

## **Subpart A—General Information and Regulations**

### **§ 175.1 Purpose, scope and applicability.**

(a) This part prescribes requirements that apply to the transportation of hazardous materials in commerce aboard (including attached to or suspended from) aircraft. The requirements in this part are in addition to other requirements contained in parts 171, 172, 173, 178, and 180 of this subchapter.

(b) This part applies to the offering, acceptance, and transportation of hazardous materials in commerce by aircraft to, from, or within the United States, and to any aircraft of United States registry anywhere in air commerce. This subchapter applies to any person who performs, attempts to perform, or is required to perform any function subject to this subchapter, including—(1) Air carriers, indirect air carriers, and freight forwarders and their flight and non-flight employees, agents, subsidiary and contract personnel (including cargo, passenger and baggage acceptance, handling, loading and unloading personnel); and

(2) Air passengers that carry any hazardous material on their person or in their carry-on or checked baggage.

(c) This part does not apply to aircraft of United States registry under lease to and operated by foreign nationals outside the United States if:

(1) Hazardous materials forbidden aboard aircraft by §172.101 of this subchapter are not carried on the aircraft; and

(2) Other hazardous materials are carried in accordance with the regulations of the State (nation) of the aircraft operator.

### **§ 175.3 Unacceptable hazardous materials shipments.**

A hazardous material that is not prepared for shipment in accordance with this subchapter may not be offered or accepted for transportation or transported aboard an aircraft.

### **§ 175.8 Exceptions for operator equipment and items of replacement.**

(a) *Operator equipment* . This subchapter does not apply to—

(1) Aviation fuel and oil in tanks that are in compliance with the installation provisions of 14 CFR, chapter 1.

(2) Hazardous materials required aboard an aircraft in accordance with the applicable airworthiness requirements and operating regulations. Items of replacement for such materials must be transported in accordance with paragraph (a)(3) of this section.

(3) Items of replacement (company material (COMAT)) for hazardous materials described in paragraph (a)(2) of this section must be transported in accordance with this subchapter. When an operator transports its own replacement items described in paragraph (a)(2), the following exceptions apply:

(i) In place of required packagings, packagings specifically designed for the items of replacement may be used, provided such packagings provide at least an equivalent level of protection to those that would be required by this subchapter.

(ii) Aircraft batteries are not subject to quantity limitations such as those provided in §172.101 or § 175.75(c) of this subchapter.

(b) *Other operator exceptions* . This subchapter does not apply to—

(1) Oxygen, or any hazardous material used for the generation of oxygen, for medical use by a passenger, which is furnished by the aircraft operator in accordance with 14 CFR 121.574 or 135.91. For the purposes of this paragraph, an aircraft operator that does not hold a certificate under 14 CFR parts 121 or 135 may apply this exception in conformance with 14 CFR 121.574 or 135.91 in the same manner as required for a certificate holder. See §175.501 for additional requirements applicable to the stowage of oxygen.

(2) Dry ice (carbon dioxide, solid) intended for use by the operator in food and beverage service aboard the aircraft.

(3) Alcoholic beverages, perfumes, colognes, and liquefied gas lighters carried aboard a passenger-carrying aircraft by the operator for use or sale on the aircraft. Liquefied gas lighters must be examined by the Bureau of Explosives and approved by the Associate Administrator.

(4) A tire assembly with a serviceable tire, provided the tire is not inflated to a gauge pressure exceeding the maximum rated pressure for that tire, and the tire (including valve assemblies) is protected from damage during transport. A tire or tire assembly which is unserviceable or damaged is forbidden from air transport; however, a damaged tire is not subject to the requirements of this subchapter if it contains no material meeting the definition of a hazardous material (e.g., Division 2.2).

[71 FR 14604, Mar. 22, 2006, as amended at 72 FR 55693, Oct. 1, 2007]

### **§ 175.9 Exceptions for special aircraft operations.**

This subchapter does not apply to the following materials used for special aircraft operations when applicable FAA operator requirements have been met, including training operator personnel on the proper handling and stowage of the hazardous materials carried:

(a) Hazardous materials loaded and carried in hoppers or tanks of aircraft certificated for use in aerial seeding, dusting spraying, fertilizing, crop improvement, or pest control, to be dispensed during such an operation.

(b) Parachute activation devices, lighting equipment, oxygen cylinders, flotation devices, smoke grenades, flares, or similar devices carried during a parachute operation.

(c) Smoke grenades, flares, and pyrotechnic devices affixed to aircraft during any flight conducted as part of a scheduled air show or exhibition of aeronautical skill. The aircraft may not carry any persons other than required flight crewmembers. The affixed installation accommodating the smoke grenades, flares, or pyrotechnic devices on the aircraft must be approved for its intended use by the FAA Flight Standards District Office having responsibility for that aircraft.

