



# Weekly Safety Meeting

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## Storage of Flammable Liquids

Flammable liquids are those with a flash point of less than 100 degrees Celsius. This is the lowest point at which the liquid produces enough vapor to form a flammable mixture with air. Red labels that also contain a fire symbol are used to identify flammable liquids.

Flammable liquid vapors present a serious fire risk. They are easily ignitable or explodable. Because they are heavier than the air, they will settle in low areas, often far removed from the actual liquid.

According to OSHA, only approved safety cans or Department of Transportation (DOT)-approved containers shall be used for the handling and use of gasoline in quantities of 5 gallons or less.

**Anytime the word "shall" is used in a regulation, it means that this rule is mandatory and must be followed.**

OSHA defines a "safety can" as an approved container holding 5 gallons of gas or less with a spring-closing lid and spout cover, a means to relieve internal pressure, and a flash-arresting screen.

The spring-closing lid and spout cover is designed to keep liquid and vapor from escaping at ordinary temperatures and to lift slightly when exposed to excessive outside heat.

OSHA defines "approved" as a gas can that has been listed or approved by a nationally recognized testing lab such as Factory Mutual Engineering Corp (FM), Underwriters Laboratories, Inc. (UL), or federal agencies such as the Bureau of Mines or U.S. Coast Guard. The most common safety can is the short and round red metal can with yellow labeling.

**Some are now available in high-density polyethylene plastic.**

### Approved Safety Can:

A safety can is an approved, closed container, of not more than 5 gallons capacity, having a flash arresting screen, spring closing lid and spout cover. It is so designed that it will safely relieve internal pressure when subjected to fire exposure.

Approval is given by a nationally recognized testing laboratory, for example, Underwriters' Laboratory, Inc.

Underwriters Laboratories (UL) approved safety cans should be used to carry, dispense, and store flammable liquids in quantities up to five gallons.

Gas cans can only display DOT approval markings when they meet stringent Department of Transportation requirements.

Here is where it gets confusing, inexpensive plastic gas cans may meet EPA (Environmental Protection Agency) requirements, but they do NOT meet DOT rules.

Some gas cans may say they meet California Air Resources Board (CARB) spill-proof regulations in certain states or Air Quality Management (AQMD).

Again, this doesn't help when trying to comply with OSHA. None of these other regulatory agencies are the same as DOT. They are not interchangeable.

### ***Approved safety cans have several basic design qualities:***

- They have a spring-loaded cap that closes the spout automatically when released. Tension in the spring forces the cap closed and provides a leak proof seal.
- The spring tension is also designed to lift the cap slightly in the event of excessive internal vapor pressure inside the can. This automatically vents off vapors at approximately five psi internal pressure, to prevent the can from rupturing or exploding if it is exposed to excessive outside heat.
- The spout is also equipped with a flame arrester screen designed to prevent outside fire from reaching the gasoline inside the can. This is the same type of screen that is found in marine gasoline engine carburetors. With the screen in place, if the can is involved in a fire, the vapors will burn around the spout, but will not permit an internal fire or explosion. This screen must not be removed or damaged.
  - Sometimes safety cans are also used to hold thick liquids such as lubrication oil, which is not recommended. Since the heavy liquid will not pass through the screen, the screen is often removed, defeating an important safety feature of the container.

Finally, it is extremely dangerous to carry gasoline--even in a safety can--in the trunk of a vehicle. If the trunk heats up from the sun, the contents of the can will expand, and pressure will raise the springed cap. This permits vapors to accumulate in the trunk. An explosion may result.

Do your part to prevent fires that can lead to serious burns, loss of life, and significant property damage. Whether it is required or just good sense, always use approved safety cans when handling gasoline or other flammable liquids. Periodically inspect the cap, spring, and flame arrester screen as well to be sure the can will provide the safety you expect.

***ACCIDENTS BRING TEARS...FIRE SAFETY BRINGS CHEERS!!***

## Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests