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DEMOLITION DRUGSTORE!
INGREDIENT LIST

Ammonia

Other names: anhydrous ammonia, hydrogen nitride

Formula: NH₃

pH Level: 11.4

Household ammonia is a weak acid that is used as a general purpose cleaner for many surfaces. Because ammonia results in a relatively streak-free shine, one of its most common uses is to clean glass, porcelain and stainless steel. It is also frequently used for cleaning ovens and soaking items to loosen baked-on or caked-on grime. Household ammonia ranges in concentration from 5 to 10 weight percent ammonia. Ammonia is found in many, commercial cleaning products.

Warning: Because ammonia is poisonous to aquatic life and also an irritant for many people, even in dilute amounts, I recommend using ethyl rubbing alcohol or citric acid as a substitute. If you do use ammonia, never mix it with bleach or a poisonous gas may result. Mixing with chlorine-containing products or strong oxidants, like household bleach, can lead to hazardous compounds such as chloramines.

Baking soda

Other names: sodium bicarbonate or sodium hydrogen carbonate

Formula: NaHCO₃

pH Level: 8.5

Baking soda is sodium bicarbonate, a naturally occurring crystalline compound. Almost all baking soda made in the U.S. comes from Green River, Wyoming, which has the world's largest reserves of trona -- otherwise known as sodium sesquicarbonate -- a key ingredient in baking soda. Baking soda neutralizes acid (because it's slightly alkaline); scrubs without scratching; absorbs odors; extinguishes grease fires; and cleans/polishes chrome, jewelry, plastic, porcelain, silver, stainless steel and tin (but do not use with aluminium). Removes pesticides from fruits and vegetables.

Borax

Other names: sodium borate, sodium tetraborate, or disodium tetraborate

Formula: $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

pH Level: 9.5

Borax is a mineral, like baking soda but has a higher pH and is therefore stronger. A single company, Rio Tinto Borax, mines about 50% of the world's supply of borates from mines in California's Mojave Desert.

Borax has a wide variety of uses. It is a fantastic product for getting rid of grease. Borax removes odor, softens water and dissolves dirt. It has antifungal and antibacterial properties therefore kills mold and mildew. Although natural, it is toxic if ingested. You should be able to find it in the laundry soap aisle of your grocery store. The most common brand is 20 Mule Team Borax. Borax is also a good alternative to bleach and chemical pesticides.

USE WITH CAUTION -- low toxicity. Exposure can cause respiratory and skin irritation. Make sure you wear rubber gloves and wash your hands after using it. Make sure that you don't inhale it or get it in your eyes - wear protective gear if in doubt.

Boric Acid

Other names: boracic acid/orthoboric acid/acidum boricum

Formula: H_3BO_3 , sometimes written $\text{B}(\text{OH})_3$

pH Level: 5

Boric acid is another borate, closely related to Borax. It is relatively easy to make boric acid from borax. It is a weak acid often used as an antiseptic, insecticide and flame retardant. It exists in the form of colorless crystals or a white powder and dissolves in water.

Unlike many insecticides that work on contact, boric acid must be eaten to be effective. While it is a relatively safe compound for humans and other animals, boric acid is highly toxic to insects.

Citric Acid

Other names: carboxylic acid, hydrogen citrate

Formula: $\text{C}_6\text{H}_8\text{O}_7$

pH Level: 3

Citric acid is a weak organic acid, and it is a natural preservative and is also used to add an acidic, or sour, taste to foods and soft drinks. Lemons and limes have particularly high concentrations of the acid. It can constitute as much as 8% of the dry weight of these fruits. Citric acid can be used to soften water. It is useful to remove soap film and tarnish from brass and copper and bleach some stains.

Contact with dry citric acid or with concentrated solutions can result in skin and eye irritation, so protective clothing should be worn when handling these materials.

Cream of Tartar

Other names: potassium bitartrate, potassium hydrogen tartrate

Formula: KC₄H₅O

pH Level:

Cream of Tartar is a byproduct of winemaking. It is the potassium acid salt of tartaric acid, a carboxylic acid. Cream of tartar can be used with white vinegar to make a paste-like cleaning agent.

Diatomaceous Earth

Other names: DE, TSS, diatomite, diahydro, kieselguhr, kieselgur

Diatomaceous earth is a powder made of 100-percent organic ground fossils of diatoms that came from fresh water. the typical chemical composition of diatomaceous earth is 86% silica, 5% sodium, 3% magnesium and 2% iron. It kills many pests, including ants, snails, cockroaches and other insects by dehydration. It is also used as a filtration aid, as a mild abrasive, as an absorbent for liquids, as cat litter, as an activator in blood clotting studies, and as a component of dynamite. As it is also heat-resistant, it can be used as a thermal insulator.

The absorbent qualities of diatomite can result in a significant drying of the hands if handled without gloves. The flux-calcined form contains a highly crystalline form of silica, resulting in sharp edges. The sharpness of this version of the material makes it dangerous to breathe and a dust mask is recommended when working with it.

Glycerine

Other names: glycerol

pH Level: 7

Vegetable glycerine is a clear, colorless, and odorless liquid with an incredibly

sweet taste having the consistency of thick syrup. It is used as an agent in cosmetics, toothpaste, shampoos, soaps, herbal remedies, pharmaceuticals, and other household items. Because it is soluble in both, water and alcohol, its versatility is a major benefactor in its purported growth and popularity within the manufacturing sector. It is invaluable as a natural source ingredient with emollient like properties which can soften and soothe the skin and it assists the outer epidermis in retaining moisture. This helps to explain why it is one of the most popular cosmetic additives used today.

Glycerine can also be derived from petroleum.

