

ELECTRONIC CODE OF FEDERAL REGULATIONS**e-CFR data is current as of June 16, 2016**Amendment

49 CFR--PART 175View Printed Federal Register page [81 FR 31531](#) in PDF format.**Amendment(s) published May 19, 2016, in 81 FR 31531**

EFFECTIVE DATES: June 20, 2016

2. In §175.10, revise paragraph (a)(19) to read as follows:

§175.10 Exceptions for passengers, crewmembers, and air operators.

(a) * * *

(19) Except as provided in §173.21 of this subchapter, battery-powered portable electronic smoking devices (e.g., e-cigarettes, e-cigs, e-cigars, e-pipes, e-hookahs, personal vaporizers, electronic nicotine delivery systems) when carried by passengers or crewmembers for personal use must be carried on one's person or in carry-on baggage only. Spare lithium batteries also must be carried on one's person or in carry-on baggage only and must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g., by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch). Each lithium battery must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, Subsection 38.3. Recharging of the devices and/or the batteries on board the aircraft is not permitted. Each battery must not exceed the following:

- (i) For lithium metal batteries, a lithium content of 2 grams; or
- (ii) For lithium ion batteries, a Watt-hour rating of 100 Wh.

* * * * *

[Need assistance?](#)

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of June 16, 2016

[Title 49](#) → [Subtitle B](#) → [Chapter I](#) → [Subchapter C](#) → [Part 175](#) → [Subpart A](#) → §175.10

Title 49: Transportation
[PART 175—CARRIAGE BY AIRCRAFT](#)
[Subpart A—General Information and Regulations](#)

§175.10 Exceptions for passengers, crewmembers, and air operators.

[Link to an amendment published at 81 FR 31531, May 19, 2016.](#)

[Link to an amendment published at 81 FR 35543, June 2, 2016.](#)

(a) This subchapter does not apply to the following hazardous materials when carried by aircraft passengers or crewmembers provided the requirements of §§171.15 and 171.16 (see paragraph (c) of this section) and the requirements of this section are met:

(1) (i) Non-radioactive medicinal and toilet articles for personal use (including aerosols) carried in carry-on and checked baggage. Release devices on aerosols must be protected by a cap or other suitable means to prevent inadvertent release;

(ii) Other aerosols in Div. 2.2 (nonflammable gas) with no subsidiary risk carried in checked baggage only. Release devices on aerosols must be protected by a cap or other suitable means to prevent inadvertent release; and

(iii) The aggregate quantity of these hazardous materials carried by each person may not exceed 2 kg (70 ounces) by mass or 2 L (68 fluid ounces) by volume and the capacity of each container may not exceed 0.5 kg (18 ounces) by mass or 500 ml (17 fluid ounces) by volume.

(2) One packet of safety matches or a lighter intended for use by an individual when carried on one's person or in carry-on baggage only. Lighter fuel, lighter refills, and lighters containing unabsorbed liquid fuel (other than liquefied gas) are not permitted on one's person or in carry-on or checked baggage.

(3) Implanted medical devices in humans or animals that contain hazardous materials, such as a heart pacemaker containing Class 7 (radioactive) material or lithium batteries; and radiopharmaceuticals that have been injected or ingested.

(4) Alcoholic beverages containing:

(i) Not more than 24% alcohol by volume; or

(ii) More than 24% and not more than 70% alcohol by volume when in unopened retail packagings not exceeding 5 liters (1.3 gallons) carried in carry-on or checked baggage, with a total net quantity per person of 5 liters (1.3) gallons for such beverages.

(5) Perfumes and colognes purchased through duty-free sales and carried on one's person or in carry-on baggage.

(6) Hair curlers (curling irons) containing a hydrocarbon gas such as butane, no more than one per person, in carry-on or checked baggage. The safety cover must be securely fitted over the heating element. Gas refills for such curlers are not permitted in carry-on or checked baggage.

(7) A small medical or clinical mercury thermometer for personal use, when carried in a protective case in carry-on or checked baggage.

(8) Small arms ammunition for personal use carried by a crewmember or passenger in checked baggage only, if securely packed in boxes or other packagings specifically designed to carry small amounts of ammunition. Ammunition clips and magazines must also be securely boxed. This paragraph does not apply to persons traveling under the provisions of 49 CFR 1544.219.

(9) One self-defense spray (see §171.8 of this subchapter), not exceeding 118 mL (4 fluid ounces) by volume, that incorporates a positive means to prevent accidental discharge may be carried in checked baggage only.

