

§ 173.159a Exceptions for non-spillable batteries.

(a) Exceptions for hazardous materials shipments in the following paragraphs are permitted only if this section is referenced for the specific hazardous material in the §172.101 table or in a packaging section in this part.

(b) Non-spillable batteries offered for transportation or transported in accordance with this section are subject to the incident reporting requirements. For transportation by aircraft, a telephone report in accordance with §171.15(a) is required if a fire, violent rupture, explosion or dangerous evolution of heat (*i.e.*, an amount of heat sufficient to be dangerous to packaging or personal safety to include charring of packaging, melting of packaging, scorching of packaging, or other evidence) occurs as a direct result of a non-spillable battery. For all modes of transportation, a written report in accordance with §171.16(a) is required if a fire, violent rupture, explosion or dangerous evolution of heat occurs as a direct result of a non-spillable battery.

(c) Non-spillable batteries are excepted from the packaging requirements of §173.159 under the following conditions:

(1) Non-spillable batteries must be securely packed in strong outer packagings or secured to skids or pallets capable of withstanding the shocks normally incident to transportation. The batteries must meet the requirements of §173.159(a), be loaded or braced so as to prevent damage and short circuits in transit, and any other material loaded in the same vehicle must be blocked, braced, or otherwise secured to prevent contact with or damage to the batteries. A non-spillable battery which is an integral part of and necessary for the operation of mechanical or electronic equipment must be securely fastened in the battery holder on the equipment.

(2) The battery and outer packaging must be plainly and durably marked “NON-SPILLABLE” or “NON-SPILLABLE BATTERY.” The requirement to mark the outer package does not apply when the battery is installed in a piece of equipment that is transported unpackaged.

(d) Non-spillable batteries are excepted from all other requirements of this subchapter when offered for transportation and transported in accordance with paragraph (c) of this section and the following:

(1) At a temperature of 55 °C (131 °F), the battery must not contain any unabsorbed free-flowing liquid, and must be designed so that electrolyte will not flow from a ruptured or cracked case; and

(2) For transport by aircraft, when contained in a battery-powered device, equipment or vehicle must be prepared and packaged for transport in a manner to prevent unintentional activation in conformance with §173.159(b)(2) of this Subpart.

(3) For transport by aircraft, must be transported as cargo and may not be carried onboard an aircraft by passengers or crewmembers in carry-on baggage, checked baggage, or on their person unless specifically excepted by §175.10.

[74 FR 2258, Jan. 14, 2009, as amended at 75 FR 72, Jan. 4, 2010; 77 FR 60942, Oct. 5, 2012; 78 FR 1085, Jan. 7, 2013; 78 FR 15328, Mar. 11, 2013]

§ 173.160 Bombs, smoke, non-explosive (corrosive).

Bombs, smoke, non-explosive may be shipped provided they are without ignition elements, bursting charges, detonating fuses or other explosive components. They must be packaged in metal (4A, 4B, 4N), wooden (4C1, 4C2), plywood (4D), or reconstituted wood (4F), fiberboard (4G) or solid plastic (4H2) boxes, or metal (1A2, 1B2, 1N2), plastic (1H2), plywood drums (1D), or fiber (1G) drums that meet Packing Group II requirements.

[78 FR 1085, Jan. 7, 2013]

§ 173.161 Chemical kits and first aid kits.

(a) *Applicability.* Chemical kits and first aid kits contain one or more compatible items of hazardous materials in boxes, cases, *etc.* that, for example, are used for medical, analytical, diagnostic, testing, or repair purposes.

(b) *Authorized materials.* (1) The kits may only contain hazardous materials for which packaging exceptions are provided in column 8(A) of the §172.101

Hazardous Materials Table in this subchapter. For transportation by aircraft, the kits may only contain quantities of hazardous materials authorized as excepted quantities or as limited quantities in §§ 173.4a and 173.27(f) of this part, respectively. Materials forbidden for transportation by passenger aircraft or cargo aircraft may not be included in the kits.

(2) The packing group assigned to the chemical kit and first aid kit as a whole must be the most stringent packing group assigned to any individual substance in the kit. The packing group must be shown on the shipping paper. Where the kit contains only hazardous materials to which no packing group is assigned, the packagings shall meet the Packing Group II performance level. Where the kit contains only hazardous materials to which no packing group is assigned, the packing group does not have to be indicated on the shipping paper.

(c) *Packaging.* Except for transportation by aircraft or vessel, chemical kits and first aid kits must be packaged in combination packagings conforming to the packaging requirements of subpart B of this part. For transportation by aircraft or vessel, chemical kits and first aid kits must be packaged in specification combination packagings based on the performance level of the most stringent packing group of material contained within the kit. For transportation by aircraft, friction-type closures must be secured by secondary means and inner packagings intended to contain liquids must be capable of meeting the pressure differential requirements prescribed in § 173.27(c) of this subchapter. Inner and outer packaging quantity limits for packages are as follows:

(1) Except for liquids of Division 5.2 (organic peroxide), inner packagings containing not more than 250 mL. Except for transportation by aircraft, for Division 5.2 (organic peroxide) liquids of Type B and C, inner packagings containing not more than 25 mL and for Division 5.2 (organic peroxide) liquids of Type D, E and F, inner packagings containing not more than 125 mL. For transportation by aircraft, for Division 5.2 (organic peroxide) liquids of Type D,

E and F (only), inner packagings containing not more than 125 mL;

