

# FLAMMABLE STORAGE

Gasoline, some paints and many solvents present unique fire hazards. They emit vapors that can travel long distances and catch fire quickly or explode when ignited by something as small as a static discharge. Careful attention needs to be paid to the safe storage of these materials and also to the recognition and control of ignition sources.

- All flammable rated materials such as gasoline should be stored in UL-rated safety cans with self-closing lids and flame arresters in place.
- Flammables should never be stored beneath stairs or anywhere near exits or other areas of safe passage for people.
- Occupational Safety and Health Administration regulations allow up to 25 gallons of Class 1 flammable liquids to be stored in approved containers in any one fire area outside of an approved cabinet or room.



FLAMMABLE STORAGE



## FLAMMABLE STORAGE CABINETS

Flammable rated materials should be stored in an approved flammable storage cabinet.

- Up to 60 gallons of Class I and 2 flammable and combustible liquids can be stored in each cabinet. Some examples include gasoline, mineral spirits, diesel fuel and motor oil.
- Flammable cabinets should be clearly labeled with the words, “Flammable: Keep Fire Away.”
- Only flammable liquids and chemicals of the same hazard class should be stored in the same cabinet. Strong oxidizers and acids may not be compatibly stored with flammables and should have storage of their own. Consult safety data sheets to determine storage compatibility of flammable materials.
- Flammable storage cabinets must be located away from exits, stairways or other egress areas. They should also be located away from electrical equipment, heating equipment or other potential sources of ignition.
- No more than three cabinets can be located in a single “fire area” (a portion of the building separated from the remainder of it by construction having a fire resistance of at least one hour).
- At least one portable fire extinguisher, rated no less than 20-B, must be located no less than 10 feet but no more than 25 feet away from the cabinet.
- Flammable storage cabinets should be kept closed when not in use and latched to prevent accidental opening.



*Flammable materials storage cabinet*

## FLAMMABLE STORAGE ROOMS

Flammable-rated materials may also be stored in a flammable storage room.

- A flammable storage room requires fire resistant walls, doors and windows based on the size of the room with two-hour fire ratings for rooms between 150 and 500 square feet. Rooms 150 square feet or smaller only require one-hour fire-rated walls, doors and windows. The inclusion of sprinklers or fire protection does not change this requirement.
- Flammable storage rooms should not be larger than 500 square feet.
- The inclusion of sprinklers or other automated fire suppression systems permits larger amounts of flammable materials to be present in the room.
- If a 150 to 500 square foot room is equipped with an automated fire suppression system, up to 10 gallons of flammable liquids may be stored per square foot of floor area. If the same room does not have an automated fire suppression system, only five gallons are permitted per square foot.
- In a room 150 square feet or smaller protected with an automated fire suppression system, up to 4 gallons of flammable materials may be stored per square foot of floor area. If the same room does not have an automated fire suppression system, only 2 gallons are permitted per square foot.
- Flammable storage rooms require either liquid-tight sills or ramps at least 4 inches in height at doorways or must be located at least 4 inches below the surrounding floor.
- To control spills, the walls of flammable storage rooms must be liquid tight, where the walls join the floor, or an open-grated trench may be located within the room that drains to a safe location.



- Electrical wiring and lighting within flammable storage rooms must be approved for hazardous locations if storing class 1 or 2 flammable liquids, such as gasoline, mineral spirits, diesel fuel, motor oil and some paints.
- Every flammable storage room must have at least one unimpeded aisle at least 3 feet wide.
- Containers larger than 30 gallons should not be stacked on top of each other.
- At least one portable fire extinguisher rated no less than 20-B must be located no more than 10 feet from flammable storage room doors.

Minnesota State Fire Code, Minnesota Pollution Control Agency or local jurisdictions may be more

stringent with regard to containment and storage of flammable materials. Consult with the fire marshal for additional guidance.

**Further safety rules and regulations regarding flammable storage can primarily be found in OSHA Standard 29 CFR1910.106, Flammable Liquids; and the Minnesota State Fire Code.**



## FLAMMABLE STORAGE CHECK LIST

ITEM	YES	NO	ACTION ITEM
Are flammable-rated materials, such as gasoline, stored in UL rated safety cans of no more than 5 gallon capacity and equipped with self-closing lids and flame arresters?			
Are all flammable materials stored away from stairs, exits and other areas of safe passage?			
Are safety storage cans designed to prevent spills and to relieve internal pressure of expanding vapors?			
Are fewer than 25 gallons of Class 1 flammable liquids stored outside of an approved cabinet or room in any one fire area?			
<b>Flammable Storage Cabinets</b>			
Are flammable storage cabinets clearly labeled with the words, "Flammable: Keep Fire Away"?			
Are flammable storage cabinets located away from exits, stairways or other paths of egress?			
Are flammable storage cabinets located away from electrical equipment, heating equipment or other potential sources of ignition?			
Are there no more than 60 gallons of Class 1 or 2 flammable and combustible materials stored in each cabinet?			
Are flammable materials of the same hazard class stored in the same cabinet? Strong oxidizers and acids should have storage of their own.			
Are no more than three flammable storage cabinets located in a single fire area?			
Are flammable storage cabinets kept closed when not in use and latched to prevent accidental opening?			
Is there at least one portable fire extinguisher located no less than 10 feet but no more than 25 feet away from the flammable storage cabinet?			
<b>Flammable Storage Rooms</b>			
Are flammable storage rooms no larger than 500 square feet?			
Are liquid-tight sills or ramps of no less than 4 inches in height present at doorways or is the floor at least 4 inches below surrounding floors or have other containment measures been installed per local jurisdictional rules?			



## FLAMMABLE STORAGE CHECK LIST CONTINUED

Are walls in the flammable storage room liquid tight or protected with an open grated trench that drains to a safe location or have other containment measures been installed per local jurisdictional rules?			
Do rooms between 150 and 500 square feet:			
• Have at least two-hour fire-rated walls, doors and windows?			
• Have an automated fire suppression system?			
• If equipped with an automated fire suppression system, are there less than 10 gallons of flammable materials per square foot?			
• If <i>not</i> equipped with an automated fire suppression system, are there less than 5 gallons of flammable materials per square foot?			
Do rooms of 150 square feet or less:			
• Have at least one-hour fire-rated walls, doors and windows?			
• If equipped with an automated fire suppression system, are there less than 4 gallons of flammable materials per square foot?			
• If not equipped with an automated fire suppression system, are there less than 2 gallons of flammable materials per square foot?			
Are electrical wiring and lighting approved for hazardous locations?			
Is at least one unimpeded aisle of at least 3 feet wide maintained?			
Are containers of 30 gallons or more stacked on the floor and not on each other?			
Is there at least one portable fire extinguisher located outside the flammable storage room no more than 10 feet from the door?			
Have both Minnesota State Fire Code and Pollution Control Agency regulations been reviewed and the local fire marshal been contacted regarding additional requirements or local jurisdictional rules regarding flammable storage?			
Have any additional requirements been met?			