



Title Slide



We are going to take a closer look at what's inside the bottle, how to determine if your cleaning products are safe, what potential health impacts are, and how to make more informed decision about purchasing and alternatives moving forward, We'll focus on environmentally safe, homemade recipes for cleaning products that are safe to use around the home with no harmful side effects.

- As an organization, we start and end with a focus on healthy water **and** land.

-Where **does our water** come from?


-Where does it go **after we use it...**

-What happens to it along the way...

It's all about the River!



Our mission and focus



Our watershed Friendly living
programs aim to help
homeowners to change their
practices and **behaviors** to make a
difference for the health of the
watershed.



Dangers in the home come primarily from household cleaners, paints and solvents, lawn and garden care products, automotive products, pool chemicals, and health and beauty aids.

Read more: <http://www.pollutionissues.com/Ho-Li/Household-Pollutants.html#ixzz5gle0jtgc>

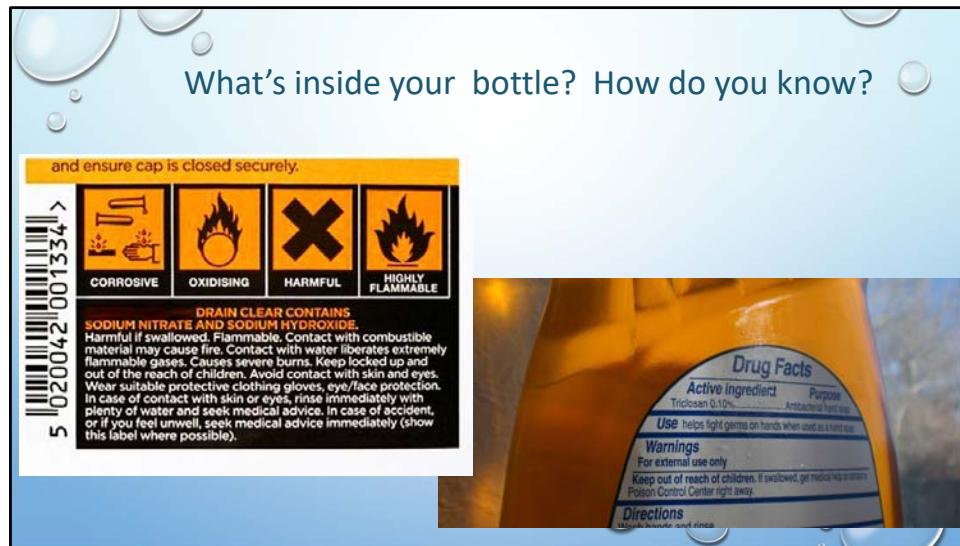
Take a look... What's under your kitchen sink?



If you take a look under the typical kitchen sink, you'll find an assortment of cleaning products hanging around there. Those products mostly fall into broad groups based on their mode of action. Before we dive into the ingredients, let's also look at the containers themselves...



Check your plastic cleaning products bottles. Look at the base. Only No 1 and No 2 bottles are currently recyclable. Make the switch away from products in bottles that are not recyclable. Our research and testing is finding that plastic entering the environment, for example as escaped trash or recycling, then breaks down into micro-plastic in the river. Many plastics are not currently recycled although they may state that they are recyclable. The trigger and hose are not. There are many ways to be eco friendly:



It can be hard to find out exactly what's in the bottle in your hand. Words like green, naturally derived and natural can be misleading and the absence of mandated full ingredient lists make things tougher. Understanding the classes of cleaning compounds can help you to know what chemicals might be present in the cleaning product you own or are considering buying, and whether it is likely to contain chemicals or compounds that you should be wary of.



Compare two products- Those with simple ingredients tend to announce the fact. Product on the right is made with plant-based ingredients, natural essential oils and birch bark extract, and a full listing of ingredients below for the chemists.

Product on the left has fragrance, stabilizers, emulsifier, corrosion inhibitor, propellant, however, the can is recyclable, and the factory uses renewable energy.... Wait, what about what's in the product?



EPA safer choice is a label that has some traction behind it- the EPA follows up on the ingredients listed in products that bear their seal. Terminology is tricky “**Active ingredients**” in cleaning products are usually antimicrobial pesticides
Biodegradable is an unregulated term-some biodegrade harmlessly- other compounds breakdown products
 nonylphenol ethoxylates, chemicals once common in laundry detergents and other cleaners, break down into hormone disrupting chemicals, so while the initial ingredient may be safe, the products are not.

What are the environmental problems cleaners pose?

