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(e) The vapor space of a cargo tank carrying ethylene oxide must be maintained at a nitrogen concentration of 45% by volume.

(f) A vessel must have a method for jettisoning ethylene oxide that meets §§ 154.356 and 154.1872.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983]

§ 154.1730 Ethylene oxide: Loading and off loading.

(a) The master shall ensure that before ethylene oxide is loaded into a cargo tank:

(1) The tank is thoroughly clean, dry, and free of rust;

(2) The hold spaces are inerted with an inert gas that meets § 154.1710(b)(1); and

(3) The cargo tank vapor space is inerted with nitrogen.

(b) Ethylene oxide must be off loaded by a deepwell pump or inert gas displacement.

(c) Ethylene oxide must not be carried in deck tanks.

§ 154.1735 Methyl acetylene-propadiene mixture.

(a) The composition of the methyl acetylene-propadiene mixture at loading must be within the following limits or specially approved by the Commandant (G–MSO):

(1) One composition is:

(i) Maximum methyl acetylene and propadiene molar ratio of 3 to 1;

(ii) Maximum combined concentration of methyl acetylene and propadiene of 65 mole percent;

(iii) Minimum combined concentration of propane, butane, and isobutane of 24 mole percent, of which at least one-third (on a molar basis) must be butanes and one-third propane; and

(iv) Maximum combined concentration of propylene and butadiene of 10 mole percent.

(2) A second composition is:

(i) Maximum methyl acetylene and propadiene combined concentration of 30 mole percent;

(ii) Maximum methyl acetylene concentration of 20 mole percent;

(iii) Maximum propadiene concentration of 20 mole percent;

(iv) Maximum propylene concentration of 45 mole percent;

(v) Maximum butadiene and butylenes combined concentration of 2 mole percent;

(vi) A minimum saturated C_4 hydrocarbon concentration of 4 mole percent; and

(vii) A minimum propane concentration of 25 mole percent.

(b) A vessel carrying a methyl acetylene-propadiene mixture must have a refrigeration system without vapor compression or have a refrigeration system with the following features:

(1) A vapor compressor that does not raise the temperature and pressure of the vapor above 60°C (140°F) and 1.72 MPa gauge (250 psig) during its operation and that does not allow vapor to stagnate in the compressor while it continues to run.

(2) Discharge piping from each compressor stage or each cylinder in the same stage of a reciprocating compressor that has:

(i) Two temperature actuated shutdown switches set to operate at 60°C (140°F) or less;

(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.

(3) A relief valve that vents to a mast meeting § 154.805 and that does not relieve into the compressor suction line.

(4) An alarm that sounds in the cargo control station and in the wheelhouse when any of the high pressure or high temperature switches under paragraphs (b)(2)(i) and (b)(2)(ii) of this section operate.

(c) A vessel carrying a methyl acetylene-propadiene mixture must have separate cargo piping, vent piping, and refrigeration equipment for methyl acetylene-propadiene that are segregated from other cargo piping, vent piping and refrigeration equipment on the vessel.

[CGD 74–289, 44 FR 26009, May 3, 1979; 44 FR 59234, Oct. 15, 1979; CGD 82–063b, 48 FR 4782, Feb. 3, 1983]