AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

The leakage test must consist of immersing the cylinder and valve, without the protective cap attached, in a bath of water at a temperature of approximately 66 °C (150 °F) for at least 30 minutes, during which time frequent examinations must be made to note any escape of gas. The valve of the cylinder may not be loosened after this test. Suitable safeguards must be provided to protect personnel and facilities should failure occur during the test. As an alternative, each cylinder containing phosgene may be tested for leakage by a method approved in writing by the Associate Administrator.

[67 FR 51643, Aug. 8, 2002, as amended at 71 FR 33880, June 12, 2006]

§ 173.193 Bromoacetone, methyl bromide, chloropicrin and methyl bromide or methyl chloride mixtures, etc.

(a) Bromoacetone must be packaged as follows in wooden boxes (4C1, 4C2, 4D or 4F) with inner glass receptacles or tubes in hermetically sealed metal receptacles in corrugated fiberboard cartons. Bottles may not contain over 500 g (17.6 ounces) of liquid each and must be cushioned in cans with at least 12.7 mm (0.5 inch) of absorbent material. Total amount of liquid in the outer box must not exceed 11 kg (24 pounds). Packagings must conform to the requirements of part 178 of this subchapter at the Packing Group I performance level.

(b) Bromoacetone, methyl bromide, chloropicrin and methyl bromide mixtures, chloropicrin and methyl chloride mixtures, and chloropicrin mixtures charged with non-flammable, non-liquefied compressed gas must be packed in Specification 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C cylinders having not over 113 kg (250 pounds) water capacity (nominal). This capacity does not apply to shipments of methyl bromide.

(c) Methyl bromide mixtures containing up to 2% chloropicrin must be packaged in 4G fiberboard boxes with inside metal cans containing not over one pound each, or inside metal cans with a minimum wall thickness of 0.007 inch containing not over 1¾ pounds each. The one-pound can must be capable of withstanding an internal pressure of 130 psig without leakage or permanent distortion. Vapor pressure of the contents must not exceed 130 psig at 55 °C (130 °F). The 1¾–pound can must be capable of withstanding an internal pressure of 140 psig without leakage or permanent distortion. Vapor pressure of the contents must not exceed 140 psig at 55 °C (130 °F). Cans must not be liquid full at 130 °F. Cans must be constructed of tinplate or lined with suitable material and must have concave or pressure ends.

(d) Cylinders, except those containing methyl bromide, must conform to § 173.40 of this part.

[Amdt. 173–224, 55 FR 52643, Dec. 21, 1990, as amended at 56 FR 66271, Dec. 20, 1991; 57 FR 45463, Oct. 1, 1992]

§ 173.194 Gas identification sets.

Gas identification sets containing poisonous material must be packaged in packagings conforming to the requirements of part 178 of this subchapter at the Packing Group I performance level, as follows:

(a) In glass inner receptacles, hermetically sealed, of not over 40 mL (1.4 fluid ounces) each. Each glass inner receptacle must in turn be placed in a sealed fiberboard receptacle, cushioned with absorbent material. Not more than 12 fiberboard receptacles must in turn be placed in a 4G fiberboard box. No more than four boxes, well-cushioned, may in turn be placed in a steel cylinder. The cylinder must have a wall thickness of at least 3.7 mm (0.146 inch) and must have a hermetically sealed steel closure.

(b) When the poisonous material is absorbed in a medium such as activated charcoal or silical gel, gas identification sets may be shipped as follows:

(1) If the poisonous material does not exceed 5 mL (0.2 fluid ounce) if a liquid or 5 g (0.2 ounce) if a solid, it may be packed in glass inner receptacles of not over 120 mL (4.1 fluid ounces) each. Each glass receptacle, cushioned with absorbent material must be packed in a hermetically sealed metal can of not less than 0.30 mm (0.012 inch) wall thickness. Metal cans, surrounded on all sides by at least 25 mm (1 inch) of dry sawdust, must be packed in 4C1, 4C2, 4D or 4F wooden boxes. Not more than 100 mL (3.4 fluid ounces) or 100 g

(3.5 ounces) of poisonous materials may be packed in one outer wooden box.

(2) If the poisonous material does not exceed 5 mL (0.2 fluid ounce) if a liquid or 20 g (0.7 ounce) if a solid, it may be packed in glass inner receptacles with screw-top closures of not less than 60 mL (2 ounces), hermetically sealed. Twelve bottles containing poisonous material, not to exceed 100 mL (3.4 ounces) or 100 g (3.5 ounces), or both, may be placed in a plastic carrying case, each glass receptacle surrounded by absorbent cushioning and each separated from the other by sponge rubber partitions. The plastic carrying case must be placed in a tightly fitting fiberboard box which in turn must be placed in a tightly fitting 4C1, 4C2, 4D or 4F wooden box.

[Amdt. 173–224, 55 FR 52643, Dec. 21, 1990, as amended at 66 FR 45183, 45381, Aug. 28, 2001]

§ 173.195 Hydrogen cyanide, anhydrous, stabilized (hydrocyanic acid, aqueous solution).

(a) Hydrogen cyanide, anhydrous, stabilized, must be packed in specification cylinders or UN pressure receptacles as follows:

(1) As prescribed in § 173.192;

(2) Specification 3A480, 3A480X, 3AA480, or 3A1800 metal cylinders of not over 126 kg (278 pounds) water capacity (nominal);

(3) Shipments in 3AL cylinders are authorized only when transported by highway and rail; or

(4) UN cylinders, as specified in part 178, with a minimum test pressure of 100 bar and a maximum filling ratio of 0.55. The use of UN tubes and MEGCs is not authorized.

(b) Cylinders may not be charged with more than 0.27 kg (0.6 pound) of liquid per 0.45 kg (1 pound) water capacity of cylinder. Each filled cylinder must be tested for leakage before being offered for transportation or transported and must show absolutely no leakage; this test must consist of passing a piece of Guignard's sodium picrate paper over the closure of the cylinder, without the protection cap attached, to detect any escape of hydrogen cyanide from the cylinder. Other equally efficient test methods may be used in place of sodium picrate paper.

(c) Packagings for hydrogen cyanide must conform to § 173.40.

[Amdt. 173–224, 55 FR 52643, Dec. 21, 1990, as amended at 56 FR 66271, Dec. 20, 1991; 71 FR 33880, June 12, 2006]

§ 173.196 Category A infectious substances.

(a) *Category A infectious substances packaging.* A packaging for a Division 6.2 material that is a Category A infectious substance must meet the test standards of § 178.609 of this subchapter and must be marked in conformance with § 178.503(f) of this subchapter. A packaging for a Category A infectious substance is a triple packaging consisting of the following components:

(1) A leakproof primary receptacle.

(2) A leakproof secondary packaging. If multiple fragile primary receptacles are placed in a single secondary packaging, they must be either wrapped individually or separated to prevent contact between them.

(3) A rigid outer packaging of adequate strength for its capacity, mass and intended use. The outer packaging must measure not less than 100 mm (3.9 inches) at its smallest overall external dimension.

(4) For a liquid infectious substance, an absorbent material placed between the primary receptacle and the secondary packaging. The absorbent material must be sufficient to absorb the entire contents of all primary receptacles.

(5) An itemized list of contents enclosed between the secondary packaging and the outer packaging.

(6) The primary receptacle or secondary packaging used for infectious substances must be capable of withstanding, without leakage, an internal pressure producing a pressure differential of not less than 95 kPa (0.95 bar, 14 psi).

(7) The primary receptacle or secondary packaging used for infectious substances must be capable of withstanding without leakage temperatures in the range of −40 °C to +55 °C (−40 °F to +131 °F).

(b) *Additional requirements for packaging Category A infectious substances.* Category A infectious substances must be packaged according to the following