- TOXIC FOR HUMANS AND ECOSYSTEM
- PERSISTENT IN ENVIRONMENT
- UNINTENDED HEALTH IMPACTS



In general terms, the problems that household cleaners cause are through:
direct exposure during the cleaning process by irritating or causing allergenic reactions.
They may be toxic for humans or the ecosystem if ingested,
Their compositional chemicals may persist in the environment either in the home or in water bodies.
They can cause health impacts such as mimicking the bodies own chemicals, disrupting hormone cycles, causing cancer or other toxicological problems,
by causing unintended additive impacts in the mixing of products that occurs in waste water systems,
and by introducing non-natural materials into the environment.
The top nasties include corrosive drain cleaners, oven cleaners, and acidic toilet bowl cleaners, along with fabric protectants.



Waste stream goes to septic or wastewater treatment plant. Mixing of chemicals. Waster water treatment plants don't remove all chemicals in cleaners – they drain to river lake or other water body. Idea that dilution is the solution. Ozone and UV break long chain molecules down into shorter- sometimes harmless compounds , sometimes not. Water treatment plant removes these chemicals at better levels to meet higher drinking water standards.

SURFACTANTS


- Lower surface tension between two liquids or a liquid and a solid
- Usually act as detergents, wetting agents by breaking up fats into tiny drops and dispersing.
- Whitening agents, optical brighteners, enzymes and perfumes are typically added as well

The image shows a white plastic bottle of 'Oil Eater Cleaner Degreaser' with a red and blue label. To the right of the bottle is a square inset showing a close-up of many small, iridescent soap bubbles. The entire slide has a light blue background with several larger, stylized water droplets scattered around the central content.

Surfactants- these compounds lower the [surface tension](#) between two liquids or between a liquid and a solid. Think of adding a drop of detergent to an oily pans. Surfactants may act as [detergents](#), [wetting](#) agents, they can break fats up into tiny drops and [dispersants](#). Whitening agents, optical brighteners, enzymes and perfumes are typically present.



Abrasives- Abrasive cleaners are designed to provide some built in elbow grease to reduce the amount of scrubbing required. The abrasive ingredient can be provided by inert materials such as metal particles, minerals such as quartz, feldspar, silica or calcite, or even plastic or metal fragments or granules. The abrasive cleaners clean and polish and surfactants remove oily films on solid surfaces without scratching too much.



Send a can of Lysol to camp this summer.

Lysol Disinfectant Spray kills household germs, including germs that cause odors.

DISINFECTANTS AND ANTIMICROBIALS

- Contain antimicrobial agents such as pine oil, sodium hypochlorite, quaternary ammonium compounds or phenols
- Bleach and triclosan are other chemicals often added to cleaners for this effect
- Most contain surfactants and builders to help remove soil as well as killing germs.
- May 2002 study of contaminants in stream water -66% contained disinfectants
- Persistent

Disinfectants and Antimicrobials- Disinfectants contain antimicrobial agents, such as pine oil, sodium hypochlorite, quaternary ammonium compounds or phenols, which kill bacteria and viruses on surfaces.

Bleach and triclosan are other chemicals added to cleaners for their anti-microbial effect .

A surface needs to be free of heavy soil for effective disinfection.

Disinfectant cleaners contain surfactants and builders to remove soil in addition to antimicrobial agents to kill germs. Therefore, they are effective at cleaning surfaces as well as killing germs.

LYSING CELLS IS WHAT KILLS BACTERIA IN SIMPLEST WAY. Main water quality impacts are continuing action in water bodies, and secondary products produced by chemical breakdown

May 2002 study of contaminants in stream water samples across the country the us Geological survey found persistent detergent metabolites in 69% of streams tested- 66% contained disinfectants

BLEACHES

- Often contain harsh fragrances to cover the bleaching agent
- Bleaches usually contain sodium hypochlorite or hydrogen peroxide if they are non-chlorine
- Troublesome combinations

Ammonia + Bleach =

Bleaches – Bleaches contain sodium hypochlorite, or hydrogen peroxide if they are non-chlorine bleach. Bleaches remove stains, brightening surfaces in addition to disinfecting by killing all bacteria, viruses and fungi. They often contain harsh fragrances to mask the strong smell of the bleaching agent, optical whiteners and thickening agents. Water quality problems in part when they mix with other cleaning products in sewers and water treatment plants.



MINERAL STAIN AND HARD WATER SPOT REMOVERS

- Contain acids, such as citric, oxalic, sulphamic or hydroxyacetic acid, to dissolve minerals, limescale and rust.

Mineral stain and hard water spot removers.

Water hardness is caused by the presence of dissolved mineral salts, such as those of calcium, magnesium, iron and manganese that occur in water. When hard water evaporates, a mineral deposit is left. Hard water mineral removers contain acids, such as citric, oxalic, sulphamic or hydroxyacetic acid, to dissolve minerals, limescale and rust. Some include surfactants to aid in cleaning and organic solvents to help remove soap scum.