(10) Dry ice (carbon dioxide, solid), with the approval of the operator:

(i) Quantities may not exceed 2.5 kg (5.5 pounds) per person when used to pack perishables not subject to the HMR. The package must permit the release of carbon dioxide gas; and

(ii) When carried in checked baggage, each package is marked “DRY ICE” or “CARBON DIOXIDE, SOLID,” and marked with the net weight of dry ice or an indication the net weight is 2.5 kg (5.5 pounds) or less.

(11) A single self-inflating personal safety device such as a life jacket or vest fitted with no more than two small gas cartridges (containing no hazardous material other than a Div. 2.2 gas) for inflation purposes plus no more than two spare cartridges. The personal safety device and spare cartridges may be carried in carry-on or checked baggage, with the approval of the aircraft operator, and must be packed in such a manner that it cannot be accidentally activated.

(12) Small compressed gas cylinders of Division 2.2 (containing no hazardous material other than a Division 2.2 gas) worn by the passenger for the operation of mechanical limbs and, in carry-on and checked baggage, spare cylinders of a similar size for the same purpose in sufficient quantities to ensure an adequate supply for the duration of the journey.

(13) A mercury barometer or thermometer carried as carry-on baggage, by a representative of a government weather bureau or similar official agency, provided that individual advises the operator of the presence of the barometer or thermometer in his baggage. The barometer or thermometer must be packaged in a strong packaging having a sealed inner liner or bag of strong, leak proof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package in any position.

(14) Electrically powered heat-producing articles (e.g., battery-operated equipment such as diving lamps and soldering equipment) as checked or carry-on baggage only and with the approval of the operator of the aircraft. The heat-producing component, the energy source, or other component (e.g., fuse) must be removed to prevent unintentional functioning during transport. Any battery that is removed must be protected against short circuit by placement in original retail packaging or by otherwise insulating terminals (e.g., by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch).

(15) A wheelchair or other battery-powered mobility aid equipped with a nonspillable battery or a dry sealed battery when carried as checked baggage, provided—

(i) The battery conforms to the requirements of §173.159a(d) of this subchapter for non-spillable batteries;

(ii) The battery conforms to the requirements of §172.102(c)(1), Special provision 130 of this subchapter for dry sealed batteries, as applicable;

(iii) Visual inspection including removal of the battery, where necessary, reveals no obvious defects (removal of the battery from the housing should be performed by qualified airline personnel only);

(iv) The battery is disconnected and the battery terminals are protected to prevent short circuits, unless the wheelchair or mobility aid design provides an effective means of preventing unintentional activation, and

(v) The battery is—

(A) Securely attached to the wheelchair or mobility aid;

(B) Is removed and placed in a strong, rigid packaging marked “NONSPILLABLE BATTERY” (unless fully enclosed in a rigid housing that is properly marked);

(C) Is removed and placed in a strong, rigid packaging marked with the words “not restricted” in accordance with paragraph (c)(2) of §172.102, Special provision 130, of this subchapter; or

(D) Is handled in accordance with paragraph (a)(16)(iv) of this section.

(16) A wheelchair or other battery-powered mobility aid equipped with a spillable battery, when carried as checked baggage, provided—

(i) Visual inspection including removal of the battery, where necessary, reveals no obvious defects (however, removal of the battery from the housing should be performed by qualified airline personnel only);

(ii) The battery is disconnected and terminals are insulated to prevent short circuits;

(iii) The pilot-in-command is advised, either orally or in writing, prior to departure, as to the location of the battery aboard the aircraft; and

(iv) The wheelchair or mobility aid is loaded, stowed, secured and unloaded in an upright position, or the battery is removed, and carried in a strong, rigid packaging under the following conditions:

(A) The packaging must be leak-tight and impervious to battery fluid. An inner liner may be used to satisfy this requirement if there is absorbent material placed inside of the liner and the liner has a leakproof closure;

(B) The battery must be protected against short circuits, secured upright in the packaging, and be packaged with enough compatible absorbent material to completely absorb liquid contents in the event of rupture of the battery; and

(C) The packaging must be labeled with a CORROSIVE label, marked to indicate proper orientation, and marked with the words "Battery, wet, with wheelchair."

