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(n) The provisions of § 151.50–10 shall be complied with as a requirement for shipping ethylene oxide.

(o) A hydrostatic test of 1½ times the design pressure shall be made on the cargo tanks at least once in each 4 years at the time the internal examination is made and at such other times as considered necessary by the Officer in Charge, Marine Inspection.

[CGFR 70–10, 35 FR 3714, Feb. 25, 1970, as amended by CGD 85–061, 54 FR 50966, Dec. 11, 1989]

§ 151.50–13 Propylene oxide.

(a)(1) Pressure vessel cargo tanks shall meet the requirements of Class II pressure vessels.

(2) Cargo tanks shall be designed for the maximum pressure expected to be encountered during loading, storing and discharging the cargo but in no case shall the design pressure of pressure vessel tanks be less than thirty (30) pounds per square inch gauge. The tank shell and heads shall not be less than 5/16-inch thick.

(b) When propylene oxide is carried on board a vessel, piping systems in propylene oxide service shall not be used for any other product and shall be completely separate from all other systems. The piping system shall be designed so that no cross connection may be made through inadvertence.

(c) Each safety relief valve shall be set to start to discharge at not less than 30 pounds per square inch gauge, nor more than the design pressure of the tank.

(d) Filling density shall not exceed 80 percent.

(e)(1) The cargo shall be shipped under a suitable protective padding, such as nitrogen gas. Other gases proposed for use as padding may be given consideration by the Commandant. Original charging only of protective gas padding at the loading facility is not considered adequate. A sufficient amount of spare padding gas as approved by the Commandant shall be provided on the vessel in order to maintain the proper concentration of the gas in the event of normal leakage or other losses.

(2) Any padding gas selected should be at least 98 percent pure and free of reactive materials.

(f) Prior to loading, a sample from the cargo tank will be taken to insure that the pad gas will meet the requirements of paragraph (e) of this section and that the oxygen content of the vapor space will be not more than 2 percent maximum. If necessary, a sample will be taken after loading to insure the vapor space meets this requirement.

(g) The cargo piping shall be subjected to a hydrostatic test of 1½ times the maximum pressure to which they may be subjected in service.

(h) The Commandant may permit the transportation of propylene oxide in other than pressure vessel type tanks if it is shown to his satisfaction that a degree of safety is obtained consistent with the minimum requirements of this subpart.

(i) The provisions of § 151.50–10 shall be complied with as a requirement for shipping propylene oxide.

§ 151.50–20 Inorganic acids.

(a)(1) Gravity type cargo tanks shall be designed and tested to meet the rules of the American Bureau of Shipping for a head of water at least 8 feet above the tank top or the highest level the lading may rise, whichever is the greater. The plate thickness of any part of the tank shall not be less than three-eighths inch.

(2) Gravity tank vents. (i) The outlet end of the gravity tank vent shall terminate above the weatherdeck, clear of all obstructions and away from any source of ignition.

(ii) The gravity tank vent shall terminate in a gooseneck bend and shall be fitted with a single flame screen or two fitted flame screens as described in § 151.03–25. No shutoff valve or frangible disk shall be fitted in the vent lines.

(b)(1) Pressure vessel type cargo tanks shall be independent of the vessel's structure and shall be designed for the maximum pressure to which they may be subjected when compressed air is used to discharge the cargo, but in no case shall the design pressure be less than that indicated as follows:

Fluorosilicic Acid—50 pounds per square inch gauge.
Hydrochloric Acid—50 pounds per square inch gauge.
Hydrofluorosilicic Acid, see Fluorosilicic Acid.