



PREVENTION

Highlights



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SCHOOL

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PREVENTION Highlights

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Our Mission

The Office of the State Fire Marshal (OSFM) is dedicated to protecting lives and property from the hazards of fire or explosion and will promote prevention, educational and investigative activities to mitigate incidents, promote life safety and deter crimes.

The Fire Prevention Division

The goal of the Fire Prevention Division is to reduce the potential impact of fire and explosion hazards where people live, work and congregate (other than one- or two-family dwellings) through code enforcement, inspections, plans review, licensing, and public education.

Prevention Highlights

Prevention Highlights is published quarterly to provide facility managers and others with information necessary to operate fire-safe facilities.

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Edu-Note

by Ashley



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As the months have passed starting my new position here as the fire prevention educator, I have given countless presentations to facilities to ensure they have the materials they need to stay compliant with all the fire and life safety codes. We work towards educating facilities and keeping them aware of new rules and regulations.

This year has been a little hectic with Covid-19. We have worked to make sure facilities stay compliant during the pandemic. If there is ever a question that arises about a code you are unsure about, we have a form located on our website called the "[Code Consultation Form](#)" for you to fill out and send into us. One of our fire prevention specialists will get back to you with the information you request.

We strive to educate before any issues arise with non-compliance. Remember we are here to help, and to keep the community safe. If you are looking to have a presentation for you or your staff, please don't hesitate to contact me. I would love to help!

Please feel free to send me an email at any time at ashley.rogers@ks.gov.

-Ashley Rogers, Education Consultant

OSFM Welcomes New Employee

The Office of the State Fire Marshal is pleased to welcome Seth Hegwald, who has joined our Prevention Division as a Fire Prevention Inspector for Chase, Geary, Lyon, Marshall, Morris, Nemaha, Riley and Wabaunsee counties. Seth comes to OSFM from Chanute Fine Tube, where he worked on boilers.

Seth lives in Humboldt and has three dogs. He enjoys hunting and fishing in his spare time.

"I chose to take this position to put my college degree to use," Seth said. "I am excited to have this new opportunity."



K-12 School Crisis Drill Requirements

Governor Laura Kelly signed Senate Bill 128 into law on April 10, 2019, changing the number of safety drills K-12 schools in Kansas must perform each year from sixteen to nine.

The bill requires the State Fire Marshal to adopt rules and regulations **requiring administrators of public and private schools and educational institutions, except community colleges, colleges, and universities**, to conduct ***at least four fire drills, two tornado drills (one in September and one in March), and three crisis drills each school year.***

The bill requires the three crisis drills to be conducted at some time during school hours, aside from the regular dismissal at the close of the day's session. [Note: Continuing law requires fire and tornado drills to be conducted at some time during school hours, aside from the regular dismissal at the close of the day's session.] The bill states the manner in which such crisis drills are conducted may be subject to approval by the Safe and Secure Schools Unit of the Kansas State Department of Education.

If you have any questions, please visit our website: firemarshal.ks.gov/ or contact: Ashley Rogers, Fire Prevention Public Educator, (785) 296-0659, email: ashley.rogers@ks.gov.

Fire Drills

- Ensure that the facility administration has a plan that has been distributed for the protection of all persons in the event of fire, for their evacuation to areas of refuge, and for their evacuation from the building when necessary. Establish a system to ensure that all employees are periodically instructed and kept informed with respect to their duties under the plan.
- Monitor fire drills to ensure that the drill includes the transmission of a fire alarm signal and simulation of emergency fire conditions. Document receipt or verification of call to remote monitoring company.
- Monitor fire drills to ensure that drills are held monthly, at unexpected times and under varying conditions.
- Drills shall only be announced within five minutes of the drill taking place.

- Drills shall be conducted at different times of the day, during different activities, during class changes.
- The Kansas State Fire Marshal RECOMMENDS a fire drill to be held during the first two weeks of a school term to familiarize students and staff with procedures and refuge locations.
- Two Tornado drills shall be conducted each school year, of which, one shall be conducted in September and one shall be conducted in March, at some time during school hours, aside from the regular dismissal at the close of the day's session.
- Three crisis drills shall be conducted during the school year at some time during school hours, aside from regular dismissal at the close of the day's session.
- A minimum of four fire drills, three crisis drills and two tornado drills will be conducted each school year.

