

Safe Drum Storage and Dispensing



Indoor rooms for bulk storage of flammable liquids are subject to construction, arrangement, and outfitting requirements, as well as capacity limitations, which are beyond the scope of this publication. Specifications for acceptable storage rooms can be found in NFPA publications and local fire codes. OSHA Standards also refer to storage.

Assuming a properly constructed room, the following discussion covers recommended practices and equipment required for safe storage and withdrawal of liquids for in-plant use.

Two methods are acceptable for drawing off hazardous liquids from drums: Gravity Flow Method or Pump Method.

The Gravity Flow Method

utilizes a safety faucet that requires the drum to be in a horizontal position for dispensing. A device such as a drum cradle or drum caddy provides an easy way to move drums into position and support them for storage. Gravity flow method requires the use of a safety vent in the drum, a spill tray under the faucet, bonding wire between the drum and the container being filled,

and a grounding wire between the drum and an earth ground such as a cold water pipe. In some jurisdictions, gravity flow dispensing is prohibited by code. Check regulations in your area.

The pump method, used for vertically stored drums, should also employ proper bonding and grounding practices. A variety of pumps are available in the market, some incorporating built in features such as a self-bonding hose to protect against ignition of liquids being transferred.

If a drum is to be stored temporarily prior to installing a faucet or pump, grounding and venting are recommended. In dispensing flammable or combustible liquids from one container to another, it is important to either bond or ground the containers to prevent static discharge which can ignite vapor. For complete information on recommended practices on static electricity, refer to NFPA 77, *Recommended Practice on Static Electricity*.

Grounding and Bonding

Buildup of static electricity charges on containers and people is a dangerous source of sparks that can touch off flash fires wherever flammable liquids are being transferred or used.

In transferring liquids from drums to containers, static charges must be electrically bonded, in effect drained off, to prevent the discharge of vapor-igniting sparks.

Grounding. Grounding all containers to an earth source is the recommended method to prevent the build up of static electricity. Grounding cables should be attached to each drum to the earth source and left in place as long as the drum is in the room.

Bonding is simply connecting a bond wire between the dispensing container and the receiving container. This gives both containers the same static potential thus eliminating the chance of static discharge. Before a container is filled from a drum faucet, a bonding wire fastened to the drum must be attached to the container.

It is critical that a metal-to-metal connection be made between a container and the bonding and grounding cables. The area of connection should be clean from dirt, rust, and paint for proper bare metal contact.

Spill Control

Whenever transferring liquids, the potential for leaks or spills exist. To prevent slip and fall injuries as well as protect against contamination to factory floors, drains, and outside groundwater, a variety of spill control devices help reduce risks. A safety spill tray should be positioned below each drum faucet to catch leaks from a worn or damaged faucet. These lidless cans have a perforated fire baffle over the opening to guard against outside ignition sources.

For protection against larger spills, EPA compliant pallets and caddies safely hold pails or drums in 30 or 55 gallon (110 or 200 Liter) capacities.

