

§ 173.3 Packaging and exceptions.

(a) The packaging of hazardous materials for transportation by air, highway, rail, or water must be as specified in this part. Methods of manufacture, packing, and storage of hazardous materials, that affect safety in transportation, must be open to inspection by a duly authorized representative of the initial carrier or of the Department. Methods of manufacture and related functions necessary for completion of a DOT specification or U.N. standard packaging must be open to inspection by a representative of the Department.

(b) The regulations setting forth packaging requirements for a specific material apply to all modes of transportation unless otherwise stated, or unless exceptions from packaging requirements are authorized.

(c) *Salvage drums.* Packages of hazardous materials that are damaged, defective, or leaking; packages found to be not conforming to the requirements of this subchapter after having been placed in transportation; and, hazardous materials that have spilled or leaked may be placed in a metal or plastic removable head salvage drum that is compatible with the lading and shipped for repackaging or disposal under the following conditions:

(1) Except as provided in paragraph (c)(7) of this section, the drum must be a UN 1A2, 1B2, 1N2 or 1H2 tested and marked for Packing Group III or higher performance standards for liquids or solids and a leakproofness test of 20 kPa (3 psig). Alternatively, a drum manufactured and marked prior to October 1, 1993 as a salvage drum, in accordance with the provisions of this section in effect on September 30, 1991, is authorized. Capacity of the drum may not exceed 450 L (119 gallons).

(2) Each drum shall be provided when necessary with sufficient cushioning and absorption material to prevent excessive shifting of the damaged package and to eliminate the presence of any free liquid at the time the salvage drum is closed. All cushioning and absorbent material used in the drum must be compatible with the hazardous material.

(3) Each salvage packaging must be marked with the proper shipping name of the hazardous material inside the packaging and the name and address of the consignee. In addition, the packaging must be marked "SALVAGE" or "SALVAGE DRUM".

(4) Each drum shall be labeled as prescribed for the respective material.

(5) The shipper shall prepare shipping papers in accordance with subpart C of part 172 of this subchapter.

(6) The overpack requirements of §173.25 do not apply to drums used in accordance with this paragraph.

(7) A salvage packaging marked "T" in accordance with applicable provisions in the UN Recommendations may be used.

(d) *Salvage cylinders.* Cylinders of hazardous materials that are damaged or leaking may be overpacked in a non-DOT specification full opening hinged head or fully removable head steel salvage cylinder under the following conditions:

(1) Only a cylinder containing a Division 2.1, 2.2, 2.3, 3, 6.1, or a Class 8 material may be overpacked in a salvage cylinder. A cylinder containing acetylene may not be overpacked in a salvage cylinder.

(2) Each salvage cylinder—

(i) Must be designed, constructed and marked in accordance with Section VIII, Division I of the ASME Code (IBR, see §171.7 of this subchapter) with a minimum design margin of 4 to 1. Salvage cylinders may not be equipped with a pressure relief device. Damaged cylinders must be securely positioned in the salvage cylinder to prevent excessive movement. The overpack requirements of §173.25 of this part do not apply to salvage cylinders used in accordance with this section.

(ii) Must have a maximum water capacity of 450 L (119 gallons).

(iii) Except for liquefied nitrous oxide and carbon dioxide, contents of the damaged or leaking cylinder must be limited in pressure

and volume so that if totally discharged into the salvage cylinder, the pressure in the salvage cylinder will not exceed 5/4 of the MAWP at 55 °C (131 °F).

(iv) Must have gaskets, valves and fittings that are compatible with the hazardous materials contained within.

(3) Each salvage cylinder must be plainly and durably marked. Unless otherwise specified, the markings below must be in the same area on any portion of the upper end:

(i) The proper shipping name of the hazardous material contained inside the packaging;

(ii) The name and address of the consignee or consignor;

(iii) The name and address or registered symbol of the manufacturer; and

(iv) The words "SALVAGE CYLINDER" in letters at least 50 mm (2.0 inches) high on opposite sides near the middle of the cylinder; stamping on the sidewall is not authorized.

(4) Each salvage cylinder must be labeled for the hazardous material contained inside the packaging.

(5) The shipper must prepare shipping papers in accordance with subpart C of part 172 of this subchapter.

(6) Transportation is authorized by motor vehicle only.

(7) Each salvage cylinder must be cleaned and purged after each use.

(8) In addition to the training requirements of §§172.700 through 172.704 of this subchapter, a person who loads, unloads or transports a salvage cylinder must be trained in handling, loading and unloading the salvage cylinder.

(9) Cylinder Requalification: At least once every five years, each cylinder must be visually inspected (internally and externally) in accordance with CGA Pamphlet C-6 (IBR, see §171.7 of this subchapter) and pressure tested. A minimum test pressure of at least 1 1/2 times MAWP must be maintained for at least 30 seconds. The cylinder must be examined under test pressure and removed from service if a leak or a defect is found.

(i) The retest and inspection must be performed by a person familiar with salvage cylinders and trained and experienced in the use of the inspection and testing equipment.

(ii) Each salvage cylinder that is successfully requalified must be durably and legibly marked with the word "Tested" followed by the requalification date (month/year), e.g. , "Tested 9/04." The marking must be in letters and numbers at least 12 mm (0.5 inches) high. The requalification marking may be placed on any portion of the upper end of the cylinder near the marking required in (d)(3) of this section or on a metal plate permanently secured to the cylinder. Stamping on the cylinder sidewall is not authorized.

(10) Record retention: The owner of each salvage cylinder or his authorized agent shall retain a record of the most recent visual inspection and pressure test until the salvage cylinder is requalified. The records must be made available to a DOT representative upon request.

(e) *Emergency transportation of DOT 3A480 or 3AA480 cylinders and DOT 106A500 multi-unit tank car tanks.* (1) A DOT 3A480 or DOT 3AA480 cylinder containing chlorine or sulphur dioxide that has developed a leak in a valve or fusible plug may be repaired temporarily by trained personnel using a Chlorine Institute Kit "A" (IBR, see §171.7 of this subchapter). The repaired cylinder is authorized to be transported by private or contract carrier one time, one way, from the point of discovery to a proper facility for discharge and examination.

(2) A DOT 106A500 multi-unit tank car tank containing chlorine or sulphur dioxide that has developed a leak in the valve or fusible plug may be temporarily repaired by trained personnel using a Chlorine Institute Kit "B" (IBR, see §171.7 of this subchapter). The repaired tank is authorized to be transported by private or contract carrier one time, one way, from the point of discovery to a

proper facility for discharge and examination.

(3) Training for personnel making the repairs in paragraphs (d)(1) and (d)(2) of this section must include:

- (i) Proper use of the devices and tools in the applicable kits;
- (ii) Use of respiratory equipment and all other safety equipment; and
- (iii) Knowledge of the properties of chlorine and sulphur dioxide.

(4) Packagings repaired with “A” or “B” kits must be properly blocked and braced to ensure the packagings are secured in the transport vehicle.

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