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The Basics of Flammable Liquids

Flammable liquids (such as fuels, solvents and cleaning products) can ignite with explosive force, causing extensive property damage, injury, disability or death to anyone nearby. Every year, dozens of people are burned or killed as a result of the accidental ignition of flammable liquids.

Flammable liquids must be stored in approved glass, plastic or metal containers, depending on the quantity and liquid being stored. Flammable liquids measuring from 1 pint to 5 gallons (depending on the liquid's class) may be stored in glass or approved plastic. Metal cans or drums are necessary for amounts exceeding 1 or 5 gallons (depending on the liquid's class). All containers used for the storage of any flammable liquid must be labeled clearly with the name of the material stored inside.

Never store or use flammable liquids near an ignition source. The vapors, not the liquid itself, ignite. Any open flame can act as an ignition source for flammable liquids, including a lit cigarette or lighter. Static electricity, which can be caused simply by walking, is another source of ignition, as is turning a light switch on or off.

Ensure all storage drums are grounded whenever you transfer liquids from one container to another. If you keep a storage drum permanently in one place, it should be grounded at all times. Grounding the drum prevents ignition from static electricity. To ground a drum, drive a steel rod into the ground and attach a wire to both the drum and the grounding rod.

Place fire extinguishers near any area where flammable liquids are used or stored. Training in the proper use of a fire extinguisher is necessary. Always use flammable liquids in a well-ventilated area unless respiratory protection is available. Don't use the liquids unless you've been properly trained to do so.

The PEI Safety Program Audit is aimed at helping companies provide a safe place of work for all employees. The program is completely confidential and available to distributors doing business in the United States. Each Safety Program Audit reviews company health and safety philosophies, training programs and facilities, as well as written corporate safety policies, chemical inventory sheets and various forms required by OSHA. For information, contact PEI at 918-236-3964 or cbouldin@pei.org.

Take the following safety precautions whenever you handle flammable liquids:

- Never fill a container completely; rather, fill the container to 80 percent capacity. If a container is labeled 1 gallon, deposit a maximum of 1 gallon of liquid into it, even if there is extra space left in the container. Leaving a vapor space in a can allows the liquid to expand when the temperature changes. An explosion could result if the container is completely full.
- When transporting a flammable liquid in a vehicle, place the container in the bed of a pickup truck or the trunk of a car — never in the passenger compartment of a vehicle. The potential release of vapors inside a passenger compartment can put endanger people inside the vehicle.
- Always store flammable liquid cans in a fireproof cabinet or storage locker when not in use. This will restrict the release of ignitable vapors.
- When using a fire extinguisher, point the nozzle directly at the base of the fire, not the flame.
- Never smoke within 50 feet of a flammable liquid container. Vapors, which are invisible, can travel away from containers and ignite.

Follow these rules of safety when handling flammable liquids, and you will reduce your chances of injury or illness.

Remember to practice safety. Don't learn it by accident.

References

This *SafePractices* is based on the article "Fire Safety: Flammable Liquids" by the The Texas Department of Insurance, Division of Workers' Compensation. To download the article, visit www.tdi.texas.gov.

This PEI SafePractices has been reviewed by:

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