(17) A wheelchair or other mobility aid equipped with a lithium ion battery, when carried as checked baggage, provided—

(i) The lithium ion battery must be of a type that successfully passed each test in the UN Manual of Tests and Criteria (IBR; see §171.7 of this subchapter), as specified in §173.185 of this subchapter, unless approved by the Associate Administrator;

(ii) The operator must verify that:

(A) Visual inspection of the wheelchair or other mobility aid reveals no obvious defects;

(B) Battery terminals are protected from short circuits (e.g., enclosed within a battery housing);

(C) The battery must be securely attached to the mobility aid; and

(D) Electrical circuits are isolated;

(iii) The wheelchair or other mobility aid must be loaded and stowed in such a manner to prevent its unintentional activation and its battery must be protected from short circuiting;

(iv) The wheelchair or other mobility aid must be protected from damage by the movement of baggage, mail, service items, or other cargo;

(v) Where a lithium ion battery-powered wheelchair or other mobility aid is specifically designed to allow its battery to be removed by the user (e.g., collapsible):

(A) The battery must be removed from the wheelchair or other mobility aid according to instructions provided by the wheelchair or other mobility aid owner or its manufacturer;

(B) The battery must be carried in carry-on baggage only;

(C) Battery terminals must be protected from short circuits (by placement in original retail packaging or otherwise insulating the terminal e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);

(D) The battery must not exceed 300 Watt-hour (Wh); and

(E) A maximum of one spare battery not exceeding 300 Wh or two spares not exceeding 160 Wh each may be carried;

(vi) The pilot-in-command is advised either orally or in writing, prior to departure, as to the location of the lithium ion battery or batteries aboard the aircraft.

(18) Except as provided in §173.21 of this subchapter, portable electronic devices (e.g., watches, calculating machines, cameras, cellular phones, laptop and notebook computers, camcorders, medical devices etc.) containing dry cells or dry batteries (including lithium cells or batteries) and spare dry cells or batteries for these devices, when carried by passengers or crew members for personal use. Portable electronic devices powered by lithium batteries may be carried in either checked or carry-on baggage. Spare lithium batteries must be carried in carry-on baggage only. Each installed or spare lithium battery must be of a type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, Sub-section 38.3 and each spare lithium battery must be individually protected so as to prevent short circuits (e.g., by placement in original retail packaging, by otherwise insulating terminals by taping over exposed terminals, or placing each battery in a separate plastic bag or protective pouch). In addition, each installed or spare lithium battery

must not exceed the following:

(i) For a lithium metal battery, a lithium content of not more than 2 grams per battery; or

(ii) For a lithium ion battery, the Watt-hour rating must not exceed 100 Wh. With the approval of the operator, portable electronic devices may contain lithium ion batteries exceeding 100 Wh, but not exceeding 160 Wh and no more than two individually protected lithium ion batteries each exceeding 100 Wh, but not exceeding 160 Wh, may be carried per person as spare batteries in carry-on baggage.

(iii) For a non-spillable battery, the battery and equipment must conform to §173.159a(d). Each battery must not exceed a voltage greater than 12 volts and a watt-hour rating of not more than 100 Wh. No more than two individually protected spare batteries may be carried. Such equipment and spare batteries must be carried in checked or carry-on baggage.

(iv) Articles containing lithium metal or lithium ion cells or batteries the primary purpose of which is to provide power to another device must be carried as spare batteries in accordance with the provisions of this paragraph.

(19) Except as provided in §173.21 of this subchapter, battery-powered portable electronic smoking devices (*e.g.*, e-cigarettes, e-cigs, e-cigars, e-pipes, e-hookahs, personal vaporizers, electronic nicotine delivery systems) when carried by passengers or crewmembers for personal use must be carried on one's person or in carry-on baggage only. Spare lithium batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, *e.g.*, by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch). Each lithium battery must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, Sub-section 38.3. Recharging of the devices and/or the batteries on board the aircraft is not permitted. Each battery must not exceed the following:

(i) For lithium metal batteries, a lithium content of 2 grams; or

(ii) For lithium ion batteries, a Watt-hour rating of 100 Wh.