Mineral removers are effective where mineral deposits are visible around faucets, shower doors, and in tea kettles, humidifiers and toilet bowls. Their regular use helps prevent mineral deposit build-up- BECAUSE THEY ARE ACIDS THEY ARE OFTEN SKIN AND MUCOUS MEMBRANE IRRITANTS and can have strong irritant effect if they come in contact with the skin.

Acids change pH and can cause problems in pipes, and by changing pH in concentrated wastewater streams.

THE CHEMISTRY OF STAIN REMOVAL

A number of substances can stain clothes or furnishings, and some can be stubborn to remove. A range of chemicals can help do the job, varying depending on the type of stain. Stains will often have more than one characteristic, meaning a mix of these agents is often used to facilitate their removal.

ENZYMATIC STAINS	OXIDIZABLE STAINS	GREASY STAINS	PARTICULATE STAINS
Blood, grass, chocolate	Tea, coffee, red wine	Oil, butter, grease, butter	Spills, mud, dirt
ENZYMES	BLEACHES	SURFACTANTS	BUILDERS
<p>Enzymes are biological catalysts that speed up chemical reactions. They are made of proteins and are found in all living organisms. In stain removal, enzymes break down the chemical structure of the stain, making it easier to wash away.</p> <p>Common enzymes used in stain removers include amylase (breaks down starch), protease (breaks down protein), and lipase (breaks down fat).</p>	<p>Bleaches are chemicals that remove color from stains. They work by breaking down the chemical structure of the stain, making it colorless. Common bleaches used in stain removers include hydrogen peroxide and sodium hypochlorite.</p> <p>Bleaches can be harsh on fabrics and can cause discoloration if used incorrectly. Always follow the instructions carefully.</p>	<p>Surfactants are chemicals that help break down grease and oil. They have a hydrophilic (water-loving) head and a hydrophobic (water-fearing) tail. The hydrophobic tail attaches to the grease, while the hydrophilic head allows it to be washed away with water.</p> <p>Surfactants are commonly found in dish soap and laundry detergent.</p>	<p>Builders are chemicals that help soften water. They help to break down the mineral content in hard water, making it easier for the detergent to work. Common builders used in stain removers include sodium carbonate and zeolites.</p> <p>Builders can be harsh on the environment, so look for eco-friendly alternatives.</p>

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SPECIALIZED STAIN REMOVERS

- Often contain enzymes
- hazardous to human health
- Can have unintended effects in the environment where they can persist
- Organic biomolecules

Often enzyme containing- enzymes can be harsh irritants or asthma triggers and can have unintended effects in the environment where they can persist. Organic biomolecules



How do **YOU**
clean stubborn spots
off floors?

POLISHES

- Made up of waxes and oils and usually a degreasing agent
- Often produced from petroleum distillates or other hydrocarbon chains
- Can also be silicone-based (persistent)

Include waxes and oils along with degreasing agent- create non greasy shine... May often be produced from petroleum distillates or other hydrocarbon chains.

Petroleum based products can be highly ignitable; toxic in nature; carcinogen; irritate skin, eyes, nose, throat and lungs

Silicone products- silicone very persistent

FRAGRANCE



- Can be naturally or artificially derived
- Usually concentrated
- Stabilizers like thimerosal (Hg) or formaldehyde are toxicity concerns

Fragrances - these can be naturally or artificially derived and often are in concentrations to persist on the surface or within the item cleaned for several days to weeks. Added to mask smell of other chemicals or provide lingering smell. Often large cause of lung irritation, skin irritation, mucus membrane irritation. Stabilizing agents often toxicity concerns- thimisserol or formaldehyde containing. Formaldehyde-

DRILLING DOWN INTO SPECIFIC TYPES OF CLEANERS

-AIR FRESHENERS CAN BE REAL STINKERS

- Often contain synthetic fragrances
- Avoid listing the exact ingredients by labeling them as "proprietary" or "trade secrets"
- Consider purified essential oils



Drilling down into environmental impacts of specific cleaners:

Air fresheners... What's the problem? Air fresheners often contain synthetic fragrances and other aerosol compounds that can trigger asthma and allergic reactions and may trigger migraine in some sufferers. The perfume acts as an irritant to eyes and to the lining of the nose and lungs. Synthetic fragrances often cause a larger irritant response. Companies not required to list exact chemicals- because they are "trade secrets" so hard to see what the fragrance is. Chemicals that stabilize fragrances are often more hazardous- may contain formaldehyde. try Use baking soda as a natural deodorizer, it's incredibly effective in reducing smells. For locations such as bathrooms or rooms where an aerosol is a must, consider placing a sprig of lavender, rosemary, thyme or citrus in a small dish over a candle to gently heat and release the oils to fragrance the room. Or consider purified essential oil air fresheners- though more expensive when purchased, fewer impacts on health.

SCOURING POWDER

- Mineral scouring agents (calcite, feldspar, silica)
- However, most add chlorine bleaching agents or even plastic.
- Read packaging carefully!
- Many scourers include chemicals highly toxic to aquatic life
- Natural scourers include salt, and baking soda
- Stale bread is particularly effective at cleaning metal



The image shows three containers of scouring powder. On the left are two tubs of Zip scouring powder, one in blue and one in green. In the center is a yellow can of Ajax Oxygen Bleach Cleanser. On the right is a red and gold can of Bon Ami Powder Cleanser.

Scouring Powders: - while many scouring powders rely on mineral scouring agents such as calcite, feldspar or silica, others also add chlorine bleaching agents or ground plastic to act as their scouring agent- read packaging carefully. Allergenic problems from small particle size similar to talc. **many scourers include chemicals highly toxic to aquatic life- Ajax w bleach**

Natural scourers include salt and baking soda. For cleaning metal, stale bread is incredibly effective and plentiful! A wet hard bristled toothbrush with a small amount of baking soda is incredibly effective at scouring out stains.

WINDOW CLEANERS

- Use surfactants to break grease and solvents to carry away oils without residue
- Commonly contain ammonia products (irritants)
- Clean windows with newspaper, 1-2 part vinegar: 4 parts water



Window Cleaners- window cleaners work by using surfactants to break grease and remove stains, and solvents to carry away oils without leaving greasy residues. They also contain water as a carrier. Many common window cleaners contain Ammonia products, which can be irritants, and have harsh fumes. They can react to produce dangerous fumes when mixed with chlorine compounds. Effective natural alternatives are acids or alkalis to break down the greasy film on glass. Vinegar is an effective streak free cleanser, and 1 part vinegar to 4 parts water with a few drops of lavender or thyme oil will work wonders a drop of liquid soap can improve effectiveness. Newspaper is also an effective natural window cleaner as it contains micro abrasives and does away with the need for paper towels or clothes!



- Avoid ammonia wherever possible

Ammonia to be avoided where possible, as it can react in waste stream with chlorine cleaning products to produce third party breakdown products

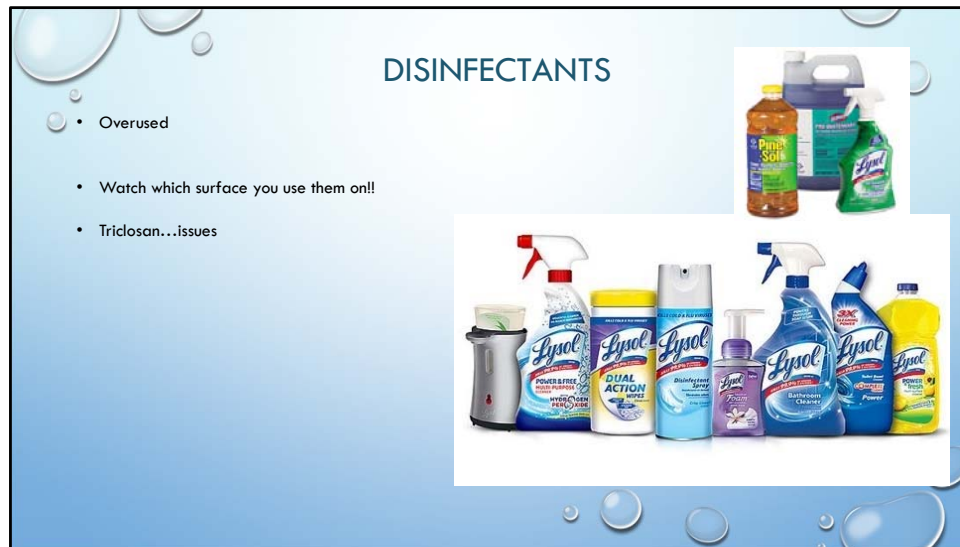


Carpet Cleaner- These work by using surfactants to dissolve dirt, and polymers that solidify when dry to allow the product to be vacuumed up. They also include shampoos with optical brighteners, deodorizers, and soil retardants. common carpet cleaners include **perchloroethylene**, which the CDC warns can cause nausea, dizziness, fatigue and liver and kidney problems. **Naphtha** is often a popular solvent and is manufactured from coal tar and is a CNS danger. Scotch guard contained **perfluorochemicals**, which are known to persist in blood and wildlife
Natural deodorizers can be shaken on as a combination of baking soda and essential oil, but for actual carpet cleaning, a nontoxic carpet cleaner spray or concentrate for shampooing machines includes hot water, hydrogen peroxide, white vinegar, natural dish soap, and essential oil.



