

§ 176.605 Care following leakage or sifting of Division 2.3 (poisonous gas) and Division 6.1 (poisonous) materials.

A hold or compartment containing a package of a Division 2.3 (poisonous gas) or Division 6.1 (poisonous) material which has leaked or sifted must be thoroughly cleaned and decontaminated after the cargo is unloaded and before the hold or compartment is used for the stowage of any other cargo.

Subpart M—Detailed Requirements for Radioactive Materials

SOURCE: Amdt. 176-15, 48 FR 10245, Mar. 10, 1983, unless otherwise noted.

§ 176.700 General stowage requirements.

(a) [Reserved]

(b) A package of radioactive materials which in still air has a surface temperature more than 5 °C (9 °F) above the ambient air may not be overstowed with any other cargo. If the package is stowed under deck, the hold or compartment in which it is stowed must be ventilated.

(c) For a shipment of radioactive materials requiring supplemental operational procedures, the shipper must furnish the master or person in charge of the vessel a copy of the necessary operational instructions.

(d) A person may not remain unnecessarily in a hold, or compartment, or in the immediate vicinity of any package on deck, containing radioactive materials.

(The information collection requirements in paragraph (d) were approved by the Office of Management and Budget under control numbers 2137-0534, 2137-0535 and 2137-0536)

[Amdt. 176-15, 48 FR 10245, Mar. 10, 1983, as amended by Amdt. 176-15, 48 FR 31220, July 7, 1983; Amdt. 176-23, 50 FR 41523, Oct. 11, 1985; Amdt. 176-37, 60 FR 50333, Sept. 28, 1995; 66 FR 45385, Aug. 28, 2001; 69 FR 3694, Jan. 26, 2004]

§ 176.704 Requirements relating to transport indices and criticality safety indices.

(a) The sum of the transport indices (TI's) for all packages of Class 7 (radioactive) materials on board a vessel

may not exceed the limits specified in Table IIIA of this section.

(b) For freight containers containing packages and overpacks of Class 7 (radioactive) materials, the radiation level may not exceed 2 mSv per hour (200 mrem per hour) at any point on the outside surface and 0.1 mSv per hour (10 mrem per hour) at 2 m (6.6 ft) from the outside surface of the freight container.

(c) The limitations specified in Table IIIA of this section do not apply to consignments of LSA-I material.

(d) The sum of the criticality safety indices (CSI's) for all packages and overpacks of fissile Class 7 (radioactive) materials on board a vessel may not exceed the limits specified in Table IIIB of this section.

(e) Each group of fissile Class 7 (radioactive) material packages and overpacks, containing a sum of CSIs no greater than 50 for a non-exclusive use shipment, or no greater than 100 for an exclusive use shipment, must be separated from all other groups containing fissile material packages and overpacks by a distance of at least 6 m (20 ft) at all times.

(f) The limitations specified in paragraphs (a) through (c) of this section do not apply when the entire vessel is reserved or chartered for use by a single offeror under exclusive use conditions if—

(1) The number of packages of fissile Class 7 (radioactive) material satisfies the individual package CSI limits of § 173.457 of this subchapter, except that the total sums of CSI's in the last column of Table IIIB of this section, including table note (d) apply;

(2) A radiation protection program for the shipment has been established and approved by the competent authority of the flag state of the vessel and, when requested, by the competent authority at each port of call;

(3) Stowage arrangements have been predetermined for the whole voyage, including any consignments to be loaded at ports of call;

(4) The loading, transport and unloading are to be supervised by persons qualified in the transport of radioactive material; and

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(5) The entire shipment operation is approved by the Associate Administrator in advance.

(g) Table IIIA is as follows:

TABLE IIIA—TI LIMITS FOR FREIGHT CONTAINERS AND CONVEYANCES

Type of freight container or conveyance	Limit on total sum of transport indices in a single freight container or aboard a conveyance	
	Not under exclusive use	Under exclusive use
I. Freight container—small	50	N/A.
II. Freight container—large	50	No limit.
III. Vessel: ^{a,b}		
1. Hold, compartment or defined deck area:		
i. Packages, overpacks, small freight containers.	50	No limit.
ii. Large freight containers.	200	No limit.
2. Total vessel:		
i. Packages, overpacks, small freight containers.	200	No limit.
ii. Large freight containers.	No limit	No limit.

NOTES:
^aFor vessels, the requirements in both 1 and 2 must be fulfilled.
^bPackages or overpacks transported in or on a vehicle which are offered for transport in accordance with the provisions of § 173.441(b) of this subchapter may be transported by vessels provided that they are not removed from the vehicle at any time while on board the vessel.

(h) Table IIIB is as follows:

TABLE IIIB—CSI LIMITS FOR FREIGHT CONTAINERS AND CONVEYANCES

Type of freight container or conveyance	Limit on total sum of criticality safety indices in a single freight container or aboard a conveyance	
	Not under exclusive use	Under exclusive use
I. Freight container—small	50	N/A.
II. Freight container—large	50	100.
III. Vessel: ^{a,b}		
1. Hold, compartment or defined deck area:		
i. Packages, overpacks, small freight containers.	50	100.
ii. Large freight containers.	50	100.
2. Total vessel:		
i. Packages, overpacks, small freight containers.	200 ^c	200 ^d .

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TABLE IIIB—CSI LIMITS FOR FREIGHT CONTAINERS AND CONVEYANCES—Continued

Type of freight container or conveyance	Limit on total sum of criticality safety indices in a single freight container or aboard a conveyance	
	Not under exclusive use	Under exclusive use
ii. Large freight containers.	No limit ^c ..	No limit ^d .

NOTES:
^aFor vessels, the requirements in both 1 and 2 must be fulfilled.
^bPackages or overpacks transported in or on a vehicle which are offered for transport in accordance with the provisions of § 173.441(b) of this subchapter may be transported by vessels provided that they are not removed from the vehicle at any time while on board the vessel. In that case, the entries under the heading “under exclusive use” apply.
^cThe consignment must be handled and stowed such that the total sum of CSIs in any group does not exceed 50, and such that each group is handled and stowed so that the groups are separated from each other by at least 6 m (20 ft).
^dThe consignment must be handled and stowed such that the total sum of CSIs in any group does not exceed 100, and such that each group is handled and stowed so that the groups are separated from each other by at least 6 m (20 ft). The intervening space between groups may be occupied by other cargo.

[69 FR 3694, Jan. 26, 2004]

§ 176.708 Segregation distances.

(a) Table IV lists minimum separation distances between radioactive materials and spaces regularly occupied by crew members or passengers, or between radioactive materials and undeveloped photographic film. It expresses the separation distances as a function of the sum of the TIs of all packages in a single consignment, in the case of 0 or 3 feet of intervening cargo of unit density for persons, and 0, 3, or 6 feet of intervening cargo of unit density for undeveloped film. Cargo of unit density is stowed cargo with a density of 1 long ton (2240 lbs.) per 36 cubic feet. Separation distances may be interpolated from the table where appropriate.

(b) Table IV is to be used to determine the separation distance for undeveloped film.

(c) Category YELLOW-II or YELLOW-III packages or overpacks must not be transported in spaces occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages or overpacks.

(d) The separation distances for crew members and passengers may be determined by one of two methods: