



Chambers County Fire Marshal's Office HazMat Storage Requirements



Storage of Hazardous Materials

Storage of hazardous materials shall be in accordance with the county-adopted fire code, *International Fire Code*, 2021 Edition, and applicable NFPA standards when referenced. **Yearly operational permits (renewed calendar year) are required to store hazardous materials in excess of the maximum quantities indicated in IFC 2021.**

Sprinklered vs. Non-Sprinklered Buildings

Buildings constructed after May 24, 2011 shall be constructed according to the county-adopted fire code. Conditions and operations, regardless of the date the building was constructed, shall be regulated by the county-adopted fire code. Regardless of building square footage, storage exceeding quantities per control area, as referenced in Table 5003.1.1(1), may require the building to be sprinklered and/or classified as a Hazardous (H) occupancy.

Control Areas

A control area is a means to separate hazardous materials by the use of 1-hour fire barriers. A building without defined control areas is considered one control area (for example, an open 10,000sf warehouse). Maximum allowable quantities per control area are determined by Chapter 50 and additional chapters of the IFC which regulate specific hazardous materials. A single story, non-sprinklered building is allowed a maximum of 4 control areas per Table 5003.8.3.2. In some cases, the addition of a fire sprinkler system will allow a 100% storage increase, as is the case with flammable and combustible liquid storage warehouses (Ch. 57).

In general, **INDOOR** storage of hazardous materials is limited to the following quantities in a single, non-sprinklered building. Storage may be allowed to be increased for sprinklered buildings. Ref. IFC Sec. 5003.1.1.

Product	Maximum Per Control Area	Note
Diesel (II)	120 gallons	Ref. Ch. 57
Gasoline (IB)	120 gallons	Ref. Ch. 57
Propane*	200 pounds 300 pounds	If accessible by the public If non-public accessible Ref. Ch. 61 and NFPA 58
Acetylene	1,000 cubic feet	Ref. Ch. 58
Chlorine (3)**	10 pounds solid or liquid. 1,350 pounds solid, 135 gallons liquid if Group S or M.	220 pounds solid or 22 gallons liquid if stored for maintenance or operations purposes Ref. Ch. 63 Ref. Table 5003.11.1

Toxics	500 pounds of solid or liquid, 810 cubic feet of gas, 150 pounds of liquefied	Ref. Ch. 60
Highly Toxics	10 pounds of solid or liquid, 20 cubic feet of gas, 4 pounds of liquefied	Ref. Ch. 60

*Provisions of NFPA 58 shall also apply. In general, the use of LP gas indoors is prohibited. A small self-contained torch assembly with a 2.7lb container is allowed. Ref. Sec. 6103.

** Table 5003.11.1 allows increases for Group S or M occupancies, including increases for storage cabinets and 10-pound packaging. See table footnotes b, c, and g.

Outdoor Storage Areas

Storage outside of a building shall be per Sec. 5003.12, and any related specific chapters of the IFC. Outdoor storage of materials is still regulated by control areas, per Table 5003.1.1(3), and any related specific chapters. The material to be stored will dictate specific requirements. For example, the outdoor storage amounts of flammable and combustible liquids in containers is regulated by Ch. 57 and Table 5704.4.2, and significantly more quantities may be stored than indoors, subject to those specific provisions.

Outdoor control areas must be free of weeds and combustible materials, and not be located adjacent to buildings or a lot lines (unless protected with a 2-hour fire resistance-rated wall). Depending upon lot size, multiple outdoor control areas may be allowed, if separated according to Sec. 5003.12 (3) and (4).

In general, **OUTDOOR** storage of hazardous materials is limited to the following quantities:

Product	Maximum Per Control Area	Note
Diesel (II)	8,800 gallons of containers 17,600 gallons of portable tanks	5ft between storage piles, 25ft to lot line or building on site* Ref. Ch. 57 and Table 5704.4.2
Gasoline (IB)	2,200 gallons of containers 4,400 gallons of portable tanks	5ft between storage piles, 50ft to lot line or buildings on site* Ref. Ch. 57
Propane	Containers stored – not connected for use -	Reference IFC Table 6109.12 for additional information Ref. Ch. 61 and NFPA 58
Acetylene	3,000 cubic feet	Ref. Ch. 58
Chlorine (3)**	40 pounds solid or liquid 1,350 pounds solid, 135 gallons liquid if Group S or M.	200 pounds or 20 gallons if stored for maintenance or operations purposes Ref. Ch. 63 Ref. Table 5003.11.1
Toxics	1,000 pounds of solid or liquid, 1,620 cubic feet of gas or 300 pounds liquefied	Toxic and Highly toxic compressed gases not allowed within 75' of lot line, street, or

		public way, unless a 2-hour fire barrier. Ref. Sec. 6004.3.2. Ref. Ch. 60
Highly Toxics	20 pounds of solid or liquid, 40 cubic feet of gas or 8 pounds liquefied.	See above. Ref. Ch. 60

**Table 5003.11.1 allows increases for Group S or M occupancies, including increases for storage cabinets and 10 pound packaging. See table footnotes b, c, and g.