metal cleaner- these products contain organic acids such as oxalic, sulphuric or citric acid, all of which are harsh contact and airborne irritants. Clay like materials often provide the abrasive nature of metal polish

Natural alternative An effective metal cleaner has an anti oxidizing agent and a micro abrasive – toothpaste is incredibly effective, as is vinegar and salt to bring back shine. 1 tablespoon each baking soda and salt in a litre of water. Boil and add a strip of aluminium foil. Place tarnished items into the solution briefly then blot with a clean cloth



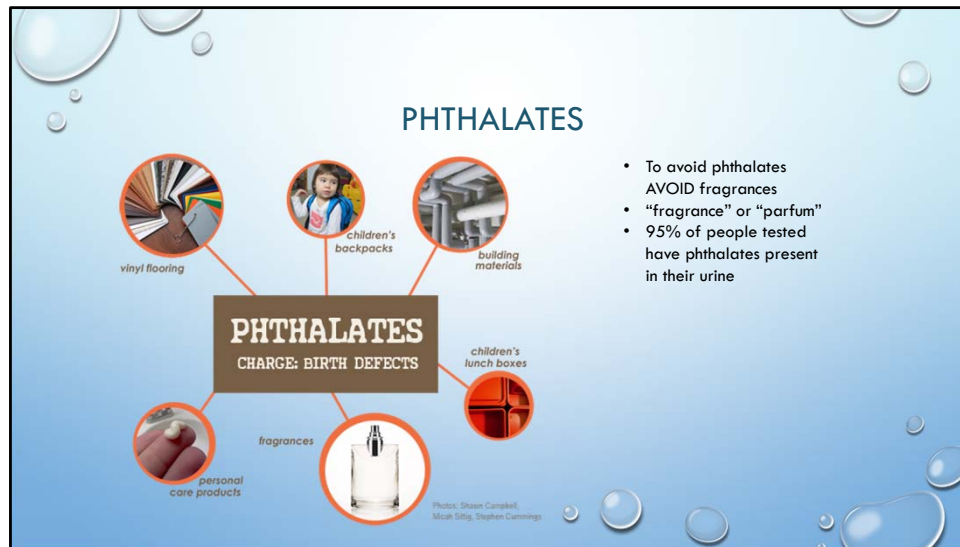
Disinfectants- many people mistakenly use disinfectants on food preparation surfaces that are not intended for food use. Read the label. Many disinfectants leave behind harsh chemicals, fragrance residues, or contain triclosan, which is known to cause antibiotic resistance

Many plant based oils have naturally disinfectant properties, such as thyme, rosemary, eucalyptus, or menthol. A disinfectant solution of white vinegar, water and lemon juice in a spray bottle will kill germs effectively. Also borax and hot water is an effective disinfectant

Additive effects- Some all-purpose cleaners contain the sudsing agents **diethanolamine (DEA)** and **triethanolamine (TEA)**. When these substances come into contact with nitrites, often present as undisclosed preservatives or contaminants, they react to form **nitrosamines** - carcinogens that readily penetrate the skin. 1,4-dioxane, another suspected carcinogen, may be present in cleaners made with ethoxylated alcohols. **Butyl cellosolve** (also known as ethylene glycol monobutyl ether), which may be neurotoxic (or cause damage to the brain and nervous system), is also present in some cleaners.