(d) Hazardous materials are carried and used during dedicated air ambulance, fire fighting, or search and rescue operations.

(e) A transport incubator unit necessary to protect life or an organ preservation unit necessary to protect human organs, carried in the aircraft cabin, provided:

(1) The compressed gas used to operate the unit is in an authorized DOT specification cylinder and is marked, labeled, filled, and maintained as prescribed by this subchapter;

(2) Each battery used is of the nonspillable type;

(3) The unit is constructed so valves, fittings, and gauges are protected from damage;

(4) The pilot-in-command is advised when the unit is on board, and when it is intended for use;

(5) The unit is accompanied by a person qualified to operate it;

(6) The unit is secured in the aircraft in a manner that does not restrict access to or use of any required emergency or regular exit or of the aisle in the passenger compartment; and,

(7) Smoking within 3 m (10 feet) of the unit is prohibited.

(f) Hazardous materials which are loaded and carried on or in cargo only aircraft, and which are to be dispensed or expended during flight for weather control, environmental restoration or protection, forest preservation and protection, fire fighting and

prevention, flood control, or avalanche control purposes, when the following requirements are met:

- (1) Operations may not be conducted over densely populated areas, in a congested airway, or near any airport where carrier passenger operations are conducted.
- (2) Each operator shall prepare and keep current a manual containing operational guidelines and handling procedures, for the use and guidance of flight, maintenance, and ground personnel concerned in the dispensing or expending of hazardous materials. The manual must be approved by the FAA Principal Operations Inspector assigned to the operator.
- (3) No person other than a required flight crewmember, FAA inspector, or person necessary for handling or dispensing the hazardous material may be carried on the aircraft.
- (4) The operator of the aircraft must have advance permission from the owner of any airport to be used for the dispensing or expending operation.
- (5) When dynamite and blasting caps are carried for avalanche control flights, the explosives must be handled by, and at all times be under the control of, a qualified blaster. When required by a State or local authority, the blaster must be licensed and the State or local authority must be identified in writing to the FAA Principal Operations Inspector assigned to the operator.

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

(a) This subchapter does not apply to the following hazardous materials when carried by aircraft passengers or crewmembers provided 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), in quantities not exceeding 2.0 kg (4.4 pounds) per person in carry-on baggage or 2.3 kg (5 pounds) per person in checked baggage, when used to refrigerate perishables. The packaging must permit the release of carbon dioxide gas. For checked baggage, the package must be marked "DRY ICE" or "CARBON DIOXIDE, SOLID" and must be marked with the net weight of dry ice or an indication the net weight is 2.3 kg (5 pounds) or less.

(11) A self-inflating life jacket 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 lifejacket and spare cartridges may be carried in carry-on or checked baggage, with the approval of the aircraft operator.

(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 carry-on baggage only and with the approval of the operator of the aircraft. The heat-producing component, or the energy source, must be removed to prevent unintentional functioning during transport.

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

(i) The battery meets the provisions of §173.159(d) of this subchapter for nonspillable batteries;

(ii) 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);

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

(iv) 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), or

(C) 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) Except as provided in §173.21 of this subchapter, consumer electronic and medical devices (watches, calculating machines, cameras, cellular phones, lap-top and notebook computers, camcorders, etc.) containing lithium cells or batteries and spare lithium batteries and cells for these devices, when carried by passengers or crew members for personal use. Each spare battery 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) and carried in carry-on baggage only. In addition, each installed or spare 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, an aggregate equivalent lithium content of not more than 8 grams per battery, except that up to two batteries with an aggregate equivalent lithium content of more than 8 grams but not more than 25 grams may be carried.

(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.

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## **§ 175.20 Compliance and training.**

An air carrier may not transport a hazardous material by aircraft unless each of its hazmat employees involved in that transportation is trained as required by subpart H of part 172 of this subchapter. In addition, air carriers must comply with all applicable hazardous materials training requirements in 14 CFR Part 121 and 135.

## **§ 175.25 Notification at air passenger facilities of hazardous materials restrictions.**

Each person who engages in for-hire air transportation of passengers shall display notices of the requirements applicable to the carriage of hazardous materials aboard aircraft, and the penalties for failure to comply with those requirements. Each notice must be legible, and be prominently displayed so it can be seen by passengers in locations where the aircraft operator issues tickets, checks baggage, and maintains aircraft boarding areas.

(a) At a minimum, each notice must communicate the following information:

(1) Federal law forbids the carriage of hazardous materials aboard aircraft in your luggage or on your person. A violation can result in five years' imprisonment and penalties of \$250,000 or more (49 U.S.C. 5124). Hazardous materials include explosives, compressed gases, flammable liquids and solids, oxidizers, poisons, corrosives and radioactive materials. Examples: Paints, lighter fluid, fireworks, tear gases, oxygen bottles, and radio-pharmaceuticals.

(2) There are special exceptions for small quantities (up to 70 ounces total) of medicinal and toilet articles carried in your luggage and certain smoking materials carried on your person. For further information contact your airline representative.

(b) The information contained in paragraph (a) of this section must be printed:

(1) In legible English and may, in addition to English, be displayed in other languages;

(2) In lettering of at least 1 cm (0.4 inch) in height for the first sentence and 4.0 mm (0.16 inch) in height for the other sentences; and

(3) On a background of contrasting color.

(c) Size and color of the notice is optional. Additional information, examples, or illustrations, if not inconsistent with the required information, may be included.

#### **§ 175.26 Notification at cargo facilities of hazardous materials requirements.**

(a) Each person who engages in the acceptance or transport of cargo for transportation by aircraft shall display notices to persons offering such cargo of the requirements applicable to the carriage of hazardous materials aboard aircraft, and the penalties for failure to comply with those requirements, at each facility where cargo is accepted. Each notice must be legible, and be prominently displayed so it can be seen. At a minimum, each notice must communicate the following information:

(1) Cargo containing hazardous materials (dangerous goods) for transportation by aircraft must be offered in accordance with the Federal Hazardous Materials Regulations (49 CFR parts 171 through 180).

(2) A violation can result in five years' imprisonment and penalties of \$250,000 or more (49 U.S.C. 5124).

(3) Hazardous materials (dangerous goods) include explosives, compressed gases, flammable liquids and solids, oxidizers, poisons, corrosives and radioactive materials.

(b) The information contained in paragraph (a) of this section must be printed:

(1) Legibly in English, and, where cargo is accepted outside of the United States, in the language of the host country; and

(2) On a background of contrasting color.

(c) Size and color of the notice are optional. Additional information, examples, or illustrations, if not inconsistent with required information, may be included.

(d) *Exceptions.* Display of a notice required by paragraph (a) of this section is not required at:

(1) An unattended location (e.g., a drop box) provided a general notice advising customers of a prohibition on shipments of hazardous materials through that location is prominently displayed; or

(2) A customer's facility where hazardous materials packages are accepted by a carrier.

### § 175.30 Inspecting shipments.

(a) No person may accept a hazardous material for transportation aboard an aircraft unless the aircraft operator ensures the hazardous material is:

(1) Authorized, and is within the quantity limitations specified for carriage aboard aircraft according to §172.101 of this subchapter or as otherwise specifically provided by this subchapter.

(2)

(2) Described and certified on a shipping paper prepared in duplicate in accordance with part 172 of this subchapter or as authorized by Subpart C of part 171 of this subchapter. See §175.33 for shipping paper retention requirements;

(3) Marked and labeled in accordance with subparts D and E of part 172 or as authorized in §171.11 of this subchapter, and placarded (when required) in accordance with subpart F of part 172 of this subchapter; and

(4) Labeled with a "CARGO AIRCRAFT ONLY" label (see §172.448 of this subchapter) if the material as presented is not permitted aboard passenger-carrying aircraft.

(b) Except as provided in paragraph (d) of this section, no person may carry a hazardous material in a package, outside container, or overpack aboard an aircraft unless the package, outside container, or overpack is inspected by the operator of the aircraft immediately before placing it:

(1) Aboard the aircraft; or

(2) In a unit load device or on a pallet prior to loading aboard the aircraft.

(c) A hazardous material may be carried aboard an aircraft only if, based on the inspection by the operator, the package, outside container, or overpack containing the hazardous material:

(1) Has no holes, leakage or other indication that its integrity has been compromised; and

(2) For Class 7 (radioactive) materials, does not have a broken seal, except packages contained in overpacks need not be inspected for seal integrity.

(d) The requirements of paragraphs (b) and (c) of this section do not apply to Dry ice (carbon dioxide, solid).

(e) An overpack containing packages of hazardous materials may be accepted only if the operator has taken all reasonable steps to establish that:

(1) The overpack does not contain a package bearing the "CARGO AIRCRAFT ONLY" label unless—

(i) The overpack affords clear visibility of and easy access to the package;

(ii) The package contains a material which may be carried inaccessibly under the provisions of §175.75(e); or

(iii) Not more than one package is overpacked.

(2) The proper shipping names, identification numbers, labels and special handling instructions appearing on the inside packages are clearly visible or reproduced on the outside of the overpack, and

(3) Has determined that word "OVERPACK", or until October 1, 2007 a statement to the effect that the inside packages comply with the prescribed specifications, appears on the outside of the overpack, when specification packagings are prescribed.

