

# Hand Sanitizer Reference Guide

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## Why you should choose Isopropyl Alcohol (IPA) based Hand Sanitizers

- Alcohol breaks the lipid-based coating of some bacteria and viruses, effectively destroying them.
- Isopropyl alcohol evaporates more quickly and does not dry out hands compared to Ethanol (Ethyl Alcohol). <sup>1</sup>
- FDA warns consumers and health care providers of a sharp increase of methanol contamination in hand sanitizers claiming to be made with Ethanol. Substantial methanol exposure can result in *nausea, vomiting, headache, blurred vision, permanent blindness, seizures, coma, permanent damage to the nervous system or death.*<sup>2</sup> Isopropyl Alcohol does not contain and cannot be mistaken for methanol.

## Technical Grade Alcohol vs USP Grade Alcohol

- USP (United States Pharmacopeia) grade alcohol means it conforms to strict quality and safety standards. Technical grade alcohol has lower standards and may contain impurities that is unsafe for topical use (ie. skin).<sup>3</sup>
- Technical grade alcohol can only be used for commercial and industrial purposes. <sup>4</sup>
- Hand sanitizers that use technical-grade alcohol can be **dangerous and unsafe**. It is **not** recommended for use by children, and women who are pregnant or breastfeeding.<sup>5</sup>
- **prevent<sup>+</sup>** hand sanitizer products are made using the highest grade of USP Isopropyl Alcohol. This is the **ONLY** grade acceptable for use on skin and in medical facilities.

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<sup>1</sup> <https://science.howstuffworks.com/difference-between-ethyl-and-isopropyl-alcohol.htm>

<sup>2</sup> <https://www.fda.gov/drugs/drug-safety-and-availability/fda-updates-hand-sanitizers-consumers-should-not-use>

<sup>3</sup> <https://www.labmanager.com/business-management/the-seven-most-common-grades-for-chemicals-and-reagents-2655>

<sup>4</sup> <https://www.labmanager.com/business-management/the-seven-most-common-grades-for-chemicals-and-reagents-2655>

<sup>5</sup> <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-ppe-technical-grade-ethanol-hand-sanitizer.pdf>

## The Dangers of Benzalkonium Chloride (BZK)

- Benzalkonium chloride is less effective against certain bacteria and viruses.<sup>6</sup>
- Hand sanitizers made with BZK may not work well for many types of germs; it only reduces the growth rather than kill them outright.<sup>7</sup>
- The CDC (Centers for Disease Control and Prevention) has warned against the use of BZK as an alcohol substitute because it is not as effective.<sup>8</sup>

## Requirements for an Effective Hand Sanitizer

- Hand sanitizers in Canada are required to have an NPN (Natural Product Number) number and in the US an NDC (National Drug Code) number. Both numbers prove that the product complies with the regulations where it is being sold and it follows the safety requirements.
- CDC (Centers for Disease Control and Prevention) recommends using Hand Sanitizers with 60-95% alcohol.<sup>9</sup>
- The US prefers the WHO (World Health Organization) final concentration for Hand Sanitizers of 75% isopropyl alcohol or 80% ethanol.<sup>10</sup>
- Health Canada requires the concentrations of 60-75% for Isopropyl based Hand Sanitizers and 60-80% for Ethanol based Hand Sanitizers.<sup>11</sup>
- FDA requires concentrations of 70-91.3% for Isopropyl based Hand Sanitizers and 60-95% for Ethanol based Hand Sanitizers.<sup>12</sup>
- Eco-Med Pharmaceutical Inc. **prevent<sup>+</sup>** Hand Sanitizers contain USP grade 70% v/v IPA in Canada and USP grade 75% v/v IPA in the US.

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<sup>6</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html>

<sup>7</sup> <https://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html>

<sup>8</sup> <https://www.businessinsider.com/coronavirus-people-buying-alcohol-free-hand-sanitizer-doesnt-work-2020-3>

<sup>9</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html>

<sup>10</sup> <https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html>

<sup>11</sup> [http://webprod.hc-sc.gc.ca/nhp/nd-bdipsn/atReq.do?atid=antiseptic\\_antiseptique&lang=eng](http://webprod.hc-sc.gc.ca/nhp/nd-bdipsn/atReq.do?atid=antiseptic_antiseptique&lang=eng)

<sup>12</sup> <https://www.govinfo.gov/content/pkg/FR-2019-04-12/pdf/2019-06791.pdf>

## Using Hand Sanitizers Effectively

- The Centers for Disease Control and Prevention (CDC) recommends covering all surfaces of your hands with the product and rub them together until dry. Rubbing your hands increases the ability to destroy germs so it is important to do so vigorously until it is completely dry. Only use if your hands are not visibly dirty.<sup>13</sup>
- Once your hands are completely dry and **prevent+** has evaporated. You can now safely eat, play with your pets, or do any other activities that would require the use of your now clean hands!
- **prevent+** is safe for all including seniors, children, and women who are pregnant or breastfeeding

## If I wear gloves, do I still need to use hand sanitizer?

- Yes. Gloves provide a barrier between your skin and surfaces but can often have micro-tears invisible to the naked eye. The number of micro-tears increase the longer you wear the gloves which allows microorganisms to come in contact with your skin.
- In healthcare environments, **prevent+** must be used before, after removing gloves.<sup>14</sup>
- In non-healthcare environments, to maintain safety, **prevent+** must be used prior to putting on, consistently while wearing, and after removing gloves.