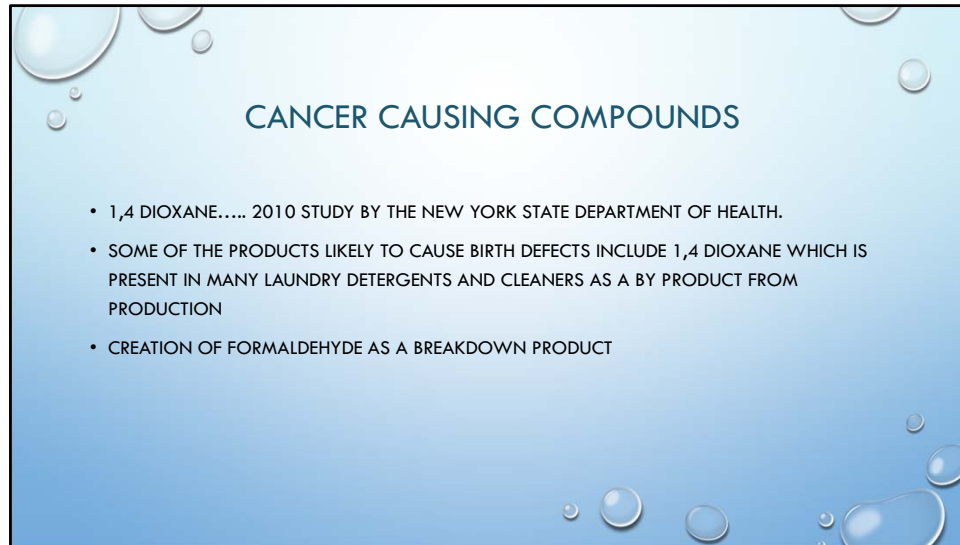


Triclosan- this is present in many more products than you would realize. Anti-microbial clothing, clothes and cleaning products including hand soaps. The problem is that triclosan causes disease resistance in bacterial in the aquatic environment, Many scrub sponges are treated with triclosan so they don't stink, but this can react with the chlorine in tap water causing chloroform – a suspected carcinogen.... Try cellulose or natural sponges instead, they are biodegradable and are naturally more absorbent. Scrub clothes can be cleaned in the top shelf of the dish washer or in microwave Triclosan has been studied by the USGS and found to be present in the blood of young girls, and in streams where it is toxic to algae, fish and other wildlife .



PHTHALATES: about a billion pounds of phthalates are produced every year, and their use is so widespread that they are nearly impossible to avoid entirely.

Indeed, [95 percent](#) of us have detectable levels of phthalates in our urine. Phthalates are in perfume, hair spray, deodorant, almost anything fragranced (from [shampoo](#) to [air fresheners](#) to [laundry detergent](#)). The effect of phthalates, especially on male reproductive development, has been observed since the 1940s, and phthalates are now widely known to be "[endocrine disruptors](#)." Phthalates are thought to mimic and displace hormones and interrupt their production. This can have a range of unpleasant effects. A 2009 study determined that phthalate exposure correlated with [premature breast development](#) in young Taiwanese girls. To avoid phthalates **Stay away from fragrance**. You rarely see phthalates listed on a product label but "fragrance" or "parfum" on a label almost always means phthalates. Look for "no synthetic fragrance" or "scented with only essential oils" or "phthalate-free."



Cancer causing compounds Presence of 1,4-dioxane in numerous name-brand cleaning supplies. Other products contain preservatives that release low levels of cancer-causing formaldehyde. Triclosan goes through the wastewater treatment system, and the wastewater treatment plant actually does a pretty good job of removing it. 90 to 95 percent of it is taken out, but we use so much triclosan that the rest of it gets through, and three of the compounds found are chlorinated triclosan derivatives, formed in the last step of wastewater treatment, when the wastewater is **disinfected before it's discharged and the disinfectant is chlorine. That creates these new compounds.** when these new compounds exposed to sunlight, each of them undergoes a reaction that forms a dioxin, and those chemicals are showing up in lake sediments.

WHAT CAN YOU DO?- **DON'T PANIC!**

1. Read the labels!
2. Research the most damaging chemicals and look to avoid these few
3. Choose products that display their ingredient listing fully
4. Search the E.W.G data base for background about the products you use
5. Simplify the number and type of product you use
6. Make your own products!! Changing habits can be hard but worth it

The screenshot shows a web browser window displaying the EPA Safer Choice website. The URL in the address bar is <https://www.epa.gov/saferchoice/products#a04i000000WupsXAAR>. The page features a 'Program History' section with a 'Connect with Safer Choice' button. A table lists several cleaning products, all from Canberra Corporation, categorized as 'Business' and 'All-Purpose Cleaners'.

Product Name	Company	Sector	Type
JAWS 3421 Glass & Hard Surface Cleaner	Canberra Corporation	Business	All-Purpose Cleaners
JAWS 3700 Deep Scrub Multi-Purpose Cleaner	Canberra Corporation	Business	All-Purpose Cleaners
JAWS 3910 Multi-Purpose Cleaner/Degreaser	Canberra Corporation	Business	All-Purpose Cleaners
JAWS 6700 All Purpose Cleaner	Canberra Corporation	Business	All-Purpose Cleaners
JAWS 9700 All Purpose Cleaner	Canberra Corporation	Business	All-Purpose Cleaners
JAWS 9908 Multi-Purpose Degreaser	Canberra Corporation	Business	All-Purpose Cleaners
Oxy/Green Husky 908 O/G Concentrated Multi-Purpose Cleaner & Degreaser	Canberra Corporation	Business	All-Purpose Cleaners

At the bottom of the browser window, the URL <https://www.epa.gov/saferchoice/products#a04i000000WupsXAAR> is visible.

Ewg.org check out the environmental product cleaning guide and the water guide

EWG's Guide to Healthy Cleaning

EWG's Guide to Healthy Cleaning

FORMALDEHYDE

This substance ranges from C to F depending on concentration/dose.

