

§ 175.704

49 CFR Ch. I (10–1–14 Edition)

(2) Liquid pyrophoric Class 7 (radioactive) materials.

(d) Packages with radiation levels at the package surface or a transport index in excess of the limits specified in §173.441(a) of this subchapter may not be transported by aircraft except under special arrangements approved by the Associate Administrator.

§ 175.704 Plutonium shipments.

Shipments of plutonium which are subject to 10 CFR 71.88(a)(4) must comply with the following:

(a) Each package containing plutonium must be secured and restrained to prevent shifting under normal conditions.

(b) A package of plutonium having a gross mass less than 40 kg (88 pounds) and both its height and diameter less than 50 cm (19.7 inches)—

(1) May not be transported aboard an aircraft carrying other cargo required to bear a Division 1.1 label; and

(2) Must be stowed aboard the aircraft on the main deck or the lower cargo compartment in the aft-most location that is possible for cargo of its size and weight, and no other cargo may be stowed aft of packages containing plutonium.

(c) A package of plutonium exceeding the size and weight limitations in paragraph (b) of this section—

(1) May not be transported aboard an aircraft carrying other cargo required to bear any of the following labels: Class 1 (all Divisions), Class 2 (all Divisions), Class 3, Class 4 (all Divisions), Class 5 (all Divisions), or Class 8; and

(2) Must be securely cradled and tied down to the main deck of the aircraft in a manner that restrains the package against the following internal forces acting separately relative to the deck of the aircraft; Upward, 2g; Forward, 9g; Sideward, 1.5g; Downward, 4.5g.

§ 175.705 Radioactive contamination.

(a) A carrier shall take care to avoid possible inhalation, ingestion, or contact by any person with Class 7 (radioactive) materials that may have been released from their packagings.

(b) When contamination is present or suspected, the package containing a Class 7 material, any loose Class 7 material, associated packaging material, and any other materials that have been contaminated must be segregated as far as practicable from personnel contact until radiological advice or assistance is obtained from the U.S. Department of Energy or appropriate State or local radiological authorities.

(c) An aircraft in which Class 7 (radioactive) material has been released must be taken out of service and may not be returned to service or routinely occupied until the aircraft is checked for radioactive substances and it is determined that any radioactive substances present do not meet the definition of radioactive material, as defined in §173.403 of this subchapter.

(d) Each aircraft used routinely for transporting Class 7 materials shall be periodically checked for radioactive contamination, and an aircraft must be taken out of service if contamination exceeds the level specified in paragraph (c). The frequency of these checks shall be related to the likelihood of contamination and the extent to which Class 7 materials are transported.

(e) In addition to the reporting requirements of (§§171.15 and 171.16 of this subchapter and §175.31 of this part, an aircraft operator shall notify the offeror at the earliest practicable moment following any incident in which there has been breakage, spillage, or suspected radioactive contamination involving Class 7 (radioactive) materials shipments.

[71 FR 14604, Mar. 22, 2006, as amended at 79 FR 40618, July 11, 2014]

§ 175.706 Separation distances for undeveloped film from packages containing Class 7 (radioactive) materials.

No person may carry in an aircraft any package of Class 7 (radioactive) materials required by §172.403 of this subchapter to be labeled Radioactive Yellow-II or Radioactive Yellow-III closer than the distances shown in the table below to any package marked as containing underdeveloped film.

Transport index	Minimum separation distance to nearest undeveloped film for various times in transit									
	Up to 2 hours		2 to 4 hours		4 to 8 hours		8 to 12 hours		Over 12 hours	
	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet
0.1 to 1.0	0.3	1	0.6	2	0.9	3	1.2	4	1.5	5
1.1 to 5.0	0.9	3	1.2	4	1.8	6	2.4	8	3.3	11
5.1 to 10.0	1.2	4	1.8	6	2.7	9	3.3	11	4.5	15
10.1 to 20.0 ...	1.5	5	2.4	8	3.6	12	4.8	16	6.6	22
20.1 to 30.0 ...	2.1	7	3	10	4.5	15	6	20	8.7	29
30.1 to 40.0 ...	2.4	8	3.3	11	5.1	17	6.6	22	9.9	33
40.1 to 50.0 ...	2.7	9	3.6	12	5.7	19	7.2	24	10.8	36

§175.900 Handling requirements for carbon dioxide, solid (dry ice).

Carbon dioxide, solid (dry ice) when shipped by itself or when used as a refrigerant for other commodities, may be carried only if the operator has made suitable arrangements based on the aircraft type, the aircraft ventilation rates, the method of packing and stowing, whether animals will be carried on the same flight and other factors. The operator must ensure that the ground staff is informed that the dry ice is being loaded or is on board the aircraft. For arrangements between the shipper and operator, see §173.217 of this subchapter. Where dry ice is contained in a unit load device (ULD) or other type of pallet prepared by a single shipper in accordance with §173.217 and the operator after the acceptance adds additional dry ice, the operator must ensure that the information provided to the Pilot-in-Command and the marking on the ULD when used as a packaging reflects that revised quantity of dry ice.

[73 FR 4719, Jan. 28, 2008]

PART 176—CARRIAGE BY VESSEL

Subpart A—General

- Sec.
- 176.1 Purpose and scope.
- 176.2 Definitions.
- 176.3 Unacceptable hazardous materials shipments.
- 176.4 Port security and safety regulations.
- 176.5 Application to vessels.
- 176.7 Documentation for vessel personnel.
- 176.9 "Order-Notify" or "C.O.D." shipments.
- 176.11 Exceptions.
- 176.13 Responsibility for compliance and training.
- 176.15 Enforcement.
- 176.18 Assignment and certification.

Subpart B—General Operating Requirements

- 176.24 Shipping papers.
- 176.27 Certificate.
- 176.30 Dangerous cargo manifest.
- 176.31 Special permits.
- 176.36 Preservation of records.
- 176.39 Inspection of cargo.
- 176.45 Emergency situations.
- 176.48 Situation requiring report.
- 176.50 Acceptance of damaged or leaking packages.
- 176.52 Rejections of shipments in violation.
- 176.54 Repairs involving welding, burning, and power-actuated tools and appliances.

Subpart C—General Handling and Stowage

- 176.57 Supervision of handling and stowage.
- 176.58 Preparation of the vessel.
- 176.60 "No Smoking" signs.
- 176.63 Stowage locations.
- 176.65 Alternative stowage procedures.
- 176.69 General stowage requirements for hazardous materials.
- 176.70 Stowage requirements for marine pollutants.
- 176.72 Handling of break-bulk hazardous materials.
- 176.74 On deck stowage of break-bulk hazardous materials.
- 176.76 Transport vehicles, freight containers, and portable tanks containing hazardous materials.
- 176.77 Stowage of barges containing hazardous materials on board barge-carrying vessels.
- 176.78 Use of power-operated industrial trucks on board vessels.

Subpart D—General Segregation Requirements

- 176.80 Applicability.
- 176.83 Segregation.