



Alcohol-Based Hand Sanitizers: Fire Code Regulations in Healthcare Facilities

Alcohol-based hand sanitizers are recommended for use by the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) to help prevent the spread of infection. Alcohol-based hand sanitizers typically contain between 60%-70% (v/v) alcohol in order to effectively kill germs on hands. Fire Code regulations require alcohol-based hand sanitizers with this alcohol percentage range to be classified as flammable liquids.



The National Fire Protection Association defines an alcohol-based hand-rub as,

“ An alcohol-containing preparation designed for application to the hands for reducing the number of visible microorganisms on the hands and containing ethanol or isopropanol in an amount not exceeding 95 percent by volume. ”²

Fire Codes

The National Fire Protection Association (NFPA) and the International Fire Code (part of the International Code Council - ICC) develop and issue Fire Codes. Then federal, state and local authorities use these Fire Codes as a foundation for new building construction and existing building inspections. However, it is the local authority or authority having jurisdiction (AHJ) that typically enforces these Fire Codes. When installing alcohol-based hand sanitizers in a healthcare facility it is important to involve appropriate staff members at the healthcare facility with knowledge of these Fire Codes.

Symmetry Alcohol-Based Hand Sanitizers



Symmetry alcohol-based hand sanitizer eliminates 99.9% of common disease-causing organisms. It contains 62% (70% v/v) ethyl alcohol, aloe, and vitamin E leaving hands refreshed without sticky residue left behind - even with repeated use. Symmetry alcohol-based hand sanitizers are available in multiple sizes including 50 ml, 550 ml, and 1200 ml.

*Symmetry also offers non-alcohol hand sanitizer with complete efficacy data that eliminates fire code concerns.

Symmetry Point of Care Items

To complement Symmetry dispensers with 1200 ml alcohol-based hand sanitizer, Symmetry also offers several Point of Care items to support Fire Code regulations in your healthcare facility. Point of Care refers to the moments when healthcare workers are in contact with patients and are at the highest risk of spreading infections. Increase hand hygiene compliance and reduce HAIs (healthcare associated infections) while sustaining Fire Code regulations with these Symmetry Point of Care items:

50 ml Suction Cups

Over-bed tables
Computers on wheels

Lanyards

Healthcare workers

550 ml Suction Cups

Bedside tables
Nurse stations
NICUs

550 ml Wire Brackets

Dietary carts
Phlebotomist carts
Bedside commodes



Definitions

Authority Having Jurisdiction (AHJ)

An organization, office, or individual responsible for enforcing code or standard requirements, or for approving equipment, materials, an installation, or a procedure.

(NFPA 30: Flammable and Combustible Liquids Code, 2012 Edition, 3.2.2)

Code

A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

(NFPA 30: Flammable and Combustible Liquids Code, 2012 Edition, 3.2.3)

Control Area

A building or portion of a building or outdoor area within which hazardous materials are allowed to be stored, dispensed, used, or handled in quantities not exceeding the maximum allowable quantities (MAQ).

(NFPA 1: Fire Code, 2012 Edition, 3.3.14.3)

Fire Compartment

A space within a building that is enclosed by fire barriers on all sides, including the top and bottom.

(NFPA 101: Life Safety Code, 2012 Edition, 3.3.67.1)

Smoke Compartment

A space within a building that is enclosed by smoke barriers on all sides including the top and bottom.

(NFPA 101: Life Safety Code, 2012 Edition, 3.3.67.2)

Flash Point

The minimum temperature of a liquid at which sufficient vapor is given off to form an ignitable mixture with the air, near the surface of the liquid or within the vessel used, as determined by the appropriate test procedure and apparatus specified in Section 4.4.

*Symmetry alcohol-based hand sanitizers have a flash point of 74° F.

(NFPA 30: Flammable and Combustible Liquids Code, 2012 Edition, 3.3.21)

Flammable Liquid

Any liquid that has a closed-cup flash point below 100° F (37.8° C). Flammable liquids shall be classified as Class I liquids and shall be further subclassified in accordance with the following:

- **Class IA Liquid** – Any liquid that has a flash point below 73° F (22.8° C) and a boiling point of 100° F (37.8° C).
- **Class IB Liquid** – Any liquid that has a flash point below 73° F (22.8° C) and a boiling point at or above 100° F (37.8° C).
- **Class IC Liquid** – Any liquid that has a flash point at or above 73° F (22.8° C), but below 100° F (37.8° C).

*Symmetry alcohol-based hand sanitizers are Class IC Liquids.

(NFPA 30: Flammable and Combustible Liquids Code, 2012 Edition, 3.3.33.2)

(NFPA 30: Flammable and Combustible Liquids Code, 2012 Edition, 4.3.1)



Fire Code Resources

The National Fire Protection Association (NFPA)
International Fire Code (IFC)
The Joint Commission (JAHCO)
The American Society for Healthcare Engineering (ASHE)
State and local fire safety authorities



Frequently Asked Questions

How does the National Fire Protection Association define alcohol-based hand-rubs?

An alcohol-containing preparation designed for application to the hands for reducing the number of visible micro-organisms on the hands and containing ethanol or isopropanol in an amount not exceeding 95 percent by volume.²

What is the maximum allowable amount of alcohol-based hand-rub per dispenser?

The maximum individual dispenser fluid capacity shall be as follows:

- **0.32 gal (1.2 L, 1200 ml)** for dispensers in rooms, corridors, and areas open to corridors
- **0.53 gal (2.0 L, 2000 ml)** for dispensers in suites of rooms¹

What is the total quantity of alcohol-based hand-rub that can be used in any one area?

Not more than an aggregate 10 gal (37.8 L) of alcohol-based hand-rub solution or 1135 oz (32.2 kg) of Level 1 aerosols, or a combination of liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gal (37.8 L) or 1135 oz (32.2 kg), shall be in use outside of a storage cabinet in a single smoke compartment, except as otherwise provided in 19.3.2.6(6).¹ One dispenser complying with 19.3.2.6 (2) or (3) per room and located in that room shall not be included in the aggregated quantity addressed in 19.3.2.6 (5).¹

How much spacing is required between each installed dispenser?

Dispensers shall be separated from each other by horizontal spacing of not less than 48 in. (1220 mm).¹

What is the minimum width required to install dispensers in a corridor?

Where dispensers are installed in a corridor, the corridor shall have a minimum width of 6 ft (1830 mm).¹

How close can alcohol-based hand-rub dispensers be to an electrical outlet?

Dispensers shall not be installed in the following locations:

- Above an ignition source within a 1 in. (25 mm) horizontal distance from each side of the ignition source
- To the side of an ignition source within a 1 in. (25 mm) horizontal distance from the ignition source
- Beneath an ignition source within a 1 in. (25 mm) vertical distance from the ignition source¹

Is it permissible to install alcohol-based hand-rub dispensers over carpeted areas?

Dispensers installed directly over carpeted floors shall be permitted only in sprinklered smoke compartments.¹

What is the maximum allowable level of alcohol content in an alcohol-based hand-rub?

The alcohol-based hand-rub solution shall not exceed 95 percent alcohol content by volume.¹

Sources

1. NFPA 101: Life Safety Code, 2012 Edition, 19.3.2.6
2. NFPA 1: Fire Code, 2012 Edition, 3.3.10