

HAND SANITIZER FIRE SAFETY: SAFE HANDLING, DISPENSING AND STORING

Hand washing and the use of hand sanitizer with an alcohol content of at least 60% is one of the key prevention measures to help reduce the potential for transmission of communicable diseases. Because alcohol-based hand sanitizers are highly flammable, the storage and dispensation within buildings are regulated by fire codes. Please follow these guidelines to ensure a safe and healthy environment.

ALCOHOL-BASED HAND SANITIZERS

Alcohol-based hand sanitizers are typically solutions containing either ethyl alcohol (60% minimum) or isopropyl alcohol (70% minimum), which are effective for killing bacteria and viruses. Due to the high alcohol content, products containing these concentrations of alcohol are classified as flammable liquids by the fire codes. It is important to purchase these products through [approved suppliers](#) to ensure the alcohol content is adequate and there are no additives that could be toxic if absorbed through the skin. Not all hand sanitizers use alcohol as an active ingredient and must be evaluated prior to use.

ALCOHOL-BASED HAND SANITIZER DISPENSERS

Fire codes regulate the installation of dispensers to limit the total quantity of flammable liquids within an area. General requirements include:

1. Maximum dispenser size is limited to 68 ounces (2.0 liters).
2. Dispensers must be separated by a minimum of 48 inches.
3. Dispensers cannot be placed within one inch of electrical outlets or switches, or installed in locations with open flames.
4. Accessible units should be located so that the bottom of the dispenser is 42-48 inches above the floor.
5. Dispensers are not allowed in carpeted areas unless protected by a fire sprinkler system.



Additional requirements for hands-free or touchless dispensing:

1. Dispenser will only activate when an object is placed within four inches.
2. It will dispense only enough liquid to be effective; this amount will be listed on the label of the sanitizer solution.
3. An object placed in activation zone will only result in a single activation; it will not dispense continuously.

Additional requirements (both manually activated and hands-free) for corridors and exit lobbies:

1. Corridors must be at least 72 inches wide.
2. Maximum container size is limited to 41 ounces (1.2 liters).
3. Aggregate maximum solution within dispensers is limited to 10 gallons.

In addition, EH&S has the following guidance:

1. Locate dispensers such that they do not create a "bottleneck" for building occupants trying to exit.
2. Extra consideration should be taken in areas subject to vandalism. For these locations, wall mounted dispensers are preferred.
3. Ensure safety data sheets (SDSs) for products are available upon request.

STORING REPLACEMENT SANITIZER

Quantity limits apply to the storage of flammable liquids, including hand sanitizers. The total amount of flammable liquids allowed in a building is fairly high, generally over 100 gallons. However, there are a number of factors that can alter the quantity allowed, including whether there is a sprinkler system, if the floor level is above or below grade, and whether an UL-listed flammable cabinet is used for storage. Also, there may already be flammable liquid storage used for research or maintenance within the building adding to this total. The best way to ensure maximum quantities are not exceeded is by checking chemical inventories in the [MyChem](#) system. Contact EH&S if you need assistance.

QUANTITIES OF FLAMMABLE LIQUIDS GREATER THAN 10 GALLONS MUST BE STORED IN A FLAMMABLE CABINET AND MAY TRIGGER A FIRE CODE PERMIT.

REFILLING DISPENSERS

Hand sanitizer stations generally either have an internal plastic bag filled with liquid or free liquid that is refilled manually with a bottle or jug of solution.

Stations with internal bags are simple to refill, just remove the empty bag and replace with a full one. You must make sure the existing bag is as empty as possible before disposing of it in the trash to avoid creating a flammable waste stream.



When refilling dispensers from a secondary container, the following safety measures apply:

- Unless approved by EH&S, do not exceed one gallon containers to refill for both fire safety and ergonomic reasons.
- Wear safety glasses or goggles to protect from splashing. An eye wash station should be readily available.
- Although this product is designed to be applied to the skin, gloves should be worn to avoid excessive exposure when refilling multiple units.
- Personnel performing the refill should be trained in use of fire extinguishers and have ready access to an ABC/dry chemical fire extinguisher.

When refilling a portable or stationary dispenser at its dispensing location:

Use a cart with spill control products, sealable five gallon bucket, fire extinguisher, and portable eye wash station with a minimum 15 minute rinse. If possible, try to refill the dispenser when the building is less occupied. Clean any spills promptly for fire safety and slip hazard.

When moving a portable dispenser to another location for refilling:

Use a chemical fume hood if the volume of the source container is greater than one gallon. When larger volumes (i.e., more than 5 gallons) are dispensed, grounding and bonding is required. Contact EH&S for consultation on refilling operations.

AEROSOL SANITIZERS

Hand sanitizers can also be dispensed using aerosol containers that generate foam when released. Because these may contain flammable propellants, they are also regulated by local fire codes and must be disposed of as hazardous waste.

Avoid the use of flammable aerosol products, if possible.

Please contact the EH&S Fire Safety team at 206.616.5530 for more information.