

Make hand sanitizer for COVID-19 at home



The stores are out of hand-sanitizer (HS). Time to can make your own at home. Be aware there has been some controversy about making your own hand sanitizer. Doing so is not perfect; the companies that make this stuff put lots of money and research into their formulas. However, if you are reading this, most stores are out entirely and it's not clear when they will be restocked. If you run out of HS, the recipe below will be better than nothing until commercial supplies return. Having said that, the ingredients you will need are also hard to find. I got most of them online, but check grocery and hardware stores, drug stores, and anyplace that sells beauty and nutrition products. It's very important that you **follow these instructions and measure carefully** to preserve the ratios I have calculated. The good news is that the virus that causes **COVID-19** is fairly easy to kill, but it is important that your recipe have a final alcohol concentration of 60% or higher. For that reason, make sure to use the recipe that matches the concentration of isopropyl alcohol you are able to find.

Shopping list:

1. **Isopropyl alcohol** (also called rubbing alcohol). This is the main and most important ingredient. Get the highest concentration of alcohol you can find. It will usually be either 70%, 90% or 99%¹. If you find it, I suggest also buying wintergreen scented (or mentholated) alcohol; if you do find it, replace 2-3 tablespoons of plain alcohol with this, but don't change the total amount of alcohol. This recipe should not be used with booze.²
2. **Aloe Vera Gel**. Hand sanitizer without this will work but it will dry out your skin and the resulting stuff will be too thin. Don't buy Aloe Vera juice, that's not thick enough. The gel is an entirely plant-based product and is used in many commercial hand sanitizers. I have found it on Amazon, at Whole foods and in drug stores.
3. **Moisturizing oil**. If you use only the first two ingredients, the resulting HS will evaporate cleanly, but it will be squeaky in your hands and will dry your skin. I suggest adding a moisturizing oil such as jojoba oil, avocado oil, liquid lanolin, or even highly refined olive oil (the kind you put in your hair, not in your pasta). You won't need much. This can be acquired at health food stores, drug stores and online.
4. **Essential fragrance oil**. This is optional, but feel free to add a smidgen of an aromatic oil. The alcohol smell is quite strong, and you will be using this stuff often. I use a combination of Tea Tree oil, and a blend of essential oils from Whole Foods called "Relax". You can also use peppermint oil, citrus oil or any other essential oil approved for use in cosmetics.
5. **A container for dispensing your HS**. I use small travel-sized shampoo bottles from Target to give to family and friends and I keep a pump bottle by my front door, in the kitchen and in the car. Thoroughly wash any container before reusing.

Recipes:

If you have 70% Isopropyl alcohol, combine these ingredients in a clean bowl:

Isopropyl alcohol in cups (ml)	Aloe Vera Gel in Tbs. (ml)	Moisturizing oil in teaspoons (ml)	Fragrance oil	Makes:	Overall strength (% alcohol)
1 cup (237 ml)	2 Tbs. (30 ml)	1 tsp. (5 ml)	5-8 drops	9 fluid oz. (267 ml)	62%
½ cup (118 ml)	1 Tbs. (15 ml)	½ tsp. (2.5 ml)	3-4 drops	4.5 fluid oz. (134 ml)	62%

If you have 90% Isopropyl alcohol, combine these ingredients in a clean bowl:

Isopropyl alcohol in cups (ml)	Aloe Vera Gel in Tbs. (ml)	Moisturizing oil in teaspoons (ml)	Fragrance oil	Makes:	Overall strength (% alcohol)
1 cup (237 ml)	7 Tbs. (104 ml)	1 ½ tsp. (7.4 ml)	5-10 drops	12 fluid oz. (342 ml)	62%
½ cup (118 ml)	3.5 Tbs. (52 ml)	1 tsp. (5 ml)	5-8 drops	6 fluid oz. (171 ml)	62%

Use a whisk or a hand blender to stir ingredients thoroughly. Transfer to bottles. Mark the date it was made.

¹ If using 99% isopropyl alcohol, reduce the alcohol part of the recipe by one-third.

² Some people want to use vodka. This recipe is not designed for that. Even the strongest vodka is too weak to ensure that the result will be safe. If you can't find any rubbing alcohol, substitute pure grain alcohol which is 200 proof (99% alcohol). Regardless of which kind you use, don't drink this stuff.