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(ii) A pressure actuated shutdown switch set to operate at 1.72 MPa gauge (250 psig) or less; and

(iii) A safety relief valve set to relieve at 1.77 MPa gauge (256 psig) or less anywhere except into the compressor suction line.

(c) The piping system, including the cargo refrigeration system, for tanks to be loaded with methyl acetylene-propadiene mixture must be completely separate from piping and refrigeration systems for other tanks. If the piping system for the tanks to be loaded with methyl acetylene-propadiene mixture is not independent, the required piping separation must be accomplished by the removal of spool pieces, valves or other pipe sections and the installation of blank flanges at these locations. The required separation applies to all liquid and vapor piping, liquid and vapor vent lines and any other possible connections, such as common inert gas supply lines.

[CGD 80–001, 46 FR 63279, Dec. 31, 1981]

§ 151.50–80 Nitric acid (70% or less).

(a) Tanks, cargo piping, valves, fittings, and flanges (where exposed to the acid) must be lined with nitric acid resistant rubber or fabricated from nitric acid resistant stainless steel. See § 151.15–3(f)(2).

(b) During cargo transfer, a water hose must be connected to a water supply, ready for immediate use. Any leakage or spillage of acid must be immediately washed down. This requirement can be met by facilities provided from shore.

(c) Nitric acid contaminated by other chemicals, oils, solvents, etc. may not be transported in bulk without an authorization from the Commandant (G–MSO).

[CGD 80–001, 46 FR 63280, Dec. 31, 1981, as amended by CGD 82–063b, 48 FR 4781, Feb. 3, 1983; CGD 88–100, 54 FR 40041, Sept. 29, 1989]

§ 151.50–81 Special operating requirements for heat sensitive cargoes.

When table 151.05 refers to this section, the following apply to the cargo:

(a) Must not be carried in a tank equipped with heating coils unless the heating supply to the coils is disconnected.

(b) Must not be carried in a tank adjacent to another tank containing an elevated temperature cargo.

(c) Must not be carried in a deck tank.

[CGD 80–001, 46 FR 63280, Dec. 31, 1981, as amended by CGD 88–100, 54 FR 40041, Sept. 29, 1989]

§ 151.50–84 Sulfur dioxide.

(a) Sulfur dioxide that is transported under the provisions of this part may not contain more than 100 ppm of water.

(b) Cargo piping must be at least Schedule 40 pipe.

(c) Flanges must be 150 lb. A.N.S.I. Standard minimum with tongue and groove or raised face.

(d) A cargo tank must:

(1) Meet the requirements of a Class I welded pressure vessel;

(2) Be designed for a maximum allowable working pressure of at least 125 psig;

(3) Be hydrostatically tested every two years to at least 188 psig;

(4) Be provided with one or more manholes that are fitted with a cover sized not less than 15 inches by 23 inches or 13 inches nominal diameter, located above the maximum liquid level, and as close as possible to the top of the tank;

(5) Have no openings other than those required in paragraph (d)(4) of this section;

(6) Have no liquid level gauges other than closed or indirect gauges;

(7) Have all valves and the closed gauge that is required by Table 151.05 bolted to the cover or covers that are required in paragraph (d)(4) of this section;

(8) Have a metal housing that is fitted with a drain and vent connection protecting all valves and the closed gauge within this housing against mechanical damage;

(9) Have all safety relief valves discharging into the protective housing;

(10) Not be interconnected with another cargo tank by piping or manifold that carriers cargo liquid, except vapor lines connected to a common header, and

(11) Have an excess flow valve that is located on the inside of the tank for

every liquid and vapor connection, except the safety relief valve;

(12) Have no bypass opening on any excess flow valve.

(e) Cargo transfer operations:

(1) May not be conducted with more than one cargo tank at a time unles each tank is filled from or discharged to shore tanks through separate lines;

(2) Must be conducted with connections between fixed barge piping and shore piping of either Schedule 40 pipe having flexible metallic joints that meet §151.04–5(h) or of flexible metallic hose that is acceptable to the Commandant (G–MSO);

(3) From barge to shore must be by pressurization with an oil free, non-reactive gas that has a maximum of 100 ppm moisture;

(4) Must be conducted with vapor return to shore connections that ensure that all vapor is returned to shore; and

(5) Must be conducted with every person on the barge carrying a respiratory protective device that protects the wearer against sulfur dioxide vapors and provides respiratory protection for emergency escape from a contaminated area that results from cargo leakage.

(f) Respiratory protective equipment must be of a size and weight that allows unrestricted movement and wearing of a lifesaving device.

(g) After the completion of cargo transfer, all liquid sulfur dioxide in the cargo piping must be removed and cargo transfer piping must be disconnected at the cargo tanks. After the cargo piping is disconnected, both ends of the line must be plugged or fitted with blind flanges.

[CGD 80–001, 46 FR 63280, Dec. 31, 1981, as amended by CGD 82–063b, 48 FR 4781, Feb. 3, 1983; CGD 88–100, 54 FR 40041, Sept. 29, 1989; 55 FR 17276, Apr. 24, 1990]

§ 151.50–86 Alkyl (C7–C9) nitrates.

(a) The carriage temperature of octyl nitrates must be maintained below 100°C (212°F) in order to prevent the occurrence of a self-sustaining exothermic decomposition reaction.

(b) Octyl nitrates may not be carried in a deck tank unless the tank has a combination of insulation and a water deluge system sufficient to maintain the tank's cargo temperature below 100°C (212°F) and the cargo temperature rise at or below 1.5°C (2.7°F)/hour, for a fire of 650°C (1200°F).

[CGD 88–100, 54 FR 40040, Sept. 29, 1989; CGD 92–100, 59 FR 17028, Apr. 11, 1994]

Subpart 151.55—Special Requirements for Materials of Construction

§ 151.55–1 General.

(a) This section provides special requirements for the materials of construction of equipment that may come into contact with various cargoes. Table 151.05 contains specific requirements for various cargoes.

(b) Copper, copper alloys, zinc, and aluminum shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to §151.56–1(a),(b), and (c).)

(c) Copper, copper alloys, zinc, galvanized steel, and mercury shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to §151.56–1(b),(c), and (g).)

(d) Aluminum, magnesium, zinc, and lithium shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to §151.56–1(a),(c), and (d).)

(e) Copper and copper bearing alloys shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to §151.56–1(b).)

(f) Aluminum or copper or alloys of either shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo vapor or liquid. (Equivalent to §151.56–1(a) and (b).)

(g) Aluminum, stainless steel, or steel covered with a suitable protective lining or coating shall be used as materials of construction for tanks, pipelines, valves fittings, and other items of equipment that may come in contact