <i>Skin</i> Corrosive. May cause permanent damage. <i>Inhalation</i> May cause irritation and corrosive effects to nose, throat and respiratory tract. <i>Ingestion</i> Corrosive. May cause burns to mouth, throat, and stomach.
Medical Conditions	Persons with pre-existing skin disorders may be more susceptible 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)	

GLANCE NON-AMMONIATED GLASS CLEANER

National Fire Protection Association (NFPA)		Fire Hazard	Hazardous Material Information System (HMIS)	Health	1
				Fire Hazard	0
				Reactivity	0
Protective Clothing			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
U.S. Headquarters	JohnsonDiversey, Inc. 8310 16th Street Sturtevant, Wisconsin 53177-0902 Phone: (888) 352-2249 MSDS Internet Address: www.johnsondiversey.com	Canadian Headquarters	JohnsonDiversey - Canada, Inc. 2401 Bristol Circle Oakville, Ontario L6H 6P1 Phone: 1-800-668-3131
		Print Date	7/8/2004
		Supersedes	9/24/2003
		In Case of Emergency	(800) 851-7145

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/m ³ ACGIH (United States). TWA: 1880 mg/m ³	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/m ³ 1 hour(s) [Rat].
Sodium Lauryl Ether Sulfate	9004-82-4	1-5	Not available.	ORAL (LD50): Acute: 1600 mg/kg [Rat]. Not available.
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	<i>Eyes</i> May be mildly irritating to eyes. <i>Skin</i> May be mildly irritating to skin. <i>Inhalation</i> None known. <i>Ingestion</i> None known.

Use Safe Methods to Minimize Exposure

- Ventilate area
- Use a drip tray to eliminate spills
- Use Personal Protective Equipment (PPE) – gloves, eye wear
- Read and follow label directions



Proper Storage at Home

- *Leave products in their original container with label.*
- Store on high shelves or locked cabinets.
- Keep containers dry to prevent corrosion.
- Tightly seal anything with vapors or fumes, including rags used with flammable products.



What else can I do?

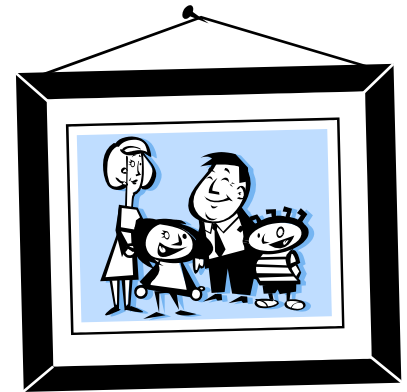
Try green cleaning!



“Green” Cleaning



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



Green Store-Bought Cleaners

- Safer – 3rd party certified or Design for the Environment
- Many found in health food stores
- More now available in grocery stores (consumer-driven)
 - e.g., Seventh Generation, Dr. Bronner's, Planet (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



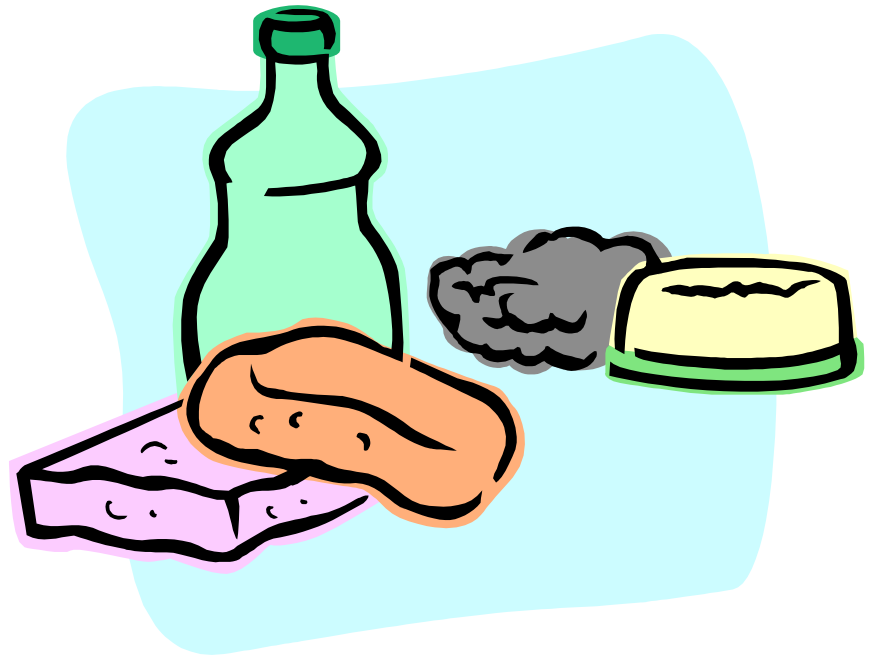
Beware of GREENWASHING

- Greenwashing means misleading consumers about the environmental practices of a company or the environmental benefits of a product or service.
- Look for quantifiable claims, not vague, feel-good terms. (e.g., phosphate-free rather than environmentally-safe)



What Can You Do?

- Clean less 😊
- Make Your Own



Homemade Cleaners

- Naturally milder
- Many work as well or better
- Some 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.

