

 <p>HARVARD CAMPUS SERVICES</p> <p>ENVIRONMENTAL HEALTH & SAFETY</p>	<p>COVID-19</p> <p><u>Alcohol-Based Hand Sanitizer: Storage</u></p> <p><u>Requirements/Safe Use</u></p> <p>Audience: Building & Facility Managers/FMO Custodial</p>	
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Contents

Overview	1
Storage	2
Dispensing	3
Maximum Dispenser Fluid Capacity	3
Locations	3
References	4

Overview

Alcohol-based hand sanitizer (ABHS) is utilized extensively across campuses to minimize the spread of SARS-CoV-2 virus. It is important to note that, in most cases, ABHS are classified as flammable liquids whose storage and dispensing/use must comply with the Massachusetts Comprehensive Fire Safety Code (CMR 527 1:00) that details the permitting, storage and safe dispensing of alcohol-based hand sanitizer. This guidance addresses the safe storage and dispensing of ABHS.

ABHS typically contains ethyl alcohol (60% or more), which readily evaporates at room temperature into an ignitable vapor and is considered a flammable liquid (Class 1). As such, school/units need to be aware and comply with the limits of onsite storage that trigger certain Massachusetts state and local fire permitting



requirements. Although the incidence of fires related to sanitizer is very low, it is vital that flammable sanitizer is stored safely and that bulk dispensers are installed and maintained correctly.

Storage

ABHS are classified as a Class 1 flammable liquid and its storage limit restricted due to its flammability.

The storage of alcohol-based hand sanitizer greater than 10 gallons requires a flammable storage permit.

It is important to note that “storage” **does not** include sanitizer that is “in use” (i.e. wall mounted or free-standing dispensers).

ABHS should be stored:

- In their original sealed container;
- In a secure cool area;
- Free from a possible ignition source or heat source.

ABHS (flammable liquids) are **not** permitted to be stored in a **basement or below grade** (National Fire Protection Association (NFPA) 30) as per the Massachusetts Comprehensive Fire Code.

If your building **has a flammable storage permit** and has storage capacity for Class 1 flammables, the storage of ABHS may be added to the existing permit. Storage may be limited based on smoke or fire compartment and location by floor/story. A detailed review of your current inventory of hazardous materials and locations may be required for additional storage of alcohol-based hand sanitizer.

In most cases, the storage of quantities greater than 10-gallons per building should be avoided.

If your building **does not have a flammable storage permit**, and you want to store above the ten-gallon threshold, you will likely need to hire a code consultant to help define appropriate control zones, storage limits by floor, and use of flammable storage cabinets to meet your storage needs. Permitting would require a review of the building construction, current fire alarm systems, sprinkler protection, defined fire control areas, and current inventory of hazardous materials stored and in use within your building.



As we gather additional information on alcohol-based wipes, the flammable liquid quantity for each container will have to be added to the ten-gallon aggregate total, along with any other flammable products that may be on-site.

Dispensing

The fire code limits the maximum dispense volume based on the location in a corridor, rooms and suites separated from corridors and aerosol dispensers.

Aerosol dispensers are not common and should be avoided.

The dispenser shall be designed, constructed, and operated in a manner that ensures accidental or malicious activation of the dispensing device is minimized.

Maximum Dispenser Fluid Capacity

- Located in a corridor: 1.2 liters
- Located in rooms or suites of rooms separated from corridors: 2.0 liters

Locations

- Multiple units horizontally separated by 48 inches
- Dispensers shall not be installed within one inch horizontally, side to side, or beneath an ignition source (i.e. an electrical outlet or switch)
- Dispensers installed directly over carpeted floors shall be permitted **only** in sprinklered areas of the building
- No more than a total aggregate of ten-gallons in use in a single smoke or fire compartment or story is permitted – one dispenser per **room** complying with the above shall **not** be included in the total aggregate

If the facility is Joint Commission on Accreditation of Healthcare Organizations (JCAHCO)-accredited, there are additional restrictions:

- Corridor is at least six feet wide



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- Maximum individual dispenser capacity is 0.32 gallon of fluid (0.53 gallon in suites) or 18 ounces of NFPA Level 1-classified aerosols
- If floor is carpeted, the building is fully sprinkler protected
- Operation of the dispenser complies with NFPA 101-2012: 18/19.3.2.6(11)
- ABHR is protected against inappropriate access
- Storing more than five gallons of fluid in a single smoke compartment complies with NFPA 30

References

- [NFPA: Free Access](#)
 - NFPA 1, Chapter 1 - Table 1.12.8.40
 - NFPA 1, Chapter 60 – Hazardous Materials – 60.5.2 Alcohol Based Hand Rub Dispensers