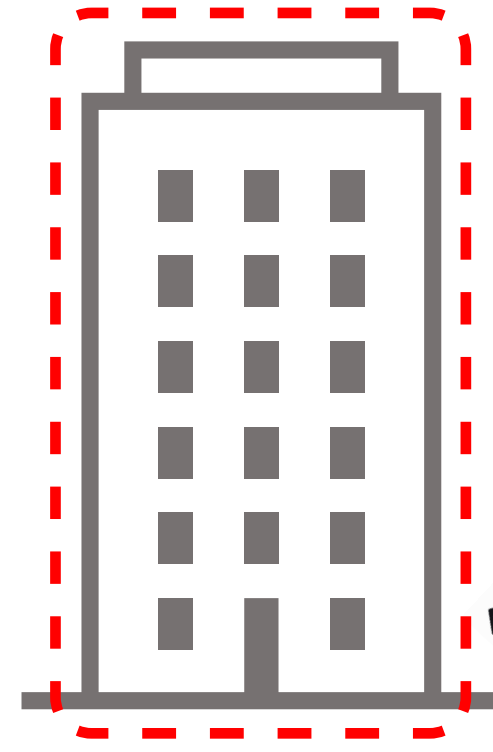


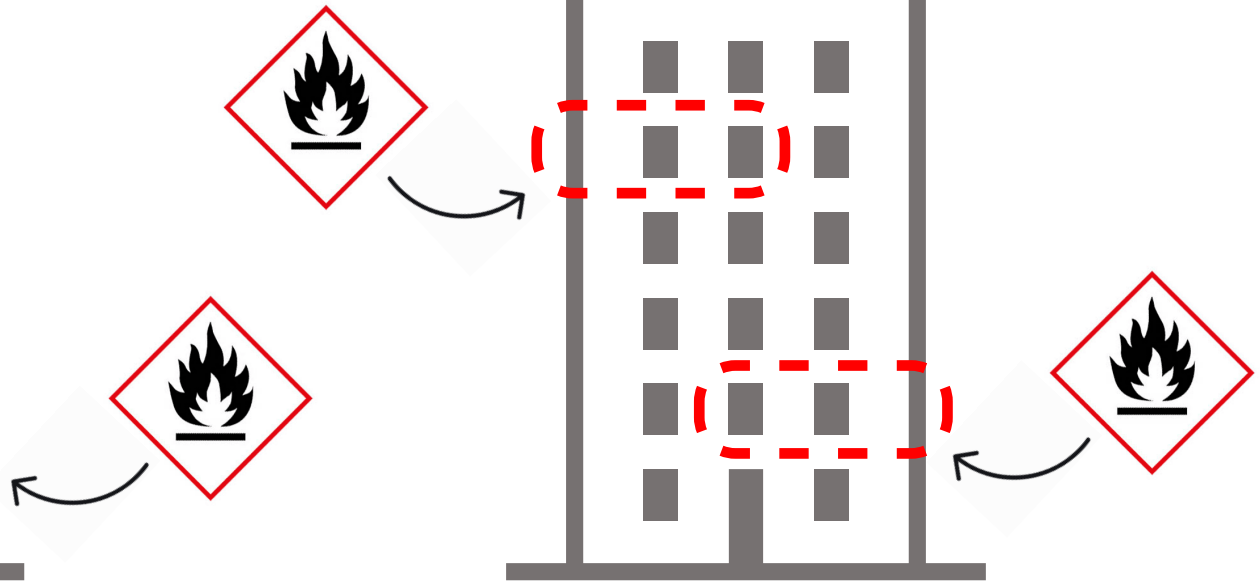
ALCOHOL-BASED HAND SANITIZER 101

STORING CLASS 1C FLAMMABLE LIQUIDS*



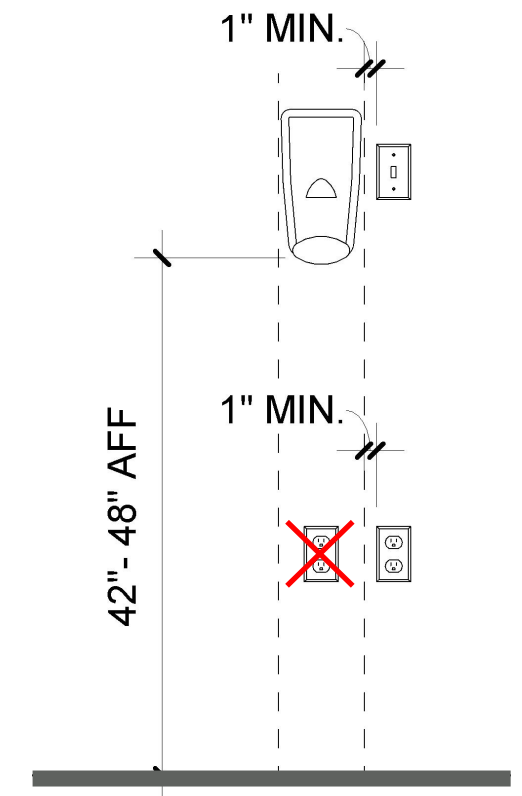
1 CONTROL AREA
ENTIRE BUILDING

IN USE 30/60** GALLON CLASS 1C
TOTAL 120/240** GALLON CLASS 1C



MULTIPLE CONTROL AREAS

INCREASE STORAGE LIMITS BY
PROVIDING RATED STORAGE
ENCLOSURES



WALL-MOUNTED DISPENSERS

AVOID INSTALLATION IN CARPETED
AREAS & ABOVE ELECTRICAL OUTLETS

41 oz MAX	CORRIDOR/OPEN TO A CORRIDOR
68 oz MAX	NOT OPEN TO A CORRIDOR

*PER 9TH EDITION OF THE MASSACHUSETTS BUILDING CODE
**UNSPRINKLERED/SPRINKLERED

QUESTIONS? EMAIL CAITLYN OR JASON

HAND SANITIZER IN THE WORKPLACE

Did You Know?

Hand sanitizer is a flammable liquid. PURELL® Advanced Hand Sanitizer Refreshing Gel has a flash point of 25 °C (77 °F)¹, classifying the product as a Class IC flammable liquid.

Per the Massachusetts State Building Code, 9th edition 780 CMR, which is based on the 2015 International Building Code (IBC), there are typically three options for the use and storage of hazardous materials, such as hand sanitizer, a Class IC flammable liquid, within an office building.

Option 1 – Single Control Area

The first option is to treat the entire building as a single control area. Office buildings not protected throughout with an automatic sprinkler system are limited to 30 gallons of Class IC flammable liquids in use, *i.e.*, located throughout the office space. The total amount of Class IC flammable liquids permitted including both those in use and those in storage is 120 gallons. In fully sprinklered office buildings, these quantities are doubled. Therefore, 60 gallons may be in use as long as the total (in use and storage) does not exceed 240 gallons.