



### What are Hazardous Materials?

The U.S. Department of Transportation (DOT) defines a hazardous material as “a substance or material that is... capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has been designated as hazardous.” NPS is primarily concerned with “flammable liquids” as defined by the Occupational Safety and Health Administration (OSHA) and the National Fire Protection Association (NFPA).

### Important Definitions

**Flashpoint** is the minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

**Flammable liquids** are liquids having a flashpoint of not more than 199.4°F (93°C).



### OSHA Flammable Liquids Categories:

Category	Examples	Flashpoints	Initial Boiling Points
1	Ethyl chloride	< 73.4°F (23°C)	≤ 95°F (35°C)
2	Acetone, gasoline	< 73.4°F (23°C)	> 95°F (35°C)
3	Diesel, kerosene	≥ 73.4°F (23°C) and ≤ 140°F (60°C)	
4	Naphthalene oil	> 140°F (60°C) and ≤ 199.4°F (93°C)	

NOTE: The flashpoints of individual products may vary – always check the safety data sheet (SDS) to be certain.

### NFPA Flammable and Combustible Liquids Categories:

Category	Examples	Flashpoints	Boiling Points
Class IA Flammable	Ethyl chloride	< 73°F (22.8°C)	< 100°F (37.8°C)
Class IB Flammable	Acetone, gasoline	< 73°F (22.8°C)	≥ 100°F (37.8°C)
Class IC Flammable	Turpentine	≥ 73°F (22.8°C) and < 100°F (37.8°C)	
Class II Combustible	Kerosene, mineral spirits, fuel oils, diesel	≥ 100°F (37.8°C) and < 140°F (60°C)	
Class IIIA Combustible	Most motor oils	> 140°F (60°C) and < 200°F (93°C)	
Class IIIB Combustible	Ethylene glycol, linseed oil	≥ 200°F (93°C)	

NOTE: The flashpoints of individual products may vary – always check the SDS to be certain.

## Flammable and Combustible Liquids: Tank Storage

- Tanks must be built out of materials compatible with the stored liquids and with the surrounding environment. There are appropriate container sizes according to container material and OSHA category of the liquid.
- Portable tanks must have one or more pressure-relief devices to allow emergency venting.
- Flammable liquids may not be stored inside office occupancies.
- Category 1 and 2 flammable liquids and Category 3 flammable liquids with flashpoints below 100°F may not be stored in basements.
- Outside storage areas must be secured against tampering and must be kept clean and well maintained.
- Requirements for safe transfer of liquids between containers must be followed.

## Storage Cabinet Requirements

- Storage cabinets may hold no more than 60 gallons of Category 1, 2, & 3 flammable liquids or no more than 120 gallons of Category 4 flammable liquids.
- Storage cabinets must be fire resistant, constructed of metal, have a three-point lock, and be raised above the bottom of the cabinet by at least 2 inches among other requirements.
- No more than three flammable storage cabinets can be stored together for every 100 feet.
- Incompatible materials may not be stored in the same cabinet.



## Storage Room Requirements

- Must be constructed with an automatic sprinkler system, proper fire doors, liquid tight seals where the walls meet the floor, and floors should be made of appropriate materials.
- Must be equipped with an exhaust ventilation system and must have a complete change of air at least six times per hour.
- Inside storage room must maintain one clear aisle at least 3 feet wide and ensure that containers greater than 30 gallons are not stacked on top of one another.

## Fire Control

- Suitable fire control devices must be maintained at locations where flammable liquids are stored.
- At least one portable fire extinguisher must be located no more than 10 feet outside of the door opening.
- “Prohibited” and “No Smoking” signs should be posted.



## Liquified Petroleum (LP) Gas

- Containers must remain outside of any building when not charging, mixing, or distributing.
- LP gas has indoor storage limits.
- Readily ignitable materials such as dry vegetation must be removed within 10 feet of any container.
- The minimum separation between LP gas containers and flammable liquid tanks must be at least 20 feet.
- LP gas outdoor storage quantities and distance from buildings requirements:

Quantity of LP Gas Stored	Distance
≤500 pounds	0 feet
501 – 2,500 pounds	0 feet
2,501 – 6,000 pounds	10 feet
6,001 – 10,000 pounds	20 feet
≥10,000 pounds	25 feet



## Storage and Handling of Compressed Gases

- Must be stored away from highly flammable substances such as oil or gasoline.
- The valves on empty cylinders must be closed and valves on cylinders that are in use must be protected.
- Charged and empty cylinders must be stored separately, and empty cylinders must be labeled as empty before returning.
- Cylinders must be secured in a manner that keeps them upright and prevents them from tipping over. Cylinders that are stored outside must be protected from the ground beneath.
- A carbon dioxide (CO<sub>2</sub>) detector with an alarm system must be installed when using a carbonated beverage system (CO<sub>2</sub> cylinders).
- Cylinder storage areas must be posted with the names of the gases stored.
- Cylinders must be grouped by types of gas and arranged to prevent incompatible gases from being grouped together.
- Cylinders must be kept in a cool, dry, well-ventilated area, above the basement level, away from sources of heat or temperatures above 125 degrees, and away from corrosives and continuous dampness.
- Suitable fire control devices must be maintained at locations where flammable liquids are stored.

*Please note, this fact sheet does not cover all requirements and situations related to hazardous materials. In addition to checking federal regulations, be sure to check your state and local regulations. For any operational questions or emergency situations, please contact your park concession specialist. For more information pertaining to compliance with hazardous material requirements, please email [cs\\_envaudits@nps.gov](mailto:cs_envaudits@nps.gov) or contact the applicable regulatory authority.*