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(3) Each inner receptacle with a removable closure has its closure held securely in place with wire, tape, or other positive means;

(4) Unless equivalent cushioning and absorbent material surrounds the inside packaging, each inner receptacle is securely packed in an inside packaging with cushioning and absorbent material that:

(i) Will not react chemically with the material, and

(ii) Is capable of absorbing the entire contents (if a liquid) of the receptacle;

(5) The inside packaging is securely packed in a strong outer packaging;

(6) The completed package, as demonstrated by prototype testing, is capable of sustaining—

(i) Each of the following free drops made from a height of 1.8 m (5.9 feet) directly onto a solid unyielding surface without breakage or leakage from any inner receptacle and without a substantial reduction in the effectiveness of the package:

(A) One drop flat on bottom;

(B) One drop flat on top;

(C) One drop flat on the long side;

(D) One drop flat on the short side; and

(E) One drop on a corner at the junction of three intersecting edges; and

(ii) A compressive load as specified in §178.606(c) of this subchapter.

NOTE TO PARAGRAPH (a)(6): Each of the tests in paragraph (a)(6) of this section may be performed on a different but identical package; *i.e.*, all tests need not be performed on the same package.

(7) Placement of the material in the package or packing different materials in the package does not result in a violation of §173.21;

(8) The gross mass of the completed package does not exceed 29 kg (64 pounds);

(9) The package is not opened or otherwise altered until it is no longer in commerce; and

(10) The shipper certifies conformance with this section by marking the outside of the package with the statement ''This package conforms to 49 CFR 173.4 for domestic highway or rail transport only.''

(b) A package containing a Class 7 (radioactive) material also must conform to the requirements of §173.421(a) through (e), §173.424(a) through (g), or §173.426(a) through (c) as applicable.

(c) Packages which contain a Class 2 (other than those authorized in paragraph (a) of this section), Division 4.2 (PG I), or Division 4.3 (PG I) material conforming to paragraphs (a)(1) through (10) of this section may be offered for transportation or transported if approved by the Associate Administrator.

(d) Lithium batteries and cells are not eligible for the exceptions provided in this section.

[74 FR 2253, Jan. 14, 2009, as amended at 75 FR 5393, Feb. 2, 2010; 76 FR 3368, Jan. 19, 2011; 79 FR 40610, July 11, 2014; 80 FR 72924, Nov. 23, 2015]

§173.4a Excepted quantities.

(a) Excepted quantities of materials, other than articles (e.g., aerosols), are not subject to requirements of this subchapter except for:

(1) The shipper's responsibilities to properly class their material in accordance with §173.22 of this subchapter;

(2) Sections 171.15 and 171.16 of this subchapter pertaining to the reporting of incidents; and

(3) For a Class 7 (Radioactive) material the requirements for an excepted package.

(4) Packagings for which retention of liquid is a basic function must be capable of withstanding without leakage the pressure differential specified in §173.27(c) of this part.

(b) *Authorized materials.* Only materials authorized for transport aboard passenger aircraft and appropriately classed within one of the following hazard classes or divisions may be transported in accordance with this section:

(1) Division 2.2 material with no subsidiary hazard. An aerosol is not included as authorized Division 2.2 material;

(2) Class 3 materials;

(3) Class 4 (PG II and III) materials except for self-reactive materials;

(4) Division 5.1 (PG II and III);

(5) Division 5.2 materials only when contained in a chemical kit, first aid kit or a polyester resin kit;

(6) Division 6.1, other than PG I, Hazard Zone A or B material;

(7) Class 7, Radioactive material in excepted packages

(8) Class 8 (PG II and III), except for UN2803 (Gallium) and UN2809 (Mercury); and

(9) Class 9, except for UN1845 (Carbon dioxide, solid or Dry ice), and lithium batteries and cells.

(c) *Inner packaging limits.* The maximum quantity of hazardous materials in each inner packaging is limited to:

(1) For toxic material with a Division 6.1 primary or subsidiary hazard, PG I or II—

(i) 1 g (0.04 ounce) for solids; or

(ii) 1 mL (0.03 ounce) for liquids;

(2) 30 g (1 ounce) or 30 mL (1 ounce) for solids or liquids other than those covered in paragraph (c)(1) of this section; and

(3) For gases a water capacity of 30 mL (1.8 cubic inches) or less.

(d) *Outer packaging aggregate quantity limits.* The maximum aggregate quantity of hazardous material contained in each outer packaging must not exceed the limits provided in the following paragraphs. For outer packagings containing more than one hazardous material, the aggregate quantity of hazardous material must not exceed the lowest permitted maximum aggregate quantity. The limits are as follows:

(1) For other than a Division 2.2 or Division 5.2 material:

(i) Packing Group I—300 g (0.66 pounds) for solids or 300 mL (0.08 gallons) for liquids;

(ii) Packing Group II—500 g (1.1 pounds) for solids or 500 mL (0.1 gallons) for liquids;

(iii) Packing Group III—1 kg (2.2 pounds) for solids or 1 L (0.2 gallons) for liquids;

(2) For Division 2.2 material, 1 L (61 cubic inches); or

(3) For Division 5.2 material, 500 g (1.1 pounds) for solids or 500 mL (0.1 gallons) for liquids.