(2) Except for solids of Division 5.2 (organic peroxide) of Type B and C, inner packagings containing not more than 250 g. Except for transportation by aircraft, for a Division 5.2 (organic peroxide) solid of Type B and C, inner packagings containing not more than 100 g. For transportation by aircraft, for a Division 5.2 (organic peroxide) solid of Type D, E and F (only), inner packagings containing not more than 250 g;

(3) No more than 10 L or 10 kg of hazardous material may be contained in one outer package (excluding dry ice). For transportation by aircraft, no more than 1 L or 1 kg of hazardous material may be contained in one kit (excluding dry ice);

(4) Each package must conform to the packaging requirements of subpart B of this part and may not exceed 30 kg (66 pounds) gross weight;

(5) Except for Carbon dioxide, solid (Dry ice), UN1845, no other hazardous materials may be packed within the same outer packaging as the kits. Dry ice must be packaged in accordance with § 173.217 of this subchapter;

(6) The kits must include sufficient absorbent material to completely absorb the contents of any liquid hazardous materials contained in the kits. The contents must be separated, placed, or packed, and closed with cushioning material to protect them from damage; and

(7) The contents of the kits must be packed so there will be no possibility of the mixture of contents causing dangerous evolution of heat or gas.

(d) *Exceptions.* (1)(i) Chemical kits and first aid kits are eligible for the excepted quantity exceptions provided in §§ 173.4 and 173.4a of this part. For transportation by aircraft, chemical kits and first aid kits are eligible for the limited quantity provisions provided in § 173.27(f) of this part. For inner packaging quantity limits, see § 173.27(f), Table 3.

(ii) A package conforming to the provisions of this section is not subject to the shipping paper requirements of subpart C of part 172 of this subchapter,

unless the material meets the definition of a hazardous substance, hazardous waste, marine pollutant, or is offered for transportation and transported by aircraft or vessel. Chemical kits and First aid kits conforming to this section may be marked as a limited quantity as prescribed in §172.315 of this subchapter and, if applicable, are eligible for the exceptions provided in §173.156 of this part. Additionally, chemical and first aid kits conforming to this section are not subject to part 174 (carriage by rail) or part 177 (carriage by highway) of this subchapter when marked in accordance with §172.315 of this subchapter.

(2) Kits that are carried on board transport vehicles for first aid or operating purposes are not subject to the requirements of this subchapter.

[76 FR 3375, Jan. 19, 2011, as amended at 78 FR 1115, Jan. 7, 2013; 80 FR 1157, Jan. 8, 2015; 87 FR 79776, Dec. 27, 2022]

§ 173.162 Gallium.

(a) Except when packaged in cylinders or steel flasks, gallium must be packaged in packagings which meet the requirements of part 178 of this subchapter at the Packing Group I performance level for transportation by aircraft, and at the Packing Group III performance level for transport by highway, rail or vessel, as follows:

(1) In combination packagings intended to contain liquids consisting of glass, earthenware or rigid plastic inner packagings with a maximum net mass of 15 kg (33 pounds) each. The inner packagings must be packed in wood boxes (4C1, 4C2, 4D, 4F), fiberboard boxes (4G), plastic boxes (4H1, 4H2), fiber drums (1G) or steel, metal, other than steel or aluminum, and plastic drums or jerricans (1A1, 1A2, 1N1, 1N2, 1H1, 1H2, 3A2 or 3H2) with sufficient cushioning materials to prevent breakage. Either the inner packagings or the outer packagings must have an inner liner that is leakproof or bags of strong leakproof and puncture-resistant material impervious to the contents and completely surrounding the contents to prevent it from escaping from the package, irrespective of its position.

(2) In packagings intended to contain liquids consisting of semi-rigid plastic

inner packagings of not more than 2.5 kg (5.5 pounds) net capacity each, individually enclosed in a sealed, leak-tight bag of strong puncture-resistant material. The sealed bags must be packed in wooden (4C1, 4C2), plywood (4D), reconstituted wood (4F), fiberboard (4G), plastic (4H1, 4H2) or metal, other than steel or aluminum (4N) boxes or in fiber (1G), steel (1A1, 1A2), metal, other than steel or aluminum (1N1, 1N2), or plastic (1H1 or 1H2) drums, that are lined with leak-tight, puncture-resistant material. Bags and liner material must be chemically resistant to gallium.

(3) Cylinders and steel flasks with vaulted bottoms are also authorized.

(b) When it is necessary to transport gallium at low temperatures in order to maintain it in a completely solid state, the above packagings may be overpacked in a strong, water-resistant outer packaging which contains dry ice or other means of refrigeration. If a refrigerant is used, all of the above materials used in the packaging of gallium must be chemically and physically resistant to the refrigerant and must have impact resistance at the low temperatures of the refrigerant employed. If dry ice is used, the outer packaging must permit the release of carbon dioxide gas.

(c) Manufactured articles or apparatuses, each containing not more than 100 mg (0.0035 ounce) of gallium and packaged so that the quantity of gallium per package does not exceed 1 g (0.35 ounce) are not subject to the requirements of this subchapter. For transportation by aircraft, such articles and apparatuses must be transported as cargo and may not be carried onboard an aircraft by passengers or crewmembers in carry-on baggage, checked baggage, or on their person unless specifically excepted by §175.10.

[64 FR 10777, Mar. 5, 1999, as amended at 66 FR 33430, June 21, 2001; 78 FR 1085, Jan. 7, 2013]

§ 173.163 Hydrogen fluoride.

(a) Hydrogen fluoride (hydrofluoric acid, anhydrous) must be packaged as follows:

(1) In specification 3, 3A, 3AA, 3B, 3BN, or 3E cylinders; or in specification 4B, 4BA, or 4BW cylinders except that