

SUBCHAPTER U : TANKS, STORAGE, AND LOADING
§§106.471 - 106.478
Effective September 4, 2000

§106.471. Storage or Holding of Dry Natural Gas.

Equipment used exclusively to store or hold dry natural gas is permitted by rule.

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§106.472. Organic and Inorganic Liquid Loading and Unloading.

Liquid loading or unloading equipment for railcars, tank trucks, or drums; storage containers, reservoirs, tanks; and change of service of material loaded, unloaded, or stored is permitted by rule, provided that no visible emissions result and the chemicals loaded, unloaded, or stored are limited to:

(1) the following list: asphalt, resins, soaps, lube oils, fuel oils, waxes, polymers, detergents, lube oil additives, kerosene, wax emulsions, vegetable oils, greases, animal fats, and diesel fuels;

(2) water or wastewater;

(3) aqueous salt solutions;

(4) aqueous caustic solutions, except ammonia solutions;

(5) inorganic acids except oleum, hydrofluoric, and hydrochloric acids;

(6) aqueous ammonia solutions if vented through a water scrubber;

(7) hydrochloric acid if vented through a water scrubber;

(8) acetic acid if vented through a water scrubber;

(9) organic liquids having an initial boiling point of 300 degrees Fahrenheit or greater. Facilities loading, unloading, or storing butyric acid, isobutyric acid, methacrylic acid, mercaptans, croton oil, 2-methyl styrene, or any other compound with an initial boiling point of 300 degrees Fahrenheit or greater listed in 40 Code of Federal Regulations 261, Appendix VIII shall be located at least 500 feet from any recreational area or residence or other structure not occupied or used solely by the owner of the facility or the owner of the property upon which the facility is located.

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§106.473. Organic Liquid Loading and Unloading.

Organic liquids loading or unloading equipment for railcars, tank trucks, or drums; and storage containers, tanks, or change of service of the material loaded, unloaded, or stored is permitted by rule, provided that all of the following conditions of this section are met.

- (1) Uncontrolled emissions calculated using the version of AP-42 in effect at the time are less than 25 tons per year of organic compounds or of any other air contaminant.
- (2) The loading rate of the facilities does not exceed 20,000 gallons per day averaged over any consecutive 30-day period.
- (3) The capacity of any tank does not exceed 25,000 gallons, except that tanks having a capacity of less than 40,000 gallons may be used to store sweet crude oil, sweet natural gas condensate, gasoline, and petroleum fuels.
- (4) The facilities are used exclusively for the loading, unloading, or storage of:
 - (A) organic liquids normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings;
 - (B) petroleum, petroleum fuels, other motor vehicle fuels, and natural gas liquids, none of which have a true vapor pressure of 11.0 pounds per square inch, absolute, or greater at maximum temperature of use;
- (5) The facilities will meet any applicable requirements of Chapter 115 of this title (relating to Control of Air Pollution from Volatile Organic Compounds);
- (6) Facilities used for the loading, unloading, or storage of any compound listed in 40 Code of Federal Regulations 261, Appendix VIII are not permitted by rule under this section.

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§106.474. Hydrochloric Acid Storage.

Hydrochloric acid storage tanks used exclusively for the storage of hydrochloric acid with an acid strength of 38% by weight or less are permitted by rule. If an acid more concentrated than 20% by weight is stored, the tank vent must be controlled to reduce emissions by at least 99%.

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§106.475. Pressurized Tanks or Tanks Vented to a Firebox.

Any vessel storing carbon compounds composed only of carbon, hydrogen, or oxygen is permitted by rule, provided that the vessel vent is directed to an incinerator, boiler, or other firebox having a stationary flue or a waste gas flare system that will operate with no visible emissions except as provided by Chapter 101 of this title (relating to General Air Quality Rules) for periods of maintenance or operational upset. However, vessels not exceeding 100 barrels capacity and storing only liquid petroleum gas may have the safety relief valve vent directly to the atmosphere. Also, any tank having a capacity not to exceed 1,000 gallons and storing only commercial odorants used to odorize petroleum gases may have the safety relief valve vent directly to the atmosphere.

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§106.476. Pressurized Tanks or Tanks Vented to Control.

Any tank or other container storing carbon compounds is permitted by rule, provided that the tank or container pressure is sufficient at all times to prevent vapor or gas loss to the atmosphere or the tank or container is equipped with a relief valve which directs all vapors or gases to an incinerator, boiler, or other firebox having a stationary flue or a waste gas smokeless flare system. The vapors or gases and any necessary fuel gas shall be mixed thoroughly upstream of the heater burner(s) or the flare tip such that the mixed gases have a minimum net or lower heating value of 200 British thermal units per cubic foot. The flare also shall meet the other requirements of §106.492 of this title (relating to Flares).

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§106.477. Anhydrous Ammonia Storage.

Anhydrous ammonia storage tanks and distribution facilities that meet the following conditions are permitted by rule.

(1) All valves, connectors, and hoses, associated with permanent storage tanks and any nurse tanks stored on-site, shall be properly maintained in leak-proof condition at all times.

(2) The capacity of each permanent storage tank is 30,000 gallons or less.

(3) When transferring ammonia, all vapors shall be vented back to the host tank and never to the atmosphere.

