

<b>Bureau of Labor Standards / OSHA – References:</b>	29 CFR 1910.106 NFPA-30
<b>Flammable Liquids</b>	<p><b>Design, Construction and Capacity of Storage Cabinets</b></p> <p>Not more than 60 gallons of Class I and/or Class II liquids, or not more than 120 gallons of Class III liquids may be stored in an individual cabinet</p> <p>This standard permits both metal and wooden storage cabinets. Storage cabinets shall be designed and constructed to limit the internal temperature to not more than 325°F when subjected to a standardized 10-minute fire test. All joints and seams shall remain tight and the door shall remain securely closed during the fire test. Storage cabinets shall be conspicuously labeled, "Flammable - Keep Fire Away."</p> <p>The bottom, top, door, and sides of metal cabinets shall be at least No. 18 gage sheet metal and double walled with 1½-inch air space. The door shall be provided with a three-point lock, and the door sill shall be raised at least 2 inches above the bottom of the cabinet.</p>
<b>Locations:</b>	<ul style="list-style-type: none"> <li>Throughout the facilities</li> </ul>
<b>Inspector:</b>	The person inspecting for Flammable Liquid storage shall ensure that all Flammable Liquids or Gases are stored in proper containers without ignition sources.
<b>Training PowerPoint</b>	See attached
<b>Inspection Form</b>	<u>See Attached</u>

A copy of the inspection report shall be given to the CTE Director or designee.

## Flammable and Combustible Liquids Self Inspection Checklist

**Guidelines:** This checklist covers the storage and use of **flammable** or **combustible liquids** in drums or other containers not exceeding 60 gallons individual capacity. **Class I** or **Class II liquids** in fuel tanks, as well as transient inventories of paints and varnishes, and storages exceeding 60 gallons are covered in other checklists.

	Please Circle		
<b>Dispensing and Use</b>			
1. Are only <b>approved</b> pumps, drawing from the top of the storage containers, used to transfer <b>flammable liquids</b> ? [29 CFR 1910.106(e)(2)(iv)(d) and 29 CFR 1926.152(e)(3 & 5)]	Y	N	N/A
2. Are only <b>approved</b> self-closing valves or faucets used in gravity transfer of <b>flammable liquids</b> from storage containers? [29 CFR 1910.106(e)(2)(iv)(d) and 29 CFR 1926.152(e)(3)]	Y	N	N/A
3. Is air or gas pressure prohibited for transfer of <b>flammable</b> or <b>combustible liquids</b> unless the tank, drum or containers has been <b>approved</b> as a pressure vessel? [29 CFR 1910.106(e)(2)(iv)(d) and NFPA 30]	Y	N	N/A
4. Are containers and portable tanks used for <b>flammable liquids</b> electrically bonded or grounded during transfers? [29 CFR 1926.152(e)(2) and 29 CFR 1910.106(e)(3)(vi)]	Y	N	N/A
5. Are leaks and spills of <b>flammable</b> or <b>combustible liquids</b> disposed of promptly and safely? [29 CFR 1926.152(f)(2)]	Y	N	N/A
6. Are spills of <b>flammable</b> or <b>combustible liquids</b> cleaned up promptly? [29 CFR 1910.106(e)(9)(i)]	Y	N	N/A
7. Is the use of flames or sources of ignition prohibited in areas where flammable vapors may be present? [NFPA 30] <b>Note:</b> 29 CFR 1926.152(f)(3) requires a distance of at least 50 feet between any source of ignition and <b>flammable liquids</b> .	Y	N	N/A