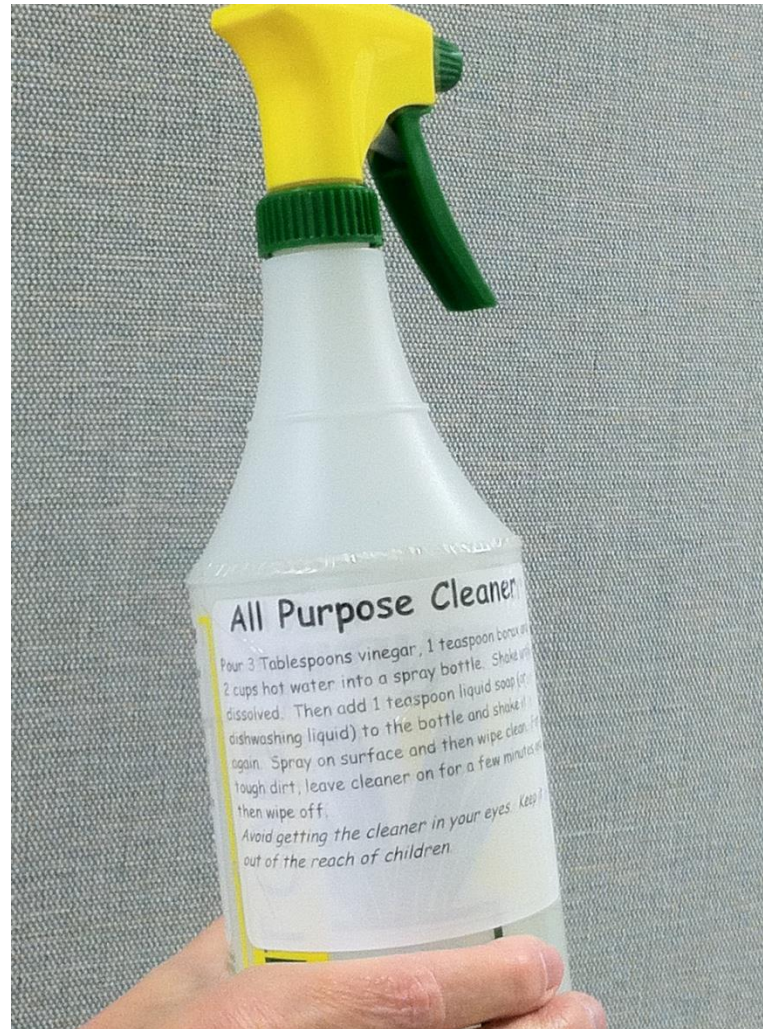
Add 1 teaspoon liquid soap (or dishwashing liquid) to the bottle.

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



Have some questions?

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

Other questions you may have

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.”

Proper Disposal

- *Do not* throw it out or dump down drain!
- Give to someone who won't make the switch.
- Ask your retailer if they recycle or take back materials like used oil or paint.
- Check to see what your town accepts at the transfer station.
- Bring unwanted products to a Household Hazardous Waste Collection Day.

www.ct.gov/deep/hhw



Breathe Easy Recipe Card

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.



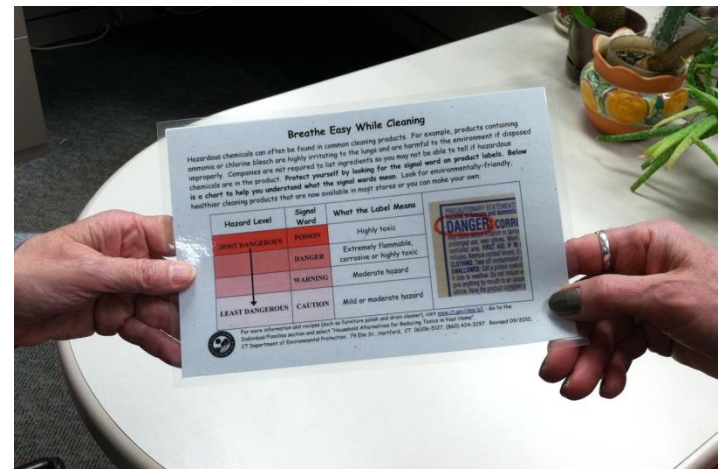
The Cleaning Caddy

- Contains:
 - Spray bottles (labeled)
 - Measuring cups & spoons
 - Squeeze bottle (vinegar)
 - Dishwashing liquid
 - Borax
 - Box & shaker baking soda
 - Scrubbing brush

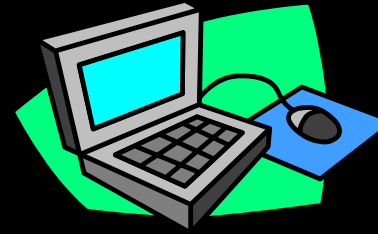


Breathe Easy Pledge

- Make the commitment to TRY at least **1** alternative non-toxic cleaner
 - Sign pledge
- Take recipe card
- Agree to follow-up
 - Call, email
- Bring hazardous cleaners to HHW collection



Resources



- Household Alternatives for Reducing Toxic Products in Your Home
www.ct.gov/deep/greencleaning
- 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
<http://womensvoices.org/making-products-safe/safe-cleaning-products/>

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