

(i) Ammunition must be packed in inside boxes, or in partitions which fit snugly in the outside packaging, or in metal clips;

(ii) Primers must be protected from accidental initiation;

(iii) Inside boxes, partitions or metal clips must be packed in securely-closed strong outside packagings;

(iv) Maximum gross weight is limited to 30 kg (66 pounds) per package; and

(v) Cartridges, power devices which are used to project fastening devices and 22 caliber rim-fire cartridges may be packaged loose in strong outside packagings.

(c)-(e) [Reserved]

(f) Detonators containing no more than 1 g explosive (excluding ignition and delay charges) that are electric blasting caps with