Hydrogen peroxide

Other names: dioxidane

Formula: H₂O₂

pH Level: 5

Hydrogen peroxide is a very pale blue liquid, slightly more viscous than water that appears colorless in dilute solution. It is a weak acid, has strong oxidizing properties, and is a powerful bleaching agent. It is used as a disinfectant, antiseptic, oxidizer, and in rocketry as a propellant.

Hydrogen peroxide is used to bleach human hair when mixed with ammonia. Mixed with baking soda and a small amount of hand soap, hydrogen peroxide is effective at removing skunk odor.

Regulations vary, but low concentrations, such as 3%, are widely available and legal to buy for medical use. Higher concentrations may be considered hazardous and are typically accompanied by a Material Safety Data Sheet (MSDS). In high concentrations, hydrogen peroxide is an aggressive oxidizer and will corrode many materials, including human skin. In the presence of a reducing agent, high concentrations of H₂O₂ will react violently.

Ethyl rubbing alcohol

Other names: ethanol, pure alcohol, grain alcohol, drinking alcohol, surgical spirit

Formula: C₂H₆O

pH Level: 7.3

Ethanol is used in medical wipes and in most common antibacterial hand sanitizer gels at a concentration of about 62% (percentage by volume, not weight) as an antiseptic. Ethanol kills organisms by denaturing their proteins and dissolving their lipids and is effective against most bacteria and fungi, and many viruses, but is ineffective against bacterial spores.

The term "rubbing alcohol" has become a general non-specific term for either isopropyl alcohol (petroleum based) or ethyl alcohol (grain based) rubbing-alcohol products. The confusion comes from the greater popularity of isopropyl rubbing alcohol in the U.S. and as a result, individuals requesting "rubbing alcohol" generally expect and get an isopropyl alcohol product. I prefer ethyl rubbing alcohol or vodka as a substitute to avoid petroleum products.

Vinegar

Other names: acetic acid, ethanoic acid

Formula: CH₃COOH

pH Level: 3

Vinegar is an acidic liquid processed from the fermentation of ethanol in a process that yields its key ingredient, acetic acid (also called ethanoic acid).

Mildly acidic white vinegar dissolves dirt, soap scum, and hard water deposits from smooth surfaces, yet is gentle enough to use in solution to clean hardwood flooring. White vinegar is a natural deodorizer, absorbing odors instead of covering them up. Any vinegar aroma disappears when dry. With no coloring agents, white vinegar won't stain grout on tiled surfaces. Because it cuts detergent residue, white vinegar makes a great fabric softener substitute for families with sensitive skin. Vinegar is also an excellent solvent for cleaning epoxy resin and hardener, even after the epoxy has begun to harden. Malt vinegar sprinkled onto crumpled newspaper is a traditional, and still-popular, method of cleaning grease-smearred windows and mirrors.

Vinegar can be used as an herbicide. Acetic acid is not absorbed into root systems, so vinegar will kill top growth, but perennial plants will reshoot.

Washing Soda

Other names: soda ash, sodium carbonate

Formula: Na₂CO₃

pH Level: 11

Washing soda (or sodium carbonate) is found in large natural deposits and is mined in Wyoming. It is also synthetically produced from table salt in a process known as the Solvay process. Washing soda is more alkaline than baking soda and is intended specifically for laundry. It boosts cleaning power of detergents by changing the pH of the water. It effectively removes oil, grease, and alcohol stains and softens water. It is an effective descaling agent and can be used in drains to keep them unclogged and odor free. It is caustic, so use gloves!

Properties of Some Essential Oils

Oils are more than making a product smell great!

Bergamot

Antiseptic/disinfectant, deodorant

Eucalyptus

Decongestant, fights cavities, heals skin infections

Lavender

Antiseptic/disinfectant, relieves headaches & insect bites, repels insects

Lemon

Antiseptic/disinfectant, anti-dandruff and shiny hair

Peppermint

Antiseptic/disinfectant, fights bad breath and dandruff, improves oily skin, repels roaches

Rose

Antidepressant, anti-inflammatory

Sage

Antiseptic/disinfectant, stimulant, anti-inflammatory

Sandal Wood

Antiseptic/disinfectant, anti-inflammatory, deodorant, astringent

Tea Tree

Antiseptic/disinfectant, insecticide

Wormwood

Antiseptic/disinfectant, insect-repellent

Helpful Websites:

Skin Deep / Cosmetics Database:

<http://www.cosmeticsdatabase.com/>

NIH:

<http://hpd.nlm.nih.gov/index.htm>

ToxNet:

<http://toxnet.nlm.nih.gov/>

Sci-Toys:

<http://sci-toys.com/ingredients/ingredients.html>

Seventh Generation Ingredients Guide:

<http://www.seventhgeneration.com/show-whats-inside/cleaning-products-ingredients-guide>

How to read a personal care product label (from ewg.org)

[Remember: Manufacturers do not need to include ingredients on cleaning supplies.]

Every personal care product on the market must list the ingredients on the label. Label reading can be confusing - here are some tips to help you wade through the chemical names. You can approach ingredient lists in 3 parts:

1. Start at the end where preservatives are listed.

AVOID: Words ending in “paraben”; DMDM hydantoin; Imidsazolidinyl urea; Methylchloroisothiazolinone; Methylisothiazolinone; Triclosan; Triclocarban; Triethanolamine (or “TEA”)

2. Next, check the beginning of the ingredients list. Here you’ll find the soap, surfactant, or lubricant that has been added to make the product work. Try to avoid ingredients that start with “PEG” or have an “-eth” in the middle (e.g., sodium laureth sulfate).

3. Finally, read the middle ingredients. Here you’ll look for some common – but not essential - additives that may bring excess hazard: fragrance and dyes. On the label look for “FRAGRANCE,” “FD&C,” or “D&C.”