

# What's in your household products?

Match the household product from the word bank that shares an ingredient with the products listed below and fill in the ingredient they may share. Answers are on the back.

### Household Product Word Bank

all purpose cleaners	antiperspirant
aspartame (artificial sweetener)	drain cleaners
hair spray	mascara
nail polish	scented shampoo
shampoo	shaving cream

### Other Word Bank

aluminum cans	car batteries
compact fluorescent light bulb	disinfectants
engine degreasers	fertilizers
particleboard	shower curtains
Silly Putty	toilet bowl cleaner

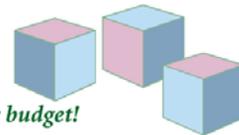
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|--|---|
| 1. used to make food taste sweet without adding sugar      | used to clean in the bathroom                           |
| 2. men use this on their face & women use it on their legs | used under the hood                                     |
| 3. used to clean your sink                                 | if this is dead, you car isn't going anywhere           |
| 4. keeps your hair clean & smelling nice                   | used to keep water in the tub while showering           |
| 5. cleaner used for many surfaces                          | helps grass grow  |
| 6. keeps hair in one place                                 | this children's toy comes in an egg                     |
| 7. used before playing sports                              | soda comes in this                                      |
| 8. makes your eyes pop                                     | these new light bulbs use less energy than the old ones |
| 9. use this to make your hands colorful                    | a cheap building material                               |
| 10. use to keep your hair smooth, shiny, & clean           | used to keep surfaces clean                             |



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## Answer Key

**1. Hydrochloric acid:** used in a chemical reaction to make aspartame (artificial sweetener) & active ingredient in toilet bowl cleaner  
Concerns: Corrosive to the eyes, skin, and mucous membranes. Breathing may cause eye, nose, and respiratory tract irritation and inflammation. Long exposure to low concentrations may also cause discoloration and erosion of the teeth.<sup>4</sup>

**2. Sodium lauryl sulfate:** used in engine degreasers because it is good at removing oils and it lathers and foams in shaving cream  
Concerns: SLS is a penetration enhancer, making it easier for other chemicals to pass through skin and into the body. It can irritate skin and eyes.

**3. Sulfuric acid:** found in car batteries and is used in drain cleaners as it is effective at clearing drains  
Concerns: Skin contact will burn your skin, and breathing can result in tooth erosion and respiratory tract irritation. Drinking can burn your mouth, throat, and stomach; high levels can result in death. Will cause your eyes to water and will burn.<sup>1</sup>

**4. Phthalates:** components of flexible PVC, typically used for plastic shower curtains, and a component of synthetic fragrance in scented shampoo  
Concerns: Eating/drinking very high levels damaged sperm in mice and high amounts damaged the liver of rats and mice. It cannot easily pass through the skin.<sup>1</sup>

**5. Ammonia:** it is typically used in fertilizers as it is rich in nitrogen and is an active ingredient in all purpose cleaners  
Concerns: Breathing high levels may irritate the skin, eyes, throat, and lungs and cause coughing and burns; very high levels may cause lung damage and death. People with asthma may be more sensitive to breathing ammonia. Swallowing concentrated solutions can cause burns in the mouth, throat, and stomach. Eye contact can cause burns and blindness.<sup>1</sup>

**6. Polydimethylsiloxane:** also known as dimethicone, it is a silicone used in hair spray and shampoo as it makes hair shiny and slippery and is the main component of Silly Putty  
Concerns: there are no human health concerns but according to the Environmental Canada Domestic Substance List, dimethicone is bioaccumulative in humans and wildlife.<sup>5</sup>

**7. Aluminum:** commonly used to make cans is used in antiperspirant as it slows the flow of sweat  
Concerns: Very small amounts of aluminum that you inhale, ingest, or have skin contact with will enter the bloodstream. Uncertain whether it causes Alzheimer's disease. Animal studies show the nervous system may be affected.<sup>1</sup>

**8. Mercury:** vapor is in the tubes of compact fluorescent light bulb (CFL) and used in mascara as a preservative  
Concerns: Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. May result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Short-term exposure to high levels of metallic mercury vapors may cause lung damage, nausea, vomiting, diarrhea, increases in blood pressure/heart rate, skin rashes, and eye irritation.<sup>1</sup>

**9. Formaldehyde:** glue in particleboard may contain it and may be found in nail polish  
Ingredient concerns: The most common health problems in people exposed include irritation of the eyes, nose, and throat. Animal studies show that breathing it can result in irritation and damage to the lining of the nose and throat. Impaired learning and changes in behavior along with stomach damage has been observed in rats. The Department of Health and Human Services (DHHS) and the International Agency for Research on Cancer (IARC) have characterized formaldehyde as a human carcinogen.<sup>2</sup>

**10. Quaternary ammonium cations:** have disinfectant & anti-static properties; good for disinfectants and shampoo  
Concerns: Breathing or touching may cause asthma and skin irritation.<sup>3</sup>

<sup>1</sup> US Centers for Disease Control, Agency for Toxic Substances & Disease Registry, ToxFAQs, <http://www.atsdr.cdc.gov/toxfaqs/index.asp>

<sup>2</sup> US Centers for Disease Control, Agency for Toxic Substances & Disease Registry, Public Health Statement, <http://www.atsdr.cdc.gov/phs/phs.asp>

<sup>3</sup> US Centers for Disease Control, Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008, [http://www.cdc.gov/hicpac/Disinfection\\_Sterilization/9\\_0PceticAcidHydroPoxide.html](http://www.cdc.gov/hicpac/Disinfection_Sterilization/9_0PceticAcidHydroPoxide.html)

<sup>4</sup> US EPA, Technology Transfer Network Air Toxics Web Site, <http://www.epa.gov/ttn/index.html>

<sup>5</sup> Environment Canada, Domestic Substances List, <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=5F213FA8-1>