### Storage and Use Quantities

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| 8. Is storage of <b>flammable</b> and <b>combustible liquids</b> limited to that required for current activities and maintenance? [NFPA 30]  | Y | N | N/A |
| 9. Outside of <b>approved</b> cabinets or storage rooms, are containers of <b>Class I liquids</b> limited to a capacity of one gallon, or two gallons, if safety cans are used? [NFPA 30: 4-5.5.2]   | Y | N | N/A |
| 10. Are fewer than 10 gallons of <b>Class I</b> and <b>Class II liquids</b> stored outside of an <b>approved</b> storage cabinet or interior storage room (except in safety cans)? [NFPA 30 4-5.5.3]   | Y | N | N/A |
| 11. Are fewer than 25 gallons of <b>flammable liquids</b> stored in safety cans outside of an <b>approved</b> storage cabinet or interior storage room? [NFPA 30: 4-5.5.4 and 29 CFR 1926.152(b)(1)]   | Y | N | N/A |
| 12. Are fewer than 60 gallons of <b>Class IIIA liquids</b> stored outside of an <b>approved</b> storage cabinet or interior storage room? [NFPA 30 4-5.5.5]<br><b>Note:</b> OSHA under 29 CFR 1926.152(b)(1) does not permit more than 25 gallons of <b>combustible liquids</b> stored outside of an <b>approved</b> storage cabinet or interior storage room. | Y | N | N/A |

### Design and Capacity of Containers

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| 13. Are only <b>approved</b> containers used for storing <b>flammable</b> or <b>combustible liquids</b> ? [29 CFR 1910.106(d)(2)(i)]<br><b>Note:</b> All gasoline must be stored in <b>approved</b> containers. | Y | N | N/A |
| 14. Are <b>flammable</b> and <b>combustible liquid</b> containers stored in accordance with the requirements of Table 1? [29 CFR 1910.106(d)(2)(iii)]   | Y | N | N/A |

Table 1: Maximum Allowable Size of Containers and Portable Tanks					
Container Type*	Flammable Liquids			Combustible liquids	
	Class IA	Class IB	Class IC	Class II	Class III
Glass or approved plastic	1 pt	1 pt	1 gal	1 gal	1 gal
Metal (other than DOT drums)	1 gal	5 gal	5 gal	5 gal	5 gal
Safety cans	2 gal	5 gal	5 gal	5 gal	5 gal
Metal drums (DOT specifications)	60 gal	60 gal	60 gal	60 gal	60 gal
Approved portable tanks	660 gal	660 gal	660 gal	660 gal	660 gal

**\*Note:** Container exemptions: medicines, beverages, foodstuffs, cosmetics, and other common consumer items, when packaged according to commonly accepted practices.

### Design, Construction, and Capacity of Storage Cabinets

15. Is storage in cabinets restricted to not more than 60 gallons of <b>Class I</b> or <b>Class II liquids</b> and not more than 120 gallons of <b>Class III liquids</b> ? [29 CFR 1910.106(d)(3)(i) and 29 CFR 1926.152(b)(3)]	Y	N	N/A
16. Are all cabinets labeled in conspicuous lettering: " <b>FLAMMABLE-KEEP FIRE AWAY</b> "? [29 CFR 1910.106(d)(3)(ii) and 29 CFR 1926.152(b)(2)(iii)]	Y	N	N/A
17. Are metal cabinets constructed so that the top, sides and door are at least #18 gauge sheet iron and double spaced wall with 1-1/2 inch air space?[29 CFR 1910.106(d)(3)(ii)(a)]	Y	N	N/A
18. Is the door provided with a three point lock and a sill raised at least 2 inches above the bottom of the cabinet? [29 CFR 1910.106(d)(3)(ii)(a)]	Y	N	N/A
19. Are wooden cabinets constructed so that the bottom, sides and top are of <b>approved</b> grade plywood at least 1 inch thick? [29 CFR 1910.106(d)(3)(ii)(b) and 29 CFR 1926.152(b)(2)(l)]	Y	N	N/A
20. Are all wooden cabinet joints rabbetted and fastened in two directions with flat head wood screws? [29 CFR 1910.106(d)(3)(ii)(b) and 29 CFR 1926.152(b)(2)(l)]	Y	N	N/A
21. When more than one door is used on wooden cabinets, is there a rabbetted overlap of not less than 1 inch? [29 CFR 1910.106(d)(3)(ii)(b) and 29 CFR 1926.152(b)(2)(l)]	Y	N	N/A
22. Are no more than three (3) cabinets located in one fire area? [NFPA 30]	Y	N	N/A
23. Are cabinet vents sealed unless vented to the outdoors? [NFPA 30]	Y	N	N/A