(4) When relieving pressure from hoses associated with permanent storage tanks and any nurse tanks, all vapors shall be bled into an adequate volume of water and never to the atmosphere.

(5) Each permanent storage tank and any nurse tanks stored on-site are equipped to prevent unauthorized operation.

(6) Before construction begins, written site approval must be received from the regional director and the owner or operator shall file with the commission's Office of Permitting, Remediation,

and Registration in Austin a completed Form PI-7 and supporting documentation demonstrating that all of the requirements of this section will be met.

(7) Each permanent storage tank is located at least 1/4 mile from any recreational area or residence or other structure not occupied or used solely by the owner of the property upon which the facility is located.

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§106.478. Storage Tank and Change of Service.

Any fixed or floating roof storage tank, or change of service in any tank, used to store chemicals or mixtures of chemicals shown in Table 478 in paragraph (8) of this section is permitted by rule, provided that all of the following conditions of this section are met:

(1) The tank shall be located at least 500 feet away from any recreational area or residence or other structure not occupied or used solely by the owner of the facility or the owner of the property upon which the facility is located.

(2) The true vapor pressure of the compound to be stored shall be less than 11.0 psia at the maximum storage temperature.

(3) For those compounds that have a true vapor pressure greater than 0.5 psia and less than 11.0 psia at the maximum storage temperature, any storage vessel larger than 40,000 gallons capacity shall be equipped with an internal floating cover or equivalent control.

(A) An open top tank containing an external floating roof using double seal technology shall be an approved control alternative equivalent to an internal floating cover tank, provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal. Double seals having a vapor-mounted primary seal are an approved alternative for existing open top floating roof tanks undergoing a change of service.

(B) The floating cover or floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute Code 650, Appendix C or an equivalent degree of flotation.

(4) Compounds with a true vapor pressure of 0.5 psia or less at the maximum storage temperature may be stored in a fixed roof or cone roof tank which includes a submerged fill pipe or utilizes bottom loading.

(5) For fixed or cone roof tanks having no internal floating cover, all uninsulated tank exterior surfaces exposed to the sun shall be painted chalk white except where a dark color is necessary to help the tank absorb or retain heat in order to maintain the material in the tank in a liquid state.

(6) Emissions shall be calculated by methods specified in Section 4.3 of the current edition of the United States Environmental Protection Agency Publication AP-42. This document may

be obtained from the Superintendent of Documents, Washington D.C. 20402. It is Stock Number 0550000251-7, Volume I.

(7) Before construction begins, storage tanks of 25,000 gallons or greater capacity and located in a designated nonattainment area for ozone shall be registered with the commission's Office of Permitting, Remediation, and Registration in Austin using Form PI-7. The registration shall include a list of all tanks, calculated emissions for each carbon compound in tons per year for each tank, and a Table 7 of Form PI-2 for each different tank design.

(8) Mixtures of the chemicals listed in Table 478 which contain more than a total of 1.0% by volume of all other chemicals not listed in Table 478 are not covered by this section.

Table 478
Approved Chemical List for Exemption from Permitting

A. Compounds of the following classes containing only atoms of carbon and hydrogen, not including aromatic compounds:

Paraffins. Examples: hexane, pentane, octane, isooctane.

Cycloparaffins (except cyclopentane). Examples: cyclohexane, methyl cyclopentane.

Olefins (except butadiene). Examples: octene, isoprene.

Cycloolefins. Examples: cyclopentadiene, cyclohexene.

B. Aromatic hydrocarbons only as follows: Ethyl benzene, styrene, xylenes.

C. Compounds of the following classes containing only atoms of carbon, hydrogen, and oxygen:

Alcohols (except allyl alcohol, isobutyl alcohol, and propargyl alcohol). Examples of approved alcohols: butyl alcohol, ethylene glycol.

Ethers (except vinyl ethers, glycol ethers, epoxides, and other ringed oxide compounds such as ketenes, furans, and pyrans). Examples of approved ethers: butyl ether, isopropyl ether.

Esters (except acrylates, methacrylates, allyl acetate, vinyl acetate, isopropyl formate). Examples of approved esters: ethyl acetate, butyl formate, methyl propionate.

Ketones (except allyl acetone, methyl ethyl ketone, methyl normal butyl ketone, acetophenone, and vinyl ketones). Examples of approved ketones: acetone, hexanone.

D. Additional chemicals:

Crude oil and refinery petroleum fractions (except pyrolysis naphthas and pyrolysis gasolines) containing less than 10% benzene. Examples of approved petroleum fractions: intermediate and finished gasolines, naphthas, alkylates, fluid catalytic cracking unit feed, fuel oils, distillates, other liquid fuels, and condensates.

Natural gas and crude oil condensates that do not emit sour gas.

E. Non-approved chemicals:

Other chemicals not specifically included within the classes defined above are not approved.

Examples of non-approved chemicals: aromatics (other than those listed or those found in the crude oil and refinery liquids as listed); aldehydes; amines; amides; imines; nitriles; halogenated compounds; sulfonated chemicals; cyanates; organic acids; ethylene oxide (EtO), propylene oxide, and other oxygenated compounds not listed; organometallic compounds; pesticides.

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