(e) *Packaging materials.* Packagings used for the transport of excepted quantities must meet the following:

(1) Each inner receptacle must be constructed of plastic, or of glass, porcelain, stoneware, earthenware or metal. When used for liquid hazardous materials, plastic inner packagings must have a thickness of not less than 0.2 mm (0.008 inch).

(2) Each inner packaging with a removable closure must have its closure held securely in place with wire, tape or other positive means. Each inner receptacle having a neck with molded screw threads must have a leak proof, threaded type cap. The closure must not react chemically with the material.

(3) Each inner packaging must be securely packed in an intermediate packaging with cushioning material in such a way that, under normal conditions of transport, it cannot break, be punctured or leak its contents. The completed package as prepared for transport must completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquid hazardous materials, the intermediate or outer packaging must contain sufficient absorbent material that:

(i) Will absorb the entire contents of the inner packaging.

(ii) Will not react dangerously with the material or reduce the integrity or function of the packaging materials.

(iii) When placed in the intermediate packaging, the absorbent material may be the cushioning material.

(4) The intermediate packaging must be securely packed in a strong, rigid outer packaging.

(5) Placement of the material in the package or packing different materials in the package must not result in a violation of § 173.21.

(6) Each package must be of such a size that there is adequate space to apply all necessary markings.

(7) The package is not opened or otherwise altered until it is no longer in commerce.

(8) Overpacks may be used and may also contain packages of hazardous material or other materials not subject to the HMR subject to the requirements of § 173.25.

(f) *Package tests.* The completed package as prepared for transport, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, must be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

(1) Drops onto a solid unyielding surface from a height of 1.8 m (5.9 feet):

(i) Where the sample is in the shape of a box, it must be dropped in each of the following orientations:

(A) One drop flat on the bottom;

(B) One drop flat on the top;

(C) One drop flat on the longest side;

(D) One drop flat on the shortest side; and

(E) One drop on a corner at the junction of three intersecting edges.

(ii) Where the sample is in the shape of a drum, it must be dropped in each of the following orientations:

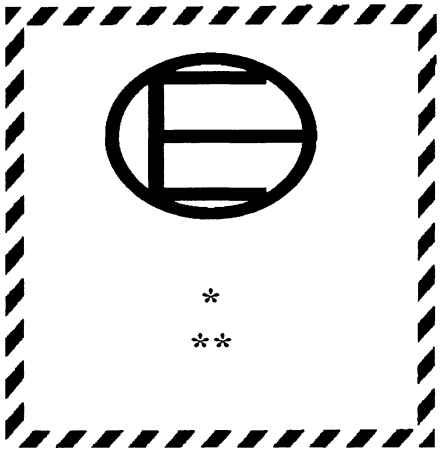
(A) One drop diagonally on the top chime, with the center of gravity directly above the point of impact;

(B) One drop diagonally on the base chime; and

(C) One drop flat on the side.

(2) A compressive load as specified in §178.606(c) of this subchapter. Each of the tests in this paragraph (f) of this section may be performed on a different but identical package; that is, all tests need not be performed on the same package.

(g) *Marking.* Excepted quantities of hazardous materials packaged, marked, and otherwise offered and transported in accordance with this section must be durably and legibly marked with the following marking:



(1) The ''*'' must be replaced by the primary hazard class, or when assigned, the division of each of the hazardous materials contained in the package. The ''**'' must be replaced by the name of the shipper or consignee if not shown elsewhere on the package.

(2) The marking must be durable and clearly visible and in the form of a square. The hatching must be of the same color, black or red on white or a suitable contrasting background. The minimum dimensions must not be less than 100 mm (3.9 inches) by 100 mm (3.9 inches) as measured from the outside of the hatching forming the border. Where dimensions are not specified, all features shall be in approximate proportion to those shown. For domestic transportation, a packaging marked prior to January 1, 2017, and in conformance with the requirements of this paragraph in effect on December 31, 2014, may continue in service until the end of its useful life.

(3) For transportation by aircraft, the entire mark must appear on one side of the package.

(4) When packages of excepted quantities are contained in an overpack, and the package marking required by this section is not visible inside the overpack, the excepted quantities marking must also be placed on the overpack. Additionally, an overpack containing packages of excepted quantities is not required to be marked with the word ''OVERPACK.''

(h) *Documentation.* (1) For transportation by highway or rail, no shipping paper is required.

(2) For transport by air, a shipping paper is not required, except that, if a document such as an air waybill accompanies a shipment, the document must include the statement ''Dangerous Goods in Excepted Quantities'' and indicate the number of packages.

(3) For transport by vessel, a shipping paper is required and must include the statement ''Dangerous Goods in Excepted Quantities'' and indicate the number of packages.

(i) *Training.* Each person who offers or transports excepted quantities of hazardous materials must know about the requirements of this section.

(j) *Restrictions.* Hazardous material packaged in accordance with this section may not be carried in checked or carry-on baggage.

[74 FR 2254, Jan. 14, 2009, as amended at 75 FR 72, Jan. 4, 2010; 76 FR 3368, Jan. 19, 2011; 80 FR 1152, Jan. 8, 2015; 81 FR 35541, June 2, 2016; 82 FR 15874, Mar. 30, 2017; 87 FR 44991, July 26, 2022; 87 FR 79774, Dec. 27, 2022]