

California General Industry Safety Orders

Flammable Liquids, Gases and Vapors - Container and Portable Tank Storage

5536. Storage Inside Buildings

- (a) Flammable or combustible liquids, including stock for sale, shall not be stored so as to limit use of exits, stairways, or areas normally used for the safe egress of people.
- (b) The storage of flammable or combustible liquids in containers or portable tanks shall comply with Sections 5537 through 5541

5540. General Purpose or Industrial Plant Warehouses

Storage shall be in accordance with Table FL-4 or FL-5 and in buildings or in portions of such buildings cut off by fire walls of not less than 2-hour fire-resistive construction. Material creating no fire exposure hazard to the flammable or combustible liquids may be stored in the same area.

5541 Flammable and Combustible Liquid Warehouses or Storage Buildings

- (a) If storage building is located 50 feet or less from a building or line of adjoining property that may be built upon, the exposing wall shall have a fire-resistance rating of at least two hours with any openings protected by approved fire doors.
- (b) The total quantity of liquids within a building shall not be restricted, but the arrangement of storage shall comply with Tables FL-4 or FL-5.
- (c) Containers in piles shall be separated by pallets or dunnage where necessary to provide stability and to prevent excessive stress on container walls.
- (d) Portable tanks stored over one tier high shall be designed to nest securely, without dunnage, and adequate materials handling equipment shall be available to handle tanks safely at the upper tier level.
- (e) No pile shall be closer than three feet to the nearest beam, chord, girder or other obstructions, and shall be three feet below sprinkler deflectors or discharge orifices of water spray, or other overhead fire protection systems.
- (f) Aisles at least three feet wide shall be provided where necessary for reasons of access to doors, windows or standpipe connections.

Cal OSHA standards can be reviewed at
<http://www.dir.ca.gov/samples/search/query.htm>

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**Table FL-4
Indoor Container Storage**

Class Liquid	Storage Level	Protected Storage*	Unprotected Storage
		Maximum Per Pile Gals.	Maximum Per Pile Gals.
IA	Ground & Upper Floors	2,750 (50)	660 (12)
	Basement	Not permitted	Not permitted
IB	Ground & Upper Floors	5,500 (100)	1,375 (25)
	Basement	Not Permitted	Not Permitted
IC	Ground & Upper Floors	16,500 (300)	4,125 (75)
	Basement	Not permitted	Not permitted
II	Ground & Upper Floors	16,500 (300)	4,125 (75)
	Basement	5,500 (100)	Not permitted
III	Ground & Upper Floors	55,000 (1,000)	13,750 (250)
	Basement	8,250 (150)	Not permitted

**Table FL-5
Indoor Portable Tank Storage**

Class Liquid	Storage Level	Protected Storage*	Unprotected Storage
		Maximum Per Pile Gals.	Maximum Per Pile Gals.
IA	Ground & Upper Floors	Not permitted	Not Permitted
	Basement	Not permitted	Not permitted
IB	Ground & Upper Floors	20,000	2,000
	Basement	Not Permitted	Not Permitted
IC	Ground & Upper Floors	40,000	5,500
	Basement	Not permitted	Not permitted
II	Ground & Upper Floors	40,000	5,500
	Basement	20,000	Not permitted
III	Ground & Upper Floors	60,000	22,000
	Basement	20,000	Not permitted

** A sprinkler or equivalent fire protection system installed in accordance with the applicable NFPA Standard*

NOTE: 1: When two or more classes of materials are stored in a single pile, the maximum gallonage permitted in that pile shall be the smallest of the two or more separate maximum

NOTE: 2: Aisles shall be provided so that no portable tank is more than 12 feet from an aisle. Main aisles shall be at least eight feet wide and side aisles at least four feet wide

NOTE: 3: Each pile shall be separated from each other pile by at least four feet. When stored on suitably protected racks or when the storage is suitably protected, portable tanks may be piled up to the height limits in Section 5541(e)

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