(20) Fuel cells used to power portable electronic devices (*e.g.*, cameras, cellular phones, laptop computers and camcorders) and spare fuel cell cartridges when transported personal use under the following conditions:

(i) Fuel cells and fuel cell cartridges may contain only Division 2.1 liquefied flammable gas, or hydrogen in a metal hydride, Class 3 flammable liquid (including methanol), Division 4.3 water-reactive material, or Class 8 corrosive material;

(ii) The quantity of fuel in any fuel cell or fuel cell cartridge may not exceed:

(A) 200 mL (6.76 ounces) for liquids;

(B) 120 mL (4 fluid ounces) for liquefied gases in non-metallic fuel cell cartridges, or 200 mL (6.76 ounces) for liquefied gases in metal fuel cell cartridges;

(C) 200 g (7 ounces) for solids; or

(D) For hydrogen in metal hydride, the fuel cell cartridges must have a water capacity of 120 mL (4 fluid ounces) or less;

(iii) No more than two spare fuel cell cartridges may be carried by a passenger or crew member as follows:

(A) Fuel cell cartridges containing Class 3 flammable liquid (including methanol) and Class 8 corrosive material in carry-on or checked baggage; and

(B) Division 2.1 liquefied flammable gas or hydrogen in a metal hydride and Division 4.3 water-reactive material in carry-on baggage only;

(iv) Fuel cells containing fuel are permitted in carry-on baggage only;

(v) Fuel cell cartridges containing hydrogen in a metal hydride must meet the requirements in §173.230(d) of this subchapter;

(vi) Refueling of a fuel cell aboard an aircraft is not permitted except that the installation of a spare cartridge is allowed;

(vii) Each fuel cell and fuel cell cartridge must conform to IEC 62282-6-100 and IEC 62282-6-100 Amend. 1 (IBR; see §171.7 of this subchapter) and must be marked with a manufacturer's certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge;

(viii) Interaction between fuel cells and integrated batteries in a device must conform to IEC 62282-6-100 and IEC 62282-6-100 Amend. 1 (IBR, see §171.7 of this subchapter). Fuel cells whose sole function is to charge a battery in the device are not permitted; and

(ix) Fuel cells must be of a type that will not charge batteries when the consumer electronic device is not in use and must be durably marked by the manufacturer with the wording: "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY" to indicate that the fuel cell meets this requirement.

(21) Permeation devices for calibrating air quality monitoring equipment when carried in checked baggage provided the devices are constructed and packaged in accordance with §173.175.

(22) An internal combustion or fuel cell engine or a machine or apparatus containing an internal combustion or fuel cell engine when carried as checked baggage, provided—

(i) The engine contains no liquid or gaseous fuel. An engine may be considered as not containing fuel when the engine components and any fuel lines have been completely drained, sufficiently cleaned of residue, and purged of vapors to remove any potential hazard and the engine when held in any orientation will not release any liquid fuel;

(ii) The fuel tank contains no liquid or gaseous fuel. A fuel tank may be considered as not containing fuel when the fuel tank and the fuel lines have been completely drained, sufficiently cleaned of residue, and purged of vapors to remove any potential hazard;

(iii) It is not equipped with a wet battery (including a non-spillable battery), a sodium battery or a lithium battery; and

(iv) It contains no other hazardous materials subject to the requirements of this subchapter.

(23) Non-infectious specimens transported in accordance with §173.4b(b).

(24) Insulated packagings containing refrigerated liquid nitrogen when carried in checked or carry-on baggage in accordance with the ICAO Technical Instructions (IBR, see §171.7 of this subchapter), Packing Instruction 202, the packaging specifications in part 6, chapter 5, and special provision A152.

(25) Small cartridges fitted into devices with no more than four small cartridges of carbon dioxide or other suitable gas in Division 2.2, without subsidiary risk with the approval of the operator. The water capacity of each cartridge must not exceed 50 mL (equivalent to a 28 g cartridge).

(b) The exceptions provided in paragraph (a) of this section also apply to aircraft operators when transporting passenger or crewmember baggage that has been separated from the passenger or crewmember, including transfer to another carrier for transport to its final destination.

(c) The requirements to submit incident reports as required under §§171.15 and 171.16 of this subchapter apply to the air carrier.

[71 FR 14604, Mar. 22, 2006, as amended at 71 FR 78634, Dec. 29, 2006; 72 FR 44950, Aug. 9, 2007; 73 FR 4719, Jan. 28, 2008; 73 FR 23367, Apr. 30, 2008; 74 FR 2266, Jan. 14, 2009; 75 FR 73, Jan. 4, 2010; 76 FR 3381, Jan. 19, 2011; 76 FR 43531, July 20, 2011; 76 FR 82178, Dec. 30, 2011; 78 FR 1093, 1117, Jan. 7, 2013; 78 FR 65485, Oct. 31, 2013; 79 FR 46040, Aug. 6, 2014; 80 FR 1164, Jan. 8, 2015; 80 FR 66821, Oct. 30, 2015; 80 FR 72928, Nov. 23, 2015]

[Need assistance?](#)