² Other flammable liquids within the building must be considered when determining compliance with the limitations of 780 CMR. It is important to note that wall-mounted alcohol-based hand rub (ABHR) dispensers installed in accordance with the International Fire Code are not required to contribute to the total quantity of Class IC flammable liquids within the building. For further details regarding wall-mounted hand sanitizer dispensers, refer to Option 4 below. Portable hand sanitizer, including counter top and stanchion-mounted, are considered “in use” and must be accounted for when evaluating the overall quantity for compliance throughout the building.

Option 2 – Multiple Control Areas

If there is a need to increase use and storage beyond the limits above, multiple control areas can be created to expand the maximum allowed quantity (MAQ) even further. The number of control areas and the fire resistance rating of the control area depend on the location of said control area. Further, control areas are subject to a percentage of the MAQ (*i.e.*, chemical quantity) limitations if located above or below the first floor.³ However, the amount of chemicals permitted throughout a building can significantly increase by creating multiple control areas. Refer to diagram below and 780 CMR 414 for further details regarding control area requirements and limitations.

2015 IBC - Allowable Control Areas

	Floor Level	Percentage of Maximum Allowable Quantity per CONTROL AREA				Fire-Resistance Rating for Fire Barriers
Above Grade Plane	9+	5%				2-hour
	7 to 9	5%		5%		2-hour
	6	12.5%		12.5%		2-hour
	5	12.5%		12.5%		2-hour
	4	12.5%		12.5%		2-hour
	3	50%		50%		1-hour
	2	75%	75%	75%	75%	1-hour
	1	100%	100%	100%	100%	1-hour
Below Grade Plane	1	75%	75%	75%	75%	1-hour
	2	50%		50%		1-hour
	2+	Not Allowed				Not Allowed

Image Courtesy: AKF GROUP LLC

¹ Material Safety Data Sheet by GOJO Industries, Inc.