Location of outdoor storage in relation to distance to buildings and lot lines has to be evaluated.

Gas Rooms and Exhausted Enclosures

In some cases, gas rooms, exhausted enclosures, gas cabinets, and hazardous materials storage cabinets may be used to exceed the maximum allowable storage quantity. Gas rooms must be protected with an automatic sprinkler system, and exhausted enclosures must be protected with an automatic extinguishing system. Construction requirements for each are referenced in Sec. 5003.8.4, 5, 6, and 7.

Stationary Tanks

Specific requirements for outdoor storage tank locations will apply. Ref. Table 5705.3.4(2) for flammable and combustible liquid tanks, and Table 6104.3 for stationary LP-Gas Containers.

Spill Containment

Spill control measures, including secondary containment, must be in place per Sec. 5004. Liquid tight, sloped or recessed floors, dikes, etc. may be utilized. Storage of toxic or highly toxic materials require liquid tight floors per IFC Sec. 6003.1.4.

Signs and Placards

Proper NFPA 704 hazard signs and “No Smoking” signs must be in place, as applicable. Ref. Sec. 5003.5, 5003.7.1

Hazardous Materials Inventory Statement and SDS

Facilities must submit hazardous materials inventories and Safety Data Sheets (SDS) per Sec. 5001.5.1 and 5001.5.2

Separation from Other Occupancies

Separation from Other Occupancies: If you are also going to have offices in the building, there needs to be at least a 2 hour separation between it and the storage area (IBC 508.4).

Storage Plans and Layouts

Knowing the class of materials stored, container sizes, and total desired quantity to be stored of each will help determine specific requirements. Information such as group container size and type, quantities of each container, and storage height are needed for review. Once this is known,

a storage layout can be determined (for example pile size, aisle widths, space between piles, separation of incompatible materials, etc.).

Specific Storage Requirements

Although Chapter 50 and the above requirements apply to all hazardous materials storage occupancies, specific storage requirements will depend upon the type of material, the amount of material, and the type of building in which the material is to be stored. For example, flammable and combustible liquids, toxics, and LP gas have some specific requirements.

Flammable and Combustible Liquids (IFC Ch. 57)

In addition to the above requirements,

- The height of storage piles and maximum quantities per pile ref. 5704.3.6.3(2).
- Separation between storage piles should be at least 4'. So your storage arrangement would be "squares" of these storage piles arranged with 4' aisles in between. Main aisles should be a minimum of 8' wide (for example, a main aisle down the middle of the warehouse leading to an overhead door, etc.). Ref. 5704.3.7.2.2.
- Adequate ventilation required per 5704.3.8.3
- Standpipes with 1 inch or 1.5" hose lines required in sufficient number to reach all liquid storage areas per 5704.3.8.5 and 905.5. All portions of the building must be within 30 ft. of a nozzle attached to 100 ft. hose.

Toxics and Highly Toxic Hazardous Materials (IFC Ch. 60)

- Require liquid tight floors per Sec. 6003.1.4.1
- Exhaust ventilation may be required per Sec. 6003.1.5.2, 6003.1.5.3
- Fire and/or Gas detection may be required per Sec. 6004.2.2.9, 6004.2.2.10 for toxic gas storage.

Fire Code Review

In order to determine specific requirements for your particular application, please submit a site plan to the Fire Marshal's Office, indicating:

1. Type and quantities of materials to be stored;
2. SDS (MSDS) documentation;
3. Size and type of containers the material will be stored in;
4. Location of outdoor storage in relation to buildings and lot lines; and
5. Hazardous Materials Inventory Statement and Routing Forms are required.

Permit Requirements

1. Yearly operational permit required for hazardous materials storage in excess of maximum quantities allowed per IFC.
2. Submit for a permit online at www.mygovernmentonline.org.

*For information, please email firemarshal@chamberstx.gov