Tornado Drills

- Two tornado drills shall be conducted each school year, of which, one shall be conducted in September and one shall be conducted in March, at some time during school hours, aside from the regular dismissal at the close of the day's session.
- Drills shall use a distinctly different alarm sound from that used for the fire alarm.
- Refuge area location shall be posted by signage - at the building's main entrance; classrooms, and/or at the refuge area.
- Drills shall be documented and publicly posted.

Crisis Drills

- Three crisis drills shall be conducted during the school year, aside from regular dismissal at the close of the day's session.
- Drills shall be documented and publicly posted.

[Click here for the K-12 School Drill Crisis Form.](#)



Cooking Safety

Cooking brings family and friends together, provides an outlet for creativity and can be relaxing. But did you know that cooking fires are the number one cause of home fires and home injuries? By following a few safety tips you can prevent these fires.

“COOK WITH CAUTION”

- Be on alert! If you are sleepy or have consumed alcohol don't use the stove or stovetop.
- Stay in the kitchen while you are frying, boiling, grilling, or broiling food. If you leave the kitchen for even a short period of time, turn off the stove.
- If you are simmering, baking, or roasting food, check it regularly, remain in the home while food is cooking, and use a timer to remind you that you are cooking.
- Keep anything that can catch fire — oven mitts, wooden utensils, food packaging, towels or curtains — away from your stovetop.

If you have a small (grease) cooking fire and decide to fight the fire...

- On the stovetop, smother the flames by sliding a lid over the pan and turning off the burner. Leave the pan covered until it is completely cooled.
- For an oven fire, turn off the heat and keep the door closed.

If you have any doubt about fighting a small fire...

- Just get out! When you leave, close the door behind you to help contain the fire.
- Call 9-1-1 or the local emergency number from outside the home.



Cooking and Kids

Have a “kid-free zone” of at least 3 feet (1 metre) around the stove and areas where hot food or drink is prepared or carried.

FACTS

- ! The leading cause of fires in the kitchen is unattended cooking.
- ! Most cooking fires in the home involve the kitchen stove.



NATIONAL FIRE PROTECTION ASSOCIATION
The leading information and knowledge resource on fire, electrical and related hazards



Alcohol-Based, Hand-Rub Dispensers in Facilities, Schools, Colleges/Universities

We understand that many facilities will be adding alcohol-based, hand-rub dispensers and are providing the following code requirements to assist you in making the product available, while remaining compliant with fire and building code requirements.

Definitions:

Control Area

Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled. (IFC 2702.1)

Fire Area

The aggregate floor area enclosed and bounded by firewalls, fire barriers, exterior walls, or fire-resistance rated horizontal assemblies of a building. (IFC 902.1)

Flammable Liquid

A liquid having a closed cap flash point below 100° F (38° C). Flammable Liquids are further categorized into a group known as Class I Liquids. Class I category is subdivided as follows:

- *Class IA Liquids* having a flash point below 73° F (23° C) and having a boiling point of 100° F (38° C).
- *Class IB Liquids* having a flash point below 73° F (23° C) and having a boiling point at, or above, 100° F (38° C).
- *Class IC Liquids* having a flash point at, or above, 73° F (23° C) and below 100° F (38° C).

Flash Point

The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. (IFC 3402.1)



Level 1 Aerosol

Aerosol which has a chemical heat of combustion of less than or equal to 8,600 btu/lb. (Per IFC table 2803.1)

Acronyms:

ADA Americans with Disability Act

IFC International Fire Code
(Part of the International Code Council – ICC)

Regulatory Compliance:

How do fire code authorities define ABHRs?

An alcohol-containing preparation designed for application to the hands for reducing the number of viable organisms on the

hands and containing ethanol or isopropanol in an amount not exceeding 95 percent by volume. (2006 IFC)

How large can the ABHR Dispensers be?

The maximum capacity of each dispenser shall be 68 ounces (2 L). (When mounted in rooms separated from the corridor) Aerosol containers are not allowed in corridors. The maximum capacity of each dispenser in a corridor is 41 ounces (1.2 L). (2006 IFC 3405.5)

How much ABHR product can be stored in a control area?

Storage of quantities greater than 5 gallons (18.9 Liters) in a single smoke compartment will need to meet the requirements of NFPA 30 Flammable and Combustible Liquid Code. The maximum allowable quantity per control area is 120 gallons.

Cont. on page 7...



Alcohol-Based, Hand-Rub Dispensers in Facilities, Schools, Colleges/Universities (...cont. from page 6)

The quantity shall be increased by 100% in buildings equipped with an approved automatic sprinkler system. Quantity shall be increased by 100% when stored in an approved storage cabinet. (2006 IFC)

What are the requirements to comply with Americans with Disabilities Act (ADA)?

a. Operation – The dispenser needs to be operable with one hand without grasping, pinching or twisting of the wrist and the force required to activate must not be greater than 5 lbf. (ADA section 4.27.4)

b. Protrusion - Objects with their leading edges between 27 inches and 80 inches above the finished floor shall protrude no more than 4 inches into walks, halls, corridors, passageways or aisles. (ADA section 4.4.1)

c. Accessibility - Dispensers should be mounted so the operating mechanisms are at a height less than 48 inches from the floor. (ADA sections 4.271 – 4.27.3)

Product Placement:

What is the total amount of ABHR product that can be used in any one area?

The maximum quantity allowed in a corridor within a control area is 10 gallons (37.85 L). (2006 IFC)

How close can the ABHR dispensers be to each other?

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



How close can the ABHR dispenser be to an electrical outlet?

Dispensers should not be installed directly adjacent to, directly above, or below an electrical receptacle, switch, appliance, device, or other ignition source. This rule has been formally interpreted by JAHCO to be 6 inches from the center line of the dispenser to the ignition source. (2006 IFC)

Is it acceptable to install the ABHR dispenser over a carpeted area?

Yes, but dispensers installed directly over carpeted floors shall be permitted only in sprinkler smoke compartments. (2006 IFC)

Product Specification:

Are gels, foams, liquids and aerosol ABHRs all acceptable to use?

Yes, but aerosol ABHRs were just recently added to the National Fire Code, so it would be prudent to check with your local fire marshal to confirm they have adopted the new standards before installing.

What is the maximum allowable level of alcohol content in an ABHR?

Ninety-five percent isopropyl or ethyl alcohol.

Does NFPA and IFC allow Alcohol Based Hand Sanitizers to be used in Aerosol Dispensers?

1. IFC allows aerosol containers in rooms that are separated from the corridor; however, the maximum capacity of the aerosol dispenser must be 18 oz and be limited to Level 1 aerosols.

Cont. on page 8...



Alcohol-Based, Hand-Rub Dispensers in Facilities, Schools, Colleges/Universities (...cont. from page 7)

2. IFC Does not allow aerosol ABHR dispensers in corridors.

Source: 2006 IBC/IFC

GOJO/Purell Fire Code Summary with FAQs and Definitions

Regulatory Compliance for Colleges/Universities:

How do fire code authorities define ABHRs?

An alcohol-containing preparation designed for application to the hands for reducing the number of viable microorganisms on the hands and containing ethanol or isopropanol in an amount not exceeding 95-percent by volume. (2018 IFC, Section 202)

How large can the ABHR Dispensers be?

When mounted in rooms separated from the corridor:

The maximum capacity of each dispenser shall be 68 ounces (2 L). (2018 IFC 5705.5)

When mounted in corridors:

Level 2 and 3 aerosol containers shall not be allowed in corridors. The maximum capacity of each Class I or II liquid dispenser shall be 41 ounces (1.21 L) and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg). (2018 IFC 5705.5.1)

How much ABHR product can be stored in a control area?

The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1,135 ounces (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one. (2018 IFC 5705.5.1)

What are the requirements to comply with Americans with Disabilities Act (ADA)?