## Why prevent+ Contains Aloe Vera and Vitamin E

- Vitamin E has significant antioxidant properties to help defend your skin from pollution and other environmental stressors.
- Aloe Vera has long been known for its healing, moisturizing and softening ability.
- Unlike other hand sanitizers, **prevent+** includes both Vitamin E and Aloe Vera to provide superior moisturizing effects. This better protects your skin from micro-tears, caused by dry skin, which can leave you more susceptible to bacteria and viruses.
- Using moisturizing products like our **EcoLotion™** after using hand sanitizers can reduce the discomfort from dry hands that may occur from repeated prolonged use of hand sanitizer.

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<sup>13</sup> <https://www.cdc.gov/handwashing/hand-sanitizer-use.html>

<sup>14</sup> [https://www.who.int/gpsc/5may/Glove\\_Use\\_Information\\_Leaflet.pdf](https://www.who.int/gpsc/5may/Glove_Use_Information_Leaflet.pdf)

## Why prevent<sup>+</sup> Does Not Contain Any Fragrances

- Fragrances found in many other hand sanitizers cause irritation, sensitization, and allergic reactions. Research has found it may even cause toxic hormonal effects in long-term use.
- The clean and sterile scent from **prevent<sup>+</sup>** dissipates within 20 seconds of applying.
- **prevent<sup>+</sup>** is free from fragrances or dyes which is kinder to your skin and you can be confident knowing no toxic or harmful ingredients were added.<sup>15</sup>

## Why Some Hand Sanitizers Leave a Residue

- Some manufacturers include subpar ingredients to cut costs. This not only makes the product less effective but can leave your hands feeling sticky or greasy after applying.
- **prevent<sup>+</sup>** contains the highest quality ingredients to ensure there is no residue left on your hands once it evaporates.

## Health Canada and FDA Recalls

- During this COVID-19 pandemic and due to market demand Health Canada has provided concessions to manufacturers to make hand sanitizers by providing temporary NPN numbers and licenses.
- The FDA also temporarily allowed pharmacies and pharmaceutical compounders to create liquid Hand Sanitizers at the peak of COVID-19.
- Many of these hand sanitizers have since been found to contain dangerous ingredients that cause severe side effects (ie. Methanol contamination). Many hand sanitizers have been and continue to be added to Health Canada and FDA's recall lists.
- Eco-Med Pharmaceutical's **prevent<sup>+</sup>** line of hand sanitizers are registered with Health Canada and the FDA. Eco-Med Pharmaceutical holds FDA, Health Canada, CE, ISO 13485:2016 certifications and has been manufacturing Medical Devices since 1992.

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<sup>15</sup> <https://davidssuzuki.org/queen-of-green/dirty-dozen-parfum-fragrance/>

### Air Transportation Guidelines: Hand Sanitizer

- CATSA (Canadian Air Transport Security Authority) allows passengers to carry one bottle of liquid sanitizer containing up to 355ml (12oz) in carry-on luggage.<sup>16</sup>
- TSA (Transportation Security Administration) allows one liquid hand sanitizer container up to 355ml (12oz) per passenger in carry-on bags until further notice.<sup>17</sup>
- Eco-Med Pharmaceutical Inc. **prevent<sup>+</sup>** comes in convenient 60ml (2oz) and 250ml (8.5oz) sizes that comply with both CATSA and TSA

### Road Transportation Guidelines: Hand Sanitizer

- Hand Sanitizers that contain alcohol flammable but studies suggest that it would take the vehicle's internal temperature to reach an excess of 700 degrees F (371°C) in direct sunlight for a hand sanitizer to spontaneously combust; well above the recorded temperatures registered inside most cars parked in the summer heat.<sup>18</sup>
- Flammable liquids can turn to vapor in high-heat and if there is an introduction of static energy into the environment this can lead to a flame. Always read and follow the label to determine how to safely store hand sanitizer. If possible, do not leave hand sanitizer in the car.

<sup>16</sup> <https://www.catsa-acsta.gc.ca/en/item/liquid-sanitizers>

<sup>17</sup> <https://www.tsa.gov/travel/security-screening/whatcanibring/items/hand-sanitizers>

<sup>18</sup> <https://community.nfpa.org/community/nfpa-today/blog/2020/05/22/can-hand-sanitizer-spontaneously-combust>

## Transportation of Dangerous Goods

- Hand sanitizers are flammable products. This means that during transportation, certain documentation, stickers, and placards are required to safely transport hand sanitizers. Many companies overlook this in order to save costs but do not realize that by doing so, it puts the transporter and customer in a dangerous situation. It is also illegal in Canada and US to transport flammable liquids without the appropriate labeling and placards.
- Eco-Med Pharmaceutical Inc. has made significant investments in placards, labels, training, and equipment to ensure we manufacture, transport, and provide the customer with **prevent<sup>+</sup>** hand sanitizers safely.

## Eco-Med Pharmaceutical Inc: Expert Medical Manufacturers

- Eco-Med Pharmaceutical Inc. (Eco-Med) is a proudly Canadian company manufacturing medical products for hospitals and clinics since 1992.
- Eco-Med is a Health Canada, FDA registered Medical Device facility and upholds the highest standards including GMP (Good Manufacturing Practices) and ISO 13485:2016.
- Our certifications are why you can trust that every batch of **prevent<sup>+</sup>** is made consistently and according to the highest standards.
- Eco-Med is globally recognized and trusted, we pride ourselves on having 0 recalls.

# prevent<sup>+</sup>

- Made with USP grade Isopropyl Alcohol 70% v/v (Canada) and 75% v/v (USA)
- Enriched with Vitamin E and Aloe Vera
- Gel and Foam formula
- Non-sticky
- Preferred by healthcare professionals
- Safe for children and pregnant mothers
- Unscented, Dye-free and Fragrance-free