### Design and Construction of Inside Storage Rooms

24. Are openings to other rooms or buildings from <b>flammable/combustible liquids</b> storage rooms provided with a noncombustible liquid-tight raised sill or ramp at least 4 inches in height? [29 CFR 1910.106(d)(4)(i) and 29 CFR 1926.152(b)(4)(ii)] <b>Note:</b> Alternatively, the floor of the storage area shall be at least 4 inches below the surrounding floor.	Y	N	N/A
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25. Are openings to storage rooms provided with **approved** self-closing fire doors? [29 CFR 1910.106(d)(4)(i) and 29 CFR 1926.152(b)(4)(ii)] Y N N/A

\* 26. Does storage in inside rooms comply with the requirements of Table 2? [29 CFR 1910.106(d)(4)(ii) and 29 CFR 1926.152(b)(4)(iv)] Y N N/A

Table 2: Storage in Inside Rooms			
Fire Protection Provided <sup>1</sup>	Fire Resistance	Maximum Size	Total Allowable Quantities <sup>2</sup>
Yes	2 hours	500 sq. ft.	10
No	2 hours	500 sq. ft.	5
Yes	1 hour	150 sq. ft.	4
No	1 hour	150 sq. ft.	2

<sup>1</sup>Fire protection system shall be sprinkler, water spray, carbon dioxide, or other system.

<sup>2</sup>(gals/sq. ft/floor area)

27. Is the room liquid tight where the wall joins the floor? [29 CFR 1910.106(d)(4)(i) and 29 CFR 1926.152(b)(4)(ii)] Y N N/A

**Note:** A permissible alternative to the sill or ramp is an open-grated trench inside the room which drains to a safe location.

\* 28. Is the electrical wiring and equipment located inside the storage room especially designed to prevent possible ignition of any released flammable vapors? [29 CFR 1910.106(d)(4)(iii) and 29 CFR 1926.152(d)(d)(v)] Y N N/A

**Note:** Anything which looks like normal household wiring including switches, plugs, lighting or any normal equipment such as radios are not permitted.

29. Is every inside storage room provided with either a gravity or mechanical exhaust ventilation system? [29 CFR 1910.106(d)(4)(iv) and 29 CFR 1926.152(b)(4)(vi)] Y N N/A

30. Does the ventilation system have an exhaust not more than 12 inches off the floor? [29 CFR 1926.152(b)(4)(vi)] Y N N/A

\* 31. Does the ventilation system provide for a complete change of air within the room at least six times per hour? [29 CFR 1910.106(d)(4)(iv) and 29 CFR 1926.152(b)(4)(vi)] Y N N/A

32. If a mechanical exhaust system is used, is the switch located outside of the door? [29 CFR 1910.106(d)(4)(iv) and 29 CFR 1926.152(b)(4)(vi)] Y N N/A

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| 33. Are ventilation equipment and the lighting fixtures operated by the same switch? [29 CFR 1910.106(d)(4)(iv) and 29 CFR 1926.152(b)(4)(vi)]   | Y   N   N/A |
| 34. When gravity ventilation is provided, are the fresh air intake as well as the exhaust outlet from the room located on the exterior of the building in which the room is located? [29 CFR 1910.106(d)(4)(iv) and 29 CFR 1926.152(b)(4)(vi)] | Y   N   N/A |
| 35. Is there a 3 foot wide clearance in the aisle in every storage room? [29 CFR 1910.106(d)(4)(v)]  | Y   N   N/A |
| 36. Is stacking of 30 gallon capacity containers prohibited? [29 CFR 1910.106(d)(4)(v)]  | Y   N   N/A |