- a. Operation – The dispenser needs to be operable with one hand without grasping, pinching or twisting of the wrist and the force required to activate must not be greater than 5 lbf. (ADA section 4.27.4)
- b. Protrusion - Objects with their leading edges between 27 inches and 80 inches above the finished floor shall protrude no more than 4

inches into walks, halls, corridors, passageways or aisles. (ADA section 4.4.1)

- c. Accessibility - Dispensers should be mounted so the operating mechanisms are at a height less than 48 inches from the floor. (ADA sections 4.271 – 4.27.3)

Product Placement:

How close can the ABHR dispensers be to each other?

Dispensers shall be separated from each other by horizontal spacing of not less than 48 inches (1220 mm). (2018 IFC 5705.5)

How close can the ABHR dispenser be to an electrical outlet?

The dispensers shall not be installed above, below, or closer than 1 inch (25 mm) to an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor or intervening counter-top shall be free of electrical receptacles, switches, appliances, devices or other ignition sources (2018 IFC 5705.5)

Is it acceptable to install the ABHR dispenser over a carpeted area?

Only in a sprinklered building. Dispensers installed in occupancies with carpeted floors shall only be allowed in smoke compartments or fire areas equipped throughout with an approved automatic sprinkler system (2018 IFC 5705.5)

Product Specification:

What is the maximum allowable level of alcohol content in an ABHR?

Ninety-five percent isopropyl or ethyl alcohol. (2018 IFC Section 202)

Does IFC allow Alcohol Based Hand Sanitizers to be used in Aerosol Dispensers in corridors?

Level 2 and 3 aerosols are not permitted to be in corridors. The maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg). (2018 IFC 5705.5)

Source: 2018 International Fire Code GOJO/Purell Fire Code Summary with FAQs and Definitions



Storage of Large Quantities of Alcohol-Based Hand Sanitizer

Regulatory Compliance for storage of more than 5 gallons but less than 120 gallons of ABHR:

1. Must be in accordance with NFPA 30 Flammable and Combustible Liquid Code
2. The maximum allowable quantity per control area is 120 gallons
3. The quantity shall be increased by 100 percent in buildings equipped with an approved automatic sprinkler system.
4. Quantity shall be increased by 100 percent when stored in an approved storage cabinet. (2006 IFC)
5. Cannot be stored in a basement of a non-sprinklered building.
6. Where containers are stacked, they shall be stacked so stability is maintained and excessive stress on container walls is prevented.
7. If moved with power-operated material handling equipment, the equipment must be in accordance with NFPA 505, Fire Safety Standard on Powered Industrial Trucks.
8. In non-sprinklered buildings, containers cannot be stored closer than 36" to the nearest beam, chord, girder or other roof members.
9. Storage containers must be manufactured, tested, and listed for the use of storing and transporting the ABHR product.



10. Each portable tank or intermediate bulk container shall be provided with at least one vent designed to limit internal pressure to 10 psi or 30 percent of the bursting pressure of the container, whichever is greater.

Special Occupancy Limits:

For the following occupancies, the maximum allowable quantity per control area shall not exceed 10 gallons:

1. Assembly
2. Ambulatory Health Care
3. Business
4. Day Care
5. Detention and Correction
6. Educational
7. Health Care
8. Residential

NOTE: Storage quantities can be increased to 20 gallons in these occupancies where the product is stored in an approved flammable liquids cabinet. If the

building is also sprinklered, the amount of product can be increased to 40 gallons. For storage of quantities greater than described above, the product must be installed in accordance with all other provisions of NFPA 30, Flammable and Combustible Liquid Code, which can be viewed free at:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=30>



School Violations



The picture to the left was recently cited by one of our inspectors. Please remember that the code states that artwork and teaching materials are limited to 20 % of the wall if the building is sprinklered, and 10% if the building is not sprinklered.

Also, no furnishings, decorations, or other objects shall obstruct the exits from either side. They also can not disguise or obstruct the clear visibility of an exit.

This door violates code by disguising/obstructing clear visibility of the exit doors.

The picture to the right shows a code violation due to the fire alarm pull station being blocked behind a television. These pull stations need to be in clear visible sight with no obstructions.

