

Make Your Own Clean & Simple Household Cleaners

Recipes used in Washington Sea Grant Clean & Simple workshops.

All-Purpose Cleaner

- 32-oz spray bottle
- 3½ cups warm water
- 2 tbsp distilled white vinegar
- 1 tsp borax
- ¼ cup castile soap

Glass Cleaner

- 16-oz spray bottle
- 1½ cups warm water
- 4 tbsp distilled white vinegar
- 2 tbsp lemon juice

Disinfectant

- 16-oz spray bottle
- 1½ cups warm water
- 2 tbsp distilled white vinegar
- 1 tsp borax

Cleanser

- 1 cup baking soda
- 5-10 drops essential oil of any scent (optional)

Sprinkle on surface; scrub with wet sponge; rinse well with water

Unclogging Drains

- Try mechanical methods, such as using a small plunger or a plumber's snake

or

- pour ½ cup baking soda into drain, add ½ cup white vinegar, let stand for 20 minutes then add a full kettle of boiling water. **Do not** use baking soda and vinegar after using a commercial drain cleaner.

Useful Resources

Emergency poison contacts

For a life-threatening emergency call 911
Washington Poison Center 1.800.222.1222

Agency for Toxic Substances and Disease Registry

Information about specific ingredients of concern in household products: www.atsdr.cdc.gov/toxfaqs/index.asp

Washington Sea Grant

Information about water quality and the marine environment: www.wsg.washington.edu or 360.432.3054

Hazardous Waste Substances and Education Office

Information about a safer and healthier home, school, workplace and community: www.ecy.gov/hsieo/index.html

Further reading

Control of Toxic Chemicals in Puget Sound: Assessment of Selected Toxic Chemicals in the Puget Sound Basin, 2007-2011, Washington State Department of Ecology and King County Department of Natural Resources, Publication Number 11-03-055, www.ecy.wa.gov/biblio/1103055.html



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Contaminants in Puget Sound are a growing concern. Heavy metals like mercury, copper and lead are known to have neurological, developmental and reproductive effects on wildlife and humans. Organic chemicals such as polycyclic aromatic hydrocarbons (PAHs), phthalates and polybrominated diphenyl ethers (PBDEs) can build up in marine animals, causing harm to salmon, English sole, harbor seals, orcas and other animals.

Cleaning products may not be responsible for the majority of contaminants in Puget Sound but they do contribute to pollution problems. Understanding the level of toxicity in household cleaning products and using non-toxic cleaners suggested in the Clean and Simple workshop will help reduce the amount of chemicals that contaminate our local waters.

How Do Household Cleaning Products Get into Puget Sound?

Cleaning products can move from the home into Puget Sound in at least two ways:

- **Through stormwater runoff.** Improper use or disposal of cleaning products can enter storm drainage systems and receiving waters when it rains.
- **Through sewage effluent.** Even wastewater that has been treated by an on-site septic system or municipal sewage treatment plant can carry chemicals into Puget Sound.

Household Cleaners and Human Health

What we use to clean our homes may not be so clean after all.

Did you know? According to the American Association of Poison Control Centers, in 2009 there were 212,616 poisonings from household cleaners in the United States, making household cleaners the third highest cause of poisonings in the home.

Remember: Never mix chlorine-based cleaners (such as bleach) with acidic cleaners (such as vinegar or ammonia). Combining these chemicals will produce a highly toxic chloramine gas.

Choosing Less-Toxic Household Cleaning Products

Check the label for signal words. Signal words found on product labels can tell us how hazardous that product may be.

Signal Word	Meaning and Properties	Example Product
“Poison” or “Danger”	Highly toxic, flammable or corrosive	<ul style="list-style-type: none">• Drain cleaners• Oven cleaners• Paint thinners
“Warning”	Moderately toxic or flammable	<ul style="list-style-type: none">• Toilet bowl cleaners• Bleach• All-purpose cleaners
“Caution”	Slightly toxic or a mild irritant	<ul style="list-style-type: none">• Window cleaners• Dishwasher soap

Household Cleaning Products and Puget Sound

Common household cleaning products may also contribute to Puget Sound contamination. For example:

Formaldehyde — found in antiseptics and some cleaners. An irritant at low-level exposures; studies have linked household use of this chemical to asthma, allergies, respiratory problems and hypersensitivity.

Sodium hypochlorite — commonly found in bleach and corrosive products such as drain cleaners. It can contribute to pipe lining corrosion and septic system damage if used in excessive amounts. Household use has been linked to hypersensitivity, allergies and asthma.

Sodium hydroxide — also known as lye, is present in many drain and oven cleaners and can damage human tissue, corrode pipe linings, release lead and harm septic system components.

Phthalates — additives in plastics, food packaging, hoses and personal care items such as soaps and shampoos. Phthalates have been shown to disrupt testosterone levels and cause other reproductive issues in animals.

Phenols — used in various forms as surfactants, compounds that may act as detergents, emulsifiers, foaming agents and dispersants. Widely found in marine environments, these chemicals can harm the endocrine systems of fish. Studies have found phenols can hinder PAH (a contaminant from oil spills) degradation in marine waters. Phenols are flammable and can be toxic to humans at higher concentrations.



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