

# These Common Household Products Can Destroy the Novel Coronavirus

CR shows you how to use them and tells you which products to stay away from

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News of stores running out of hand-sanitizing gels and chlorine wipes may have you worried about how to protect your family at home as COVID-19 spreads. But plain old hand soap will go a long way.

“It isn’t possible to disinfect every surface you touch throughout your day,” says Stephen Thomas, M.D., chief of infectious diseases and director of global health at Upstate Medical University in Syracuse. “The planet is covered with bacteria and viruses, and we’re constantly in contact with these surfaces, so hand-washing is still your best defense against COVID-19.”

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You need to amp up your typical cleaning routine only if someone in the household exhibits signs and symptoms of a respiratory infection, or if you live in an area with known cases of COVID-19. In that scenario, Thomas says, “Clean high-traffic areas that get touched frequently, such as kitchen counters and bathroom faucets, three times a day with a product that kills viruses.”

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The good news is that coronaviruses are some of the easiest types of viruses to kill with the appropriate product, according to the Environmental Protection Agency. "It has an envelope around it that allows it to merge with other cells to infect them," explains Thomas. "If you disrupt that coating, the virus can't do its job."

Even if you can't get your hands on hand sanitizer or Clorox wipes, below are a number of cleaning products you probably have around the house already, and that stores are more likely to have in stock, that are effective in deactivating the novel coronavirus. We also tell you the products that don't work, and when you can expect

retailers to stock back up on cleaning supplies.

## Cleaning Products That Destroy Coronavirus

### Soap and Water

Just the friction from scrubbing with soap and water can break the coronavirus's protective envelope. "Scrub like you've got sticky stuff on the surface and you really need to get it off," says Richard Sachleben, an organic chemist and member of the American Chemical Society. Discard the towel or leave it in a bowl of soapy water for a while to destroy any virus particles that may have survived.

### Bleach

The Centers for Disease Control and Prevention recommends a diluted bleach solution ( $\frac{1}{3}$  cup bleach per 1 gallon of water or 4 teaspoons bleach per 1 quart of water) for virus disinfection. Wear gloves while using bleach, and never mix it with anything except water. (The only exception is when doing laundry with detergent.)

"Bleach works great against viruses," Sachleben says. Just don't keep the solution for longer than a few days because bleach will degrade certain plastic containers.

Bleach can also corrode metal over time, so Sachleben recommends that people not get into the habit of cleaning their faucets and stainless steel products with it. Because bleach is harsh for many countertops as well, you should rinse surfaces with water after disinfecting to prevent discoloration or damage to the surface.

### Isopropyl Alcohol

Alcohol solutions with at least 70 percent alcohol are effective against coronavirus. Do not dilute the alcohol solution. Alcohol is generally safe for all surfaces but can discolor some plastics, Sachleben says.

### Hydrogen Peroxide

According to the CDC, household (3 percent) hydrogen peroxide is effective in deactivating rhinovirus, the virus that causes the common cold, within 6 to 8 minutes of exposure. Rhinovirus is more difficult to destroy than coronaviruses, so hydrogen peroxide should be able to break down coronavirus in less time. Pour it undiluted into a spray bottle and spray it on the surface to be cleaned, but let it sit on the surface for several minutes.

Hydrogen peroxide is not corrosive, so it's okay to use it on metal surfaces. But similar to bleach, it can discolor fabrics if you accidentally get in on your clothes. "It's great for getting

into hard-to-reach crevices,” Sachleben says. “You can pour it on the area and you don’t have to wipe it off because it essentially decomposes into oxygen and water.”

## What Not to Use Against Coronavirus

### **Homemade Hand Sanitizer**

You’re probably seeing all sorts of hand sanitizer recipes floating around your social media and the internet, but Thomas, at Upstate Medical in Syracuse, advises against making your own. “People don’t know the right ratios to use, and the internet won’t give you the right answer,” he warns. “Not only can you hurt yourself, but it could give you a false sense of security.”

Sachleben seconds that advice. “I’m a professional chemist, and I don’t mix my own disinfectant products at home,” he says. “Companies spend a bunch of time and money to pay chemists specifically to formulate hand sanitizers that work and that are safe. If you make it yourself, how can you know if it’s stable or if it works?”

### **Vodka**

There are widely circulated recipes on the internet using vodka to combat coronavirus. A couple of vodka makers, including Tito’s and Smirnoff, have already come out with statements telling their customers that their 80-proof product does not contain enough ethyl alcohol (40 percent compared with the 70 percent required) to kill the coronavirus.

### **Distilled White Vinegar**

Disinfection recommendations using vinegar are popular online, but there is no evidence that they are effective against coronavirus. (Read about the [9 things you should never clean with vinegar](#).)

## When Retailers Expect More Supplies

Wondering when you’ll be able to get your hands on hand sanitizer, Lysol wipes, Clorox sprays, etc., at your local store? CR spoke to major chains, including Costco, CVS, Kroger, Stop & Shop, and Walgreens. They said that they are seeing temporary shortages and are restocking as quickly as their suppliers allow (though CVS says it is not seeing a shortage of disinfectant wipes and sprays). Kroger and Stop & Shop have instituted purchase limits.

But your best bet, says Burt Flickinger, managing director at Strategic Resource Group, a retail and consumer goods consulting firm, is to go to the warehouse stores and large grocery chains.

“They have their own distribution warehouses and constantly replenish their stock,” he explains. He adds that Walmart has one of the best distribution chains in the country and is prepared for natural disasters like tornadoes or hurricanes. In other words, their system is already in place, so they don’t have to scramble to meet demand.

Flickinger says the best time to shop is 6 a.m. to 8 a.m., because the shelves are typically restocked overnight. He anticipates that supplies from Clorox, 3M, and Procter & Gamble will be replenished the soonest.

*—Additional reporting by Mary Farrell*