² 780 CMR Table 307.1(1)

³ 780 CMR 414

Option 3 – High-Hazard Classification

The third option is to introduce a high-hazard occupancy classification (Use Group H). Introducing a high-hazard occupancy into an existing building comprised of Use Group B (Business) spaces requires additional features and includes the potential for infrastructure upgrades depending on existing conditions and systems. These features may include mechanical ventilation with emergency or stand-by power, explosion control, spill control/leakage containment, liquid-tight construction, water-resistive construction, temperature and pressure controls, emergency alarms, and a dedicated location along an exterior wall. In addition, the high-hazard area will require 1-hr rated construction to separate the space from adjacent business areas in a fully sprinklered building, and 2-hr rated construction to separate the space from adjacent business areas where the building is not protected throughout with an automatic sprinkler system. If the building includes assembly spaces, *i.e.*, areas that accommodate over 50 people, such as cafeterias, fitness centers, and/or training/conference spaces, the high-hazard area must be separated by 2-hr rated construction where the building is fully sprinklered, and 3-hr rated construction where the building is not fully sprinklered.⁴ Additional considerations for a high-hazard occupancy classification include height and area compliance, means of egress provisions, and fire suppression systems.

Option 4 – Wall-mounted Alcohol-based Hand Rub Dispensers

When it comes to alcohol-based hand sanitizer, there is a fourth option. Hand sanitizer can be installed in wall-mounted dispensers in accordance with the International Fire Code (IFC). When wall-mounted dispensers are used, the quantity of hand sanitizer is not considered in determining the total quantity of Class IC flammable liquids within the building.⁵ The IFC requires wall-mounted dispensers to meet the following criteria:

- Maximum capacity of each dispenser installed within a corridor or room open to a corridor must not exceed 41 oz (1.21 L). Dispensers located in other areas not open to a corridor must not exceed 68 oz (2 L).
- Dispensers must be located at least 48" apart.
- Dispensers cannot be installed above, below, or closer than 1" to an electrical receptacle, switch, appliance, device, or other ignition source.
- The wall space between the dispenser and the floor or intervening countertop must be free of electrical receptacles, switches, appliances, devices, or other ignition sources.
- Dispensers must be mounted such that the bottom of the dispenser is located between 42" and 48" above the finished floor.
- Dispensers must not release contents unless manually activated or automatically activated by sensor.
- Dispensers must be tested each time a new refill is installed.
- Dispensers must be designed to operate in a manner that ensures accidental or malicious activations are minimized.
- Activations of the dispenser must only occur when an object is placed within 4" of the sensing device.
- The dispenser must not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the FDA.
- An object placed within the activation zone and left in place must result in only one activation of dispenser.
- Dispensers shall only be installed in carpeted areas where protected by an automatic sprinkler system.
- Where installed within a corridor, the minimum corridor width must be 72" and the dispenser(s) must not project more than 4" into the corridor width.

Conclusion

As corporate America plans to re-enter the workplace, the cumulative amount of hand sanitizer throughout office spaces and in storage must not be ignored. We recommend that a Hazardous Materials Management Plan (HMMP) be developed or updated to incorporate any additional hand sanitizer within the building to ensure compliance with these provisions. These plans are also critical to the local fire department and other emergency response teams, as the plans will provide necessary information for fire-fighting and emergency response operations. A chemical inventory, including type and quantity of hazardous materials, should be maintained by each tenant. Tenant leases

⁴ 780 CMR Table 508.4

⁵ 780 CMR Table 307.1(1) Note (p.)(5)

may limit the storage of hazardous material in their tenant space. We recommend property owners revisit lease agreements and consider adding language to address storage of hazardous materials and to define allowed quantities for each tenant space. Communication between tenants and property owners is critical to maintaining compliance and life safety requirements for building occupants.

New construction projects planning to install wall-mounted hand sanitizers are required to document locations on permit drawings. If you have any questions, please do not hesitate to contact us for further guidance.

CONTACT US FOR YOUR OFFICE RETURN NEEDS



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