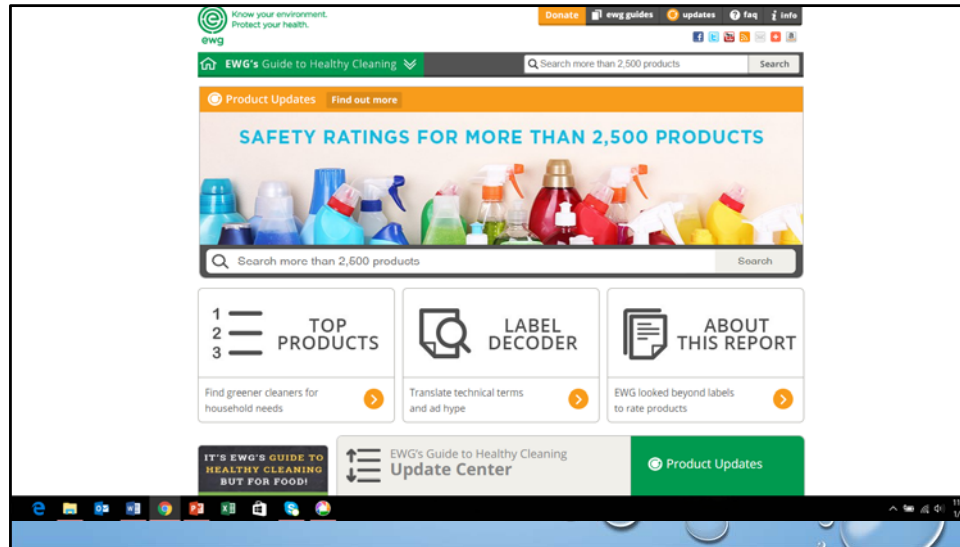
Asthma/Respiratory	Moderate Concern
Skin Allergies & Irritation	High Concern
Developmental & Reproductive Toxicity	Some Concern
Cancer	High Concern
Environment	Low Concern

Top scoring factors: Evidence of cancer, skin irritation/allergies/damage, general cytotoxic/gen effects

FORMALDEHYDE can be found in 27 products.

Evidence

Health Issue	Level of Concern	Source
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Great resource is the environmental working groups Guide to healthy cleaning. a database of easy to navigate hazard ratings for more than 2000 cleaning products.



Love a particular cleaning product?

- research its ingredients- - follow up to find out all ingredients
- Check its composition on EWG
- Write to companies to ask what's in their products



Story of how soap got invented....

Make your own cleaners some of the cleaning products used historically...main ingredients were naturally sourced, but that didn't mean that the products were necessarily harmless...White vinegar, baking soda, lemon juice, borax, ammonia, stale bread, newspaper – Even today there are 5 basic ingredients that can serve as the building blocks for environmentally safe cleaning products, and they perform those same functions of degreasing, polishing, and bleaching. Recipe cards

Baking Soda – is a natural cleaner and deodorizer. It softens water to increase sudsing and magnify the cleaning power of soap. Acts as a natural scouring powder, and non abrasive polishing agent


Borax - Cleans and deodorizes. Natural disinfectant- makes a weak acid in water. Softens water- makes the water less alkaline. Available in laundry section of grocery store – can irritate the skin with prolonged exposure, because of the degreasing effect.

Soap – Natural soap biodegrades safely and completely and is non-toxic. Plant or animal Oils are reacted with lye or wood ash to make a liquid or solid. Bars can be grated to dissolve more easily in hot water. The earliest use of soap is almost 5000 years ago. The story goes that rain washed a slippery mixture of melted animal fat (or tallow) and wood ashes down the Tiber River. Women found this mixture made their wash much cleaner without much effort.- the water

quality implications for the river Tiber were not discussed!! Insist on soap without synthetic scents, colors or other additives. Modern soaps used in dish detergents and washing soaps may not be made from plant based oils such as coconut or olive, but can be refined from petroleum products with the addition of sulfuric acid. Most soaps commercially sold include several other ingredients that sequester minerals to keep them from precipitating out,. These are known AS BUILDERS.

Washing Soda - Cuts grease and removes stains. Disinfects. Softens water. is also known as sodium carbonate, not the same as soap, borax or baking soda but has similar uses and modes of action. Available in laundry section of grocery store or in pure form from chemical supply houses as "sodium carbonate."

White Vinegar or Lemon Juice - Cuts grease and freshens. Vinegar and lemon juice are natural acids that degrease and remove oils. Natural antimicrobial powers as they rupture cell membranes killing cells.