If you have any questions, please do not hesitate to call our office.

Phone: 785-296-3401

Fire Prevention Education Email:

ashley.rogers@ks.gov.



The Hartford Circus Fire

July 6th 1944



Thursday, July 6, 1944, around seven thousand people showed up to watch the Ringling Brothers Barnum & Bailey Circus. No one knew their perfect circus experience would turn into one of the worst disasters in Connecticut history.

As the Great Wallendas trapeze artists began their part of the show, a fire had begun right outside the tent. It was later discovered to be caused by a lit cigarette thrown carelessly near the tent. When the tent caught fire, it went up in flames quickly because it had been coated with paraffin wax that had been diluted with gasoline, which was considered a waterproofing technique at the time.

While the flames grew, and reached around 100 feet high, the guests ran towards the exits only to realize that most of them were blocked by animal cages that were being moved in and out for the show. Bottlenecks formed at the exits as patches of burning canvas began raining down on circus attendees. Those unable to escape through the designed exits began slashing holes through the canvas to make their own way out.

Circus employees tried to throw buckets of water onto the tent to put the flames out, but it was too late, the fire had spread rapidly. In less than 10 minutes the fire burned poles and support ropes sending the 19 ton big top barreling down on those left trying to escape.

By the time firefighters put out the flames, nearly 170 people lay dead. Most died from exposure to the fire and smoke, but a significant number were also trampled.

Authorities deemed the fire a terrible accident and never charged anyone with starting it, but this did not exonerate Ringling Brothers officials from some form of culpability. Four men faced charges for acts of negligence. Cited among these acts was a lack of fire preparation on the part of circus management.

In the end, the four circus officials pleaded no contest to the charges and spent approximately one year in prison before eventually receiving pardons. In addition, the circus agreed to pay nearly \$5 million in compensation to the families of the victims.

As a result of the Hartford Circus Fire of 1944, Connecticut enacted new, strict fire safety regulations for public performances. In July of 2005, the site of the 1944 fire, now a small field behind the Wish School in Hartford, witnessed the dedication of a memorial to the victims of that day's tragic events.

****Based on the book "The Circus Fire" By Stewart O'Nan
Published in 2000**





Fire Alarms in Apartment Buildings

Large apartment buildings are built to keep people safe from fire. Fire alarm systems detect smoke and fire. They will warn residents of danger.

- » The fire alarm system has many parts that work together. Some of the parts are out of sight. In a fire, smoke detectors sense smoke and activate the fire alarm. Manual fire alarm boxes allow people to sound the alarm. When the fire alarm system activates it will warn residents of danger.
- » Everyone in the building should know where to find the manual fire alarm boxes (alarm boxes on the wall with a pull bar). Most are found within five feet of an exit door.
- » If there is a fire, pull the manual fire alarm box handle on your way out of the building.
- » When the system senses smoke or fire, a loud horn or tone will sound. Everyone must know what this sound means and how to react.
- » Leave the building right away if you hear the sound of a fire alarm. Stay outside at your meeting place until you are told the building is safe.
- » Treat every fire alarm as an emergency. When the alarms sounds, get outside.
- » Only use a manual fire alarm box if there is smoke or fire. Frequent false alarms are a problem. People might ignore the sound if they hear too many false alarms. False alarms also put firefighters at risk.

Escape 101

Know the locations of all exit stairs from your floor. If the nearest one is blocked by fire or smoke, you may have to use another exit.



If the fire alarm sounds feel the door before opening. If it is hot, use another way out. If it is cool, use this exit to leave.

Close all doors behind you as you leave. Take the key to your apartment in case you are not able to get out of the building.

If fire or smoke is blocking all exits, return or stay in your apartment. Keep the door closed. Cover cracks around the door with towels or tape. Call **9-1-1** and let the fire department know you are trapped. Signal from the window by waving a flashlight or light-colored cloth.

Meet with your landlord or building manager to learn about the fire safety features and plans in your building.



Your Source for SAFETY Information

NFPA Public Education Division • 1 Batterymarch Park, Quincy, MA 02169

