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must be portable, each able to measure vapor concentrations in the range of the time weighted average (TWA) for the cargo. The portable detector may be a direct reading detector tube instrument. These vapor detectors may be combined with those required by §153.465.

(b) When the toxic vapor detectors required by paragraph (a) of this section are not available and the cargo referenced to this section is transferred through a cargo pumproom, the tankship must meet §153.336(b).

[CGD 78-128, 47 FR 21210, May 17, 1982]

§ 153.527 Toxic vapor protection.

When Table 1 refers to this section, a tankship must have on board for each crew member:

(a) An emergency escape breathing apparatus (EEBA) approved by the Mining Safety and Health Administration (formerly the Mining Enforcement and Safety Administration) and the National Institute for Occupational Safety and Health, or the tankship's flag administration.

(b) Where the emergency escape breathing apparatus does not protect the eyes from vapors, a set of goggles that either:

(1) Meet the specifications of ANSI Practice for Occupational and Educational Eye and Face Protection, Z-87.1(1979); or

(2) Are approved by the tankship's flag administration.

[CGD 78-128, 47 FR 21210, May 17, 1982]

§ 153.530 Special requirements for alkylene oxides.

When Table 1 refers to this section, a containment system must meet the following:

(a) Except as provided in paragraphs (b) and (c) of this section, a cargo containment system must be made of:

(1) Stainless steel other than types 416 and 442; and

(2) Steel.

(b) Except as provided in paragraph (c) of this section, gaskets must be composites of spirally wound stainless steel and Teflon or similar flourinated polymer.

(c) The Commandant (G-MSO) approves a cargo containment system

using materials other than those described in this section for alkylene oxides on a case by case basis if:

(1) The person wishing to have the containment system approved completes any tests prescribed by the Commandant (G-MSO); and

(2) The Commandant (G-MSO) approves the results of the tests and the material for use with alkylene oxides.

(d) The following materials are generally found unsatisfactory for gaskets, packing, insulation, and similar uses in alkylene oxide containment systems and would require extensive testing as described in paragraph (c) of this section before being approved:

(1) Neoprene or natural rubber if it might be in contact with the alkylene oxide.

(2) Asbestos or asbestos mixed with other materials such as with many common insulations, packing materials, and gasket materials.

(3) Materials containing oxides of magnesium, such as mineral wools.

(e) The tank's relief valve setting must not be less than 21 kPa gauge (approx. 3 psig).

(f) If the containment system is equipped with a cooling system, the cooling system must:

(1) Not compress the cargo; and

(2) Regulate the cargo temperature automatically and allow manual regulation.

(g) The cargo piping system must:

(1) Comply with Part 38 of this chapter;

(2) Be completely separate from all other systems;

(3) Be assembled from valves, fittings, and accessories having a pressure rating of not less than 1030 kPa gauge (approx. 150 psig) (American National Standards Institute); and

(4) Have no threaded joints.

(h) The cargo containment system vapor space and each space listed in paragraphs (k) and (l) of this section must have continuous monitoring of oxygen concentration or have an arrangement to enable sampling with a portable oxygen analyzer.

(i) Valve disks or disk faces, seats, and other wearing valve parts must be made of stainless steel containing no less than 11 percent chromium.