- 
- [HTTP://WWW.EWG.ORG/GUIDES/CLEANERS](http://www.ewg.org/guides/cleaners)
 - DESIGN FOR THE ENVIRONMENT'S WEBSITE:
[HTTP://WWW.EPA.GOV/DFE/PUBS/PROJECTS/FORMLAT/FORMPART.HTM.](http://www.epa.gov/dfe/pubs/projects/formulat/formpart.htm)

RESOURCES

- [HTTP://EARTHEASY.COM/LIVE_NONTOXIC_SOLUTIONS.HTM#HEALTHYHOME](http://EARTHEASY.COM/LIVE_NONTOXIC_SOLUTIONS.HTM#HEALTHYHOME)
- [HTTPS://ECOCYCLE.ORG/HAZWASTE/ECOFRIENDLY-CLEANING](https://ECOCYCLE.ORG/HAZWASTE/ECOFRIENDLY-CLEANING)
- [HTTPS://WWW.CARE.COM/C/STORIES/5925/GREEN-CLEANING-12-NATURAL-SOLUTIONS-THAT-REA/](https://WWW.CARE.COM/C/STORIES/5925/GREEN-CLEANING-12-NATURAL-SOLUTIONS-THAT-REA/)
- [HTTP://WWW.HEALTHYCLEANING101.ORG/TYPES-OF-HOUSEHOLD-CLEANING-PRODUCTS/#DIS](http://WWW.HEALTHYCLEANING101.ORG/TYPES-OF-HOUSEHOLD-CLEANING-PRODUCTS/#DIS)
- [HTTP://WWW.POLLUTIONISSUES.COM/HO-LI/HOUSEHOLD-POLLUTANTS.HTML](http://WWW.POLLUTIONISSUES.COM/HO-LI/HOUSEHOLD-POLLUTANTS.HTML)



Product Type	Harmful Ingredients	Potential Health Hazards
SOURCE: Compiled by author		
Air fresheners & deodorizers	Formaldehyde	Toxic in nature; carcinogen ; irritates eyes, nose, throat and skin; nervous, digestive, respiratory system damage
Bleach	Sodium hypochlorite	Corrosive; irritates and burns skin and eyes; nervous, respiratory, digestive system damage
Disinfectants	Sodium hypochlorite	Corrosive; irritates and burns skin and eyes; nervous, respiratory, digestive system damage
	Phenols	Ignitable; very toxic in nature; respiratory and circulatory system damage
Drain cleaner	Ammonia	Toxic in nature; vapor irritates skin, eyes and respiratory tract
	Sodium/potassium hydroxide (lye)	Corrosive; burns skin and eyes; toxic in nature; nervous, digestive and urinary system damage
Flea powder	Carbaryl	Very toxic in nature; irritates skin; causes nervous, respiratory and circulatory system damage
	Dichlorophene	Toxic in nature; irritates skin; causes nervous and digestive system damage
	Chlordane and other chlorinated hydrocarbons	Toxic in nature; irritates eyes and skin; cause respiratory, digestive and urinary system damage
Floor cleaner/wax	Diethylene glycol	Toxic in nature; causes nervous, digestive and urinary system damage
	Petroleum solvents	Highly ignitable; carcinogenic; irritate skin, eyes, throat, nose and lungs
Furniture polish	Ammonia	Toxic in nature; vapor irritates skin, eyes and respiratory tract
	Petroleum distillates , or mineral spirits	Highly ignitable; toxic in nature; carcinogen; irritate skin, eyes, nose, throat and lungs
Oven cleaner	Sodium/potassium hydroxide (lye)	Corrosive; burns skin, eyes; toxic in nature; causes nervous and digestive system damage
Paint thinner	Chlorinated aliphatic hydrocarbons	Toxic in nature; cause digestive and urinary system damage
	Esters	Toxic in nature; irritate eyes, nose and throat
	Alcohols	Ignitable; cause nervous system damage; irritate eyes, nose and throat
	Chlorinated aromatic hydrocarbons	Ignitable; toxic in nature; digestive system damage
	Ketones	Ignitable; toxic in nature; respiratory system damage
Paints	Aromatic hydrocarbon thinners	Ignitable; toxic in nature; carcinogenic; irritates skin, eyes, nose and throat; respiratory system damage
	Mineral spirits	Highly ignitable; toxic in nature; irritates skin, eyes, nose and throat; respiratory system damage
Pool sanitizers	Calcium hypochlorite	Corrosive; irritates skin, eyes, and throat; if ingested cause severe burns to the digestive tract
	Ethylene (algacides)	Irritation of eyes, mucous membrane and skin; effect: reproductive system; probable human carcinogen of medium carcinogenic hazard
Toilet bowl cleaner	Sodium acid sulfate or oxalate or hypochlorous acid	Corrosive; toxic in nature; burns skin; causes digestive and respiratory system damage
	Chlorinated phenols	Ignitable; very toxic in nature; cause respiratory and circulatory system damage
Window cleaners	Diethylene glycol	Toxic in nature; cause nervous, urinary and digestive system damage