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Storage & Handling of Flammable Liquid Drums

Flammable liquids ignite and burn more quickly than combustible solids because they vaporize more readily.

A flammable liquid's Flash Point is the lowest temperature at which a liquid gives off ignitable vapours. Some liquids, such as gasoline, have very low Flash Points and vaporize easily in their liquid state at room temperature. Other liquids require much higher temperatures, but if heated or sprayed (for example, as part of a process), they can ignite easily at room temperature.

If vapours from a flammable liquid are released from a container and are allowed to mix in the right concentration with air within an enclosed space, such as a room, an explosion can occur. Thus, it is very important to store and handle the flammable liquids properly.

General Handling and Storage

- Each drum must be provided with sufficient emergency venting capacity to limit internal pressure under fire exposure conditions.
- A listed self-closing safety faucet should be used on the drums to minimize leaks and drips.
- A safety drip should be positioned below each drum faucet to catch spills or any possible drip.
- To prevent sparks, all drums and containers must be equipped with a listed bonding and grounding connection (See LP-56: Flammable Liquid Container Bonding and Grounding).
- Transfer of liquid can be accomplished by way of inert gas pressure (by special design) or by a rotary drum pump. The drum pump is

a safe way of transferring the liquid and if done this way, drip cans and safety vents are not required.

- Liquids that are up to or above their flash point must be drawn or transferred into drums by way of:
 - a safety can
 - through closed piping
 - by a device that has anti-siphoning protection
 - by gravity through a listed self-closing valve/faucet

Locations for Storage

Outdoor Storage

- The storage area must be protected against tampering or trespassers and must be kept free of weeds, debris, and other combustible materials.
- The storage area must be graded in a manner to divert possible spills away from buildings and other exposures, or be surrounded by a curb at least 6 in. (150 mm) high. Where curbs are used, provisions must be made for draining of accumulations of groundwater, rainwater or spills of liquids. Drains must terminate at a safe location and must be accessible under fire conditions.



Knowing your business matters.

Building Storage

- The storage location should be above ground level away from key processes.
- Curbs, scuppers, special drains, or other suitable means must be provided to prevent the flow of liquids under emergency conditions into adjacent building areas, public waterways and/or public sewers.
- All electrical equipment and wiring must be of a type specified by and installed in accordance with NFPA 70 and the National Electrical Code (NEC).
- Liquid storage areas where dispensing is conducted must be provided with either a gravity or a continuous mechanical exhaust ventilation system.
- At least one portable fire extinguisher having a capability of not less than 40:B must be located outside of, but not more than 10 ft (3 m) from the door opening of an inside liquid storage area.
- Life safety, exposure to other buildings, construction design and the degree of automatic fire protection provided, are factors to be considered when evaluating flammable liquid container storage in buildings.

Following these procedures and properly storing flammable liquid drums will avoid fire and explosion losses from occurring.

Partners In Prevention

At Federated Insurance, we believe Loss Prevention is a critical component of your Risk Management Program. Your Risk Services Coordinator, together with our Loss Prevention Team, is available to assist you in developing security measures appropriate for your business. Working together to reduce your loss exposures protects your bottom line!

For more information, contact your Risk Services Coordinator, our Loss Prevention Department at 1-800-665-1934, or visit our website at www.federated.ca

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