§ 173.223 Packagings for certain flammable solids.

(a) Packagings for “Musk xylene,” “5-tert-Butyl-2,4,6-trinitro-m-xylene,” “Azodicarbonamide,” or “Isosorbide-5-mononitrate,” when offered for transportation or transported by rail, highway, or vessel, must conform to the packaging requirements of this section.

(b) Each package containing hazardous materials in machinery or apparatus must be capable of containing any evolving gases from the contents during normal conditions of transportation.

(1) Damage to the receptacles containing the hazardous materials during transport is unlikely. However, in the event of damage to the receptacles containing the hazardous materials, no leakage of the hazardous materials from the machinery or apparatus is possible. A leakproof liner may be used to satisfy this requirement.

(2) Receptacles containing hazardous materials must be secured and cushioned so as to prevent their breakage or leakage and so as to control their movement within the machinery or apparatus during normal conditions of transportation. Cushioning material must not react dangerously with the content of the receptacles. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.

(3) Receptacles for gases, their contents and filling densities must conform to the applicable requirements of this subchapter, unless otherwise approved by the Associate Administrator.

(c) The total net quantity of hazardous materials contained in one item of machinery or apparatus must not exceed the following:

(1) 1 kg (2.2 pounds) in the case of solids;
(2) 0.5 L (0.1 gallons) in the case of liquids;
(3) 0.5 kg (1.1 pounds) in the case of Division 2.2 gases. For transportation by aircraft, Division 2.2 gases with subsidiary risks and refrigerated liquefied gases are not authorized; and

(d) Except for transportation by aircraft, when a package contains hazardous materials in two or more of the categories listed in paragraphs (c)(1) through (c)(3) of this section the total quantity required by §172.202(c) of this subchapter to be entered on the shipping paper must be either the aggregate quantity, or the estimated quantity, of all hazardous materials, expressed as net mass.

§ 173.224  Packaging and control and emergency temperatures for self-reactive materials.

(a) General. When the § 172.101 table of this subchapter specifies that a Division 4.1 material be packaged in accordance with this section, only packagings which conform to the provisions of this section may be used. Each packaging must conform to the general packaging requirements of subpart B of this part and the applicable requirements of part 178 of this subchapter.

Non-bulk packagings must meet Packing Group II performance levels. To avoid unnecessary confinement, metallic non-bulk packagings meeting Packing Group I are not authorized. Self-reactive materials which require temperature control are subject to the provisions of § 173.21(f). Packagings required to bear a Class 1 subsidiary label must conform to §§ 173.60 through 173.62.

(b) Self- Reactive Materials Table. The Self-Reactive Materials Table specifies, by technical name, those self-reactive materials that are authorized for transportation and not subject to the approval provisions of § 173.124(a)(2)(iii). A self-reactive material identified by technical name in the following table is authorized for transportation only if it conforms to all applicable provisions of the table. The headings of the Self-Reactive Materials Table are as follows:

(1) Technical name. Column 1 specifies the technical name.

(2) ID number. Column 2 specifies the identification number which is used to identify the proper shipping name in the § 172.101 table.

(3) Concentration of self-reactive material. Column 3 specifies the concentration (percent) limitations, if any, in mixtures or solutions for the self-reactive material. Limitations are given as minimums, maximums, or a range, as appropriate. A range includes the lower and upper limits (i.e., "53–100" means from, and including, 53 percent to, and including 100 percent).

(4) Packing method. Column 4 specifies the highest packing method which is authorized for the self-reactive material. A packing method corresponding to a smaller package size may be used, but a packing method corresponding to a larger package size may not be used. The Table of Packing Methods in § 173.225(d) defines the packing methods. Bulk packagings for Type F self-reactive substances are authorized by § 173.225(f) for IBCs and § 173.225(h) for bulk packagings other than IBCs. Additional bulk packagings are authorized if approved by the Associate Administrator.

(5) Control temperature. Column 5 specifies the control temperature in °C. Temperatures are specified only when temperature controls are required (see § 173.21(f)).

(6) Emergency temperature. Column 6 specifies the emergency temperature in °C. Temperatures are specified only when temperature controls are required (see § 173.21(f)).

(7) Notes. Column 7 specifies other applicable provisions, as set forth in notes following the table.