

## Chemistry cleaning hacks

### DIY window cleaner

Add the following to a spray bottle:

- 2 c water
- ½ c vinegar
- ¼ c 70% rubbing alcohol

Vinegar is a ~5% acetic acid solution (pH ~2.4), which is great at eating through mineral deposits from hard water; alcohol can dissolve dirt and grease (like those left by fingerprints).

### Rusty cast- iron Pan?

Grab a bottle of cola and soak the pan. Cola contains phosphoric acid, which is used industrially to remove rust and tarnish. The phosphoric acid in your cola will convert rusty iron oxide to blackish ferric phosphate, which is easy to scrub off.

### Get red wine out of white carpet

To counteract a red wine spill, act fast and grab a bottle of high-proof clear liquor (like vodka, gin or white rum). Keep adding some of the liquor to the spill and sopping it up with paper towel. The red pigments in wine — mainly anthocyanins — are alcohol soluble, and will dissolve into the liquor rather than getting taken up by the carpet fibers. Once the color is all diluted, finish with a water rinse and pat dry.

### Dog sprayed by a skunk?

Try this homemade shampoo:

- 1qt 3% hydrogen peroxide
- ¼ c baking soda
- 2 tsp liquid hand soap

Lather your pup up, let the shampoo set for 5 minutes, then rinse with warm water. Skunk spray contains stinky sulfur compounds called thiols that are not water soluble. The baking soda in the shampoo will serve as a catalyst to help the hydrogen peroxide break down the thiols into water-soluble, non-stinky sulfonates...so the stink can be washed away.

\* Check out more great chemistry inspired life hacks here

### Sources:

<https://depts.washington.edu/chem/facilserv/lecturedemo/pHofAceticAcid->

[UWDept.ofChemistry.html](https://depts.washington.edu/chem/facilserv/lecturedemo/pHofAceticAcid-UWDept.ofChemistry.html)

<https://waterhouse.uc.davis.edu/whats-in-wine/anthocyanins>

<https://homeguides.sfgate.com/remove-rust-castiron-skilllet-cocacola-87298.html>

<https://www.coca-cola.co.uk/faq/why-is-phosphoric-acid-used-in-coca-cola-drinks-diet-coke-coke-zero>

<https://www.pbs.org/wgbh/nova/nature/chemistry-skunk.html>

Created by ACS with assistance from Shannon Ryan, ACS Productions.

**American Chemical Society**

1155 Sixteenth Street, N.W. Washington, D.C. 20036 T [202] 872-6042 F [202] 872 4370 [www.acs.org](http://www.acs.org)