### General Storage Inside and Outside Buildings

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| 37. Is the storage of <b>flammable</b> or <b>combustible liquids</b> prohibited near exits, stairways, or areas normally used for the safe exit of people? [29 CFR 1910.106(d)(5)(I)]  | Y   N   N/A |
| 38. Is the storage of <b>flammable</b> or <b>combustible liquids</b> prohibited in office areas except that required for maintenance and operation of building and operation of equipment? [29 CFR 1910.106(d)(5)(iii)]<br><b>Note:</b> Permitted materials shall be stored in safety cans, in closed metal containers inside storage cabinets, or in an inside storage room that does not open into public areas of the building. | Y   N   N/A |
| 39. Are portable fire extinguishers available at locations where <b>flammable</b> or <b>combustible liquids</b> are stored? [29 CFR 1910.106(d)(7) and 29 CFR 1926.152(d)(1)]<br><b>Note:</b> OSHA requires that at least one portable fire extinguisher having a rating of not less than 20-B units be located not less than 25 feet, nor more than 75 feet, from any <b>flammable liquid</b> storage area located outside.       | Y   N   N/A |
| 40. Are containers of <b>flammable</b> and <b>combustible liquids</b> closed when not in use? [29 CFR 1910.106(e)(2)(ii) and 29 CFR 1926.152(f)(1)]  | Y   N   N/A |
| 41. Are combustible waste materials and residues kept to a minimum, stored in covered metal receptacles, and disposed of daily? [29 CFR 1910.106(e)(9)(iii)]   | Y   N   N/A |
| 42. Are <b>flammable</b> and <b>combustible liquids</b> stored in their original container or in an <b>approved</b> safety can? [NFPA 30]  | Y   N   N/A |

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| 43. Unless the original container is designed to be used, are <b>flammable</b> or <b>combustible liquids</b> transferred to an <b>approved</b> safety can prior to use? [NFPA 30] | Y   N   N/A |
| 44. Are open flames and smoking prohibited in <b>flammable</b> or <b>combustible liquids</b> storage areas? [29 CFR 1910.106(d)(7)(iii)]  | Y   N   N/A |
| 45. Are storage areas for <b>flammable</b> or <b>combustible liquids</b> kept free from combustible materials? [29 CFR 1910.106(d)(iv)]   | Y   N   N/A |

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**Definitions:**

**Approved:** approved or listed by a nationally recognized testing laboratory.

**Class I liquids:** flammable liquids (see definition of flammable liquids).

**Class I liquids:** flammable liquids having a **flash point** below 73°F and a boiling point below 100°F. Typical Class IA liquids include: acetaldehyde, ethyl ether, methyl ethyl ether, pentane, and petroleum ether.

**Class IB liquids:** flammable liquids having a **flash point** below 73°F and having boiling points at or above 100°F. Typical Class IB liquids include: acetone, benzene, butyl acetate, denatured alcohol, ethyl alcohol, gasoline, gin (ethyl alcohol and water), heptane, hexane, isopropyl alcohol, methyl alcohol, methyl ethyl ketone, toluene, and jet fuels.

**Class IC liquids:** flammable liquids having **flash points** at or above 73°F and below 100°F. Typical Class IC liquids include: banana oil (isoamyl acetate), butyl alcohol, propyl alcohol, styrene, turpentine, and xylene.

**Class II liquids:** flammable liquids with **flash points** at or above 100°F and below 140°F. Typical Class II liquids include: diesel fuel, fuel oils, kerosene, Stoddard solvent, Anchor type car wash, and mineral spirits.

**Class III liquids:** flammable liquids with **flash points** at or above 140°F. Class III liquids are subdivided into two subclasses: Class IIIA liquids include those with flashpoints at or above 140°F and below 200°F, except any mixture having components with flashpoints of 200°F, or higher, the total volume of which make up 99% or more of the total volume of the mixture. Class IIIB liquids include those with flashpoints at or above 200°F. This section does not cover Class IIIB liquids.

**Class IIIA liquids:** flammable liquids with **flash points** at or above 140°F.

**Combustible liquid:** any liquid having a **flash point** at or above 100°F. Combustible liquids are known as Class II and Class III liquids.

**Flammable liquid:** any liquid having a **flash point** below 100°F, and have a vapor pressure not exceeding 40 psia (pounds per square inch absolute) at 100°F. Flammable liquids are known as Class I liquids and can be divided into Class IA, IB and IC.

**Flash point:** the minimum temperature in degrees Fahrenheit at which a flammable liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion.