from handling and routine conditions of transport and of preventing a loss of shielding integrity which would result in more than a 20% increase in the radiation level at any external surface of the tank containers.

(5) Tanks, other than tank containers, including DOT Specification IM 101 or IM 102 steel portable tanks (§§ 178.270, 178.271, 178.272 of this subchapter), may be used as Industrial package Types 2 or 3 (Type IP–2) or (Type IP–3) for transporting LSA-I and LSA-II liquids and gases as prescribed in Table 6, provided that they conform to standards at least equivalent to those prescribed in paragraph (b)(4).

(6) Freight containers may be used as Industrial packages Types 2 or 3 (Type IP–2) or (Type IP–3) provided that:

(i) The radioactive contents are restricted to solid materials;

(ii) They satisfy the requirements for Type IP–1 specified in paragraph (b)(1); and

(iii) They are designed to conform to the standards prescribed in the International Organization for Standardization document ISO 1496–1: “Series 1 Freight Containers—Specifications and Testing—Part 1: General Cargo Containers; excluding dimensions and ratings (IBR, see § 171.7 of this subchapter).” They shall be designed such that if subjected to the tests prescribed in that document and the accelerations occurring during routine conditions of transport they would prevent:

(A) Loss or dispersal of the radioactive contents; and

(B) Loss of shielding integrity which would result in more than a 20% increase in the radiation level at any external surface of the freight containers.

(c) Except for IP–1 packagings, each offeror of an industrial package must maintain on file for at least one year after the latest shipment, and shall provide to the Associate Administrator on request, complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with that specification.


§ 173.412 Additional design requirements for Type A packages.

In addition to meeting the general design requirements prescribed in §173.410, each Type A packaging must be designed so that—

(a) The outside of the packaging incorporates a feature, such as a seal, that is not readily breakable, and that, while intact, is evidence that the package has not been opened. In the case of packages shipped in closed transport vehicles in exclusive use, the cargo compartment, instead of the individual packages, may be sealed.

(b) The smallest external dimension of the package is not less than 10 cm (4 inches).

(c) Containment and shielding is maintained during transportation and storage in a temperature range of −40 °C (−40 °F) to 70 °C (158 °F). Special attention shall be given to liquid contents and to the potential degradation of the packaging materials within the temperature range.

(d) The packaging must include a containment system securely closed by a positive fastening device that cannot
§ 173.413 Requirements for Type B packages.

Except as provided in §173.416, each Type B(U) or Type B(M) package must be designed and constructed to meet the applicable requirements specified in 10 CFR part 71.

§ 173.415 Authorized Type A packages.

The following packages are authorized for shipment if they do not contain quantities exceeding A1 or A2 as appropriate:

(a) DOT Specification 7A (see §178.350 of this subchapter) Type A general packaging. Each offeror of a Specification 7A package must maintain on file for at least one year after the latest shipment, and shall provide to DOT on request, complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with that specification.

(b) Any other Type A packaging that also meets the applicable standards for...