

fracture, severe deformation, or other indication of change is noted.

* * * * *

■ 37. In § 173.249, paragraph (d) is revised to read as follows:

§ 173.249 Bromine.

* * * * *

(d) The tank must be made from nickel-clad or lead-lined steel plate. Nickel cladding or lead lining must be on the inside of the tank. Nickel cladding must comprise at least 20 percent of the required minimum total thickness. Nickel cladding must conform to ASTM B 162 (IBR, see § 171.7 of this subchapter). Lead lining must be at least 4.763 mm (0.188 inch) thick. All tank equipment and appurtenances in contact with the lading must be lined or made from metal not subject to deterioration by contact with lading.

* * * * *

■ 38. In § 173.301, paragraph (f)(1) is revised to read as follows:

§ 173.301 General requirements for shipment of compressed gases in cylinders and spherical pressure vessels.

* * * * *

(f) * * *

(1) Except as provided in paragraphs (f)(5) and (f)(6) of this section, a cylinder filled with a gas and offered for transportation must be equipped with one or more pressure relief devices sized and selected as to type, location, and quantity, and tested in accordance with CGA S-1.1 (compliance with paragraph 9.1.1.1 of CGA S-1.1 is not required) and S-7. The pressure relief device must be capable of preventing rupture of the normally filled cylinder when subjected to a fire test conducted in accordance with CGA C-14 (IBR, see § 171.7 of this subchapter), or, in the case of an acetylene cylinder, CGA C-12 (IBR, see § 171.7 of this subchapter).

* * * * *

■ 39. In § 173.302, paragraph (b)(3) is revised to read as follows:

§ 173.302 Filling of cylinders with non-liquefied (permanent) compressed gases.

* * * * *

(b) * * *

(3) Each cylinder must be cleaned in accordance with the requirements of GSA Federal Specification RR-C-901C, paragraphs 3.3.1 and 3.3.2 (IBR, see § 171.7 of this subchapter). Cleaning agents equivalent to those specified in Federal Specification RR-C-901C may be used provided they do not react with oxygen. One cylinder selected at random from a group of 200 or fewer and cleaned at the same time must be

tested for oil contamination in accordance with Federal Specification RR-C-901C, paragraph 4.4.2.2, and meet the specified standard of cleanliness.

* * * * *

■ 40. In § 173.302a, the definition of “K” in paragraph (b)(3)(i)(A) and paragraph (b)(3)(iii) are revised to read as follows:

§ 173.302a Additional requirements for shipment of non-liquefied (permanent) compressed gases in specification cylinders.

* * * * *

(b) * * *

(3) * * *

(i) * * *

(A) * * *

Where: * * *

$K = \text{factor} \times 10^{-7}$ experimentally determined for the particular type of cylinder being tested or derived in accordance with CGA C-5 (IBR, see § 171.7 of this subchapter);

* * * * *

(iii) Compliance with average wall stress limitation may be determined by computing the elastic expansion rejection limit in accordance with CGA C-5, by reference to data tabulated in CGA C-5, or by the manufacturer's marked elastic expansion rejection limit (REE) on the cylinder.

* * * * *

■ 41. In § 173.303, paragraphs (a) and (e) are revised to read as follows:

§ 173.303 Charging of cylinders with compressed gas in solution (acetylene).

(a) *Cylinder, filler and solvent requirements.* (Refer to applicable parts of Specification 8 and 8AL). Acetylene gas must be shipped in Specification 8 or 8AL cylinders (§ 178.59 or § 178.60 of this subchapter). The cylinders shall consist of metal shells filled with a porous material, and this material must be charged with a suitable solvent. The cylinders containing the porous material and solvent shall be successfully tested in accordance with CGA C-12 (IBR, see § 171.7 of this subchapter). Representative samples of cylinders charged with acetylene must be successfully tested in accordance with CGA C-12.

* * * * *

(e) *Prefill requirements.* Before each filling of an acetylene cylinder, the person filling the cylinder must visually inspect the outside of the cylinder in accordance with the prefill requirements contained in CGA C-13, Section 3 (IBR, see § 171.7 of this subchapter).

* * * * *

■ 42. In § 173.306, paragraphs (e)(1)(iii) and (e)(1)(v) are revised to read as follows:

§ 173.306 Limited quantities of compressed gases.

* * * * *

(e) * * *

(1) * * *

(iii) Each pressure vessel must be equipped with a safety device meeting the requirements of ANSI/ASHRAE 15 (IBR, see § 171.7 of this subchapter).

* * * * *

(v) Pressure vessels must be manufactured, inspected and tested in accordance with ANSI/ASHRAE 15, or when over 6 inches internal diameter, in accordance with Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter).

* * * * *

■ 43. In § 173.307, paragraph (a)(4)(iv) is revised to read as follows:

§ 173.307 Exceptions for compressed gases.

(a) * * *

(4) * * *

(iv) Except when offered or transported by air or vessel, 20 kg (44 pounds) or less of a Group A1 refrigerant specified in ANSI/ASHRAE Standard 15 (IBR, see § 171.7 of this subchapter); or

* * * * *

■ 44. In § 173.315, paragraph (a) Notes 3, 11, and 15, and paragraphs (i)(1)(i), (i)(13), (j)(1), (k) introductory paragraph, (k)(3), (l)(5), and (m)(1) are revised to read as follows:

§ 173.315 Compressed gases in cargo tanks and portable tanks.

(a) * * *

Note 3: If cargo tanks and portable tank containers for carbon dioxide, refrigerated liquid, and nitrous oxide, refrigerated liquid, are designed to conform to the requirements in Section VIII of the ASME Code for low temperature operation (IBR, see § 171.7 of this subchapter), the design pressure may be reduced to 100 psig or the controlled pressure, whichever is greater.

* * * * *

Note 11: MC-330, MC-331 and MC-338 cargo tanks must be insulated. Cargo tanks must meet all the following requirements. Each tank must have a design service temperature of minus 100°F., or no warmer than the boiling point at one atmosphere of the hazardous material to be shipped therein, whichever is colder, and must conform to the low-temperature requirements in Section VIII of the ASME Code. When the normal travel time is 24 hours or less, the tank's holding time as loaded must be at least twice the normal travel time. When the normal travel time exceeds 24 hours, the tank's holding time as loaded must be at least 24 hours