### **§ 175.31 Reports of discrepancies.**

(a) Each person who discovers a discrepancy, as defined in paragraph (b) of this section, relative to the shipment of a hazardous material following its acceptance for transportation aboard an aircraft shall, as soon as practicable, notify the nearest FAA Regional or Field Security Office by telephone or electronically, and shall provide the following information:

- (1) Name and telephone number of the person reporting the discrepancy.
- (2) Name of the aircraft operator.
- (3) Specific location of the shipment concerned.
- (4) Name of the shipper.
- (5) Nature of discrepancy.
- (6) Address of the shipper or person responsible for the discrepancy, if known, by the air carrier.

(b) Discrepancies which must be reported under paragraph (a) of this section are those involving hazardous materials which are improperly described, certified, labeled, marked, or packaged, in a manner not ascertainable when accepted under the provisions of §175.30(a) of this subchapter including packages or baggage which are found to contain hazardous materials subsequent to their being offered and accepted as other than hazardous materials.

### **§ 175.33 Shipping paper and notification of pilot-in-command.**

(a) When a hazardous material subject to the provisions of this subchapter is carried in an aircraft, a copy of the shipping paper required by §175.30(a)(2) must accompany the shipment it covers during transportation aboard the aircraft, and the operator of the aircraft must provide the pilot-in-command with accurate and legible written information as early as practicable before departure of the aircraft, which specifies at least the following:

(1) The proper shipping name, hazard class and identification number of the material, including any remaining aboard from prior stops, as specified in §172.101 of this subchapter or the ICAO Technical Instructions. In the case of Class 1 materials, the compatibility group letter also must be shown. If a hazardous material is described by the proper shipping name, hazard class, and identification number appearing in:

(i) Section 172.101 of this subchapter, any additional description requirements provided in §§172.202 and 172.203 of this subchapter must also be shown in the notification.

(ii) The ICAO Technical Instructions (IBR, see §171.7 of this subchapter), any additional information required to be shown on shipping papers by subpart C of part 171 of this subchapter must also be shown in the notification.

(2) The total number of packages;

(3) The net quantity or gross weight, as applicable, for each package except those containing Class 7 (radioactive) materials. For a shipment consisting of multiple packages containing hazardous materials bearing the same proper shipping name and identification number, only the total quantity and an indication of the quantity of the largest and smallest package at each loading location need to be provided;

(4) The location of the packages aboard the aircraft;

(5) Confirmation that no damaged or leaking packages have been loaded on the aircraft;



- (6) For Class 7 (radioactive) materials, the number of packages, overpacks or freight containers their category, transport index (if applicable), and their location aboard the aircraft;
- (7) The date of the flight;
- (8) The telephone number of a person not aboard the aircraft from whom the information contained in the notification of pilot-in-command can be obtained. The aircraft operator must ensure the telephone number is monitored at all times the aircraft is in flight. The telephone number is not required to be placed on the notification of pilot-in-command if the phone number is in a location in the cockpit available and known to the flight crew.
- (9) Confirmation that the package must be carried only on cargo aircraft if its transportation aboard passenger-carrying aircraft is forbidden; and
- (10) An indication, when applicable, that a hazardous material is being carried under terms of a special permit.
- (b) A copy of the written notification to pilot-in-command shall be readily available to the pilot-in-command during flight. Emergency response information required by subpart G of part 172 of this subchapter must be maintained in the same manner as the written notification to pilot-in-command during transport of the hazardous material aboard the aircraft.
- (c) The aircraft operator must—
- (1) Retain a copy of the shipping paper required by §175.30(a)(2) or an electronic image thereof, that is accessible at or through its principal place of business and must make the shipping paper available, upon request, to an authorized official of a federal, state, or local government agency at reasonable times and locations. For a hazardous waste, each shipping paper copy must be retained for three years after the material is accepted by the initial carrier. For all other hazardous materials, each shipping paper copy must be retained by the operator for one year after the material is accepted by the initial carrier. Each shipping paper copy must include the date of acceptance by the carrier. The date on the shipping paper may be the date a shipper notifies the air carrier that a shipment is ready for transportation, as indicated on the air bill or bill of lading, as an alternative to the date the shipment is picked up or accepted by the carrier. Only an initial carrier must receive and retain a copy of the shipper's certification, as required by §172.204 of this subchapter.
- (2) Retain a copy of each notification of pilot-in-command, an electronic image thereof, or the information contained therein for 90 days at the airport of departure or the operator's principal place of business.
- (3) Have the information required to be retained under this paragraph readily accessible at the airport of departure and the intended airport of arrival for the duration of the flight leg.
- (4) Make available, upon request, to an authorized official of a Federal, State, or local government agency (including an emergency responders) at reasonable times and locations, the documents or information required to be retained by this paragraph.
- (d) The documents required by paragraphs (a) and (b) this section may be combined into one document if it is given to the pilot-in-command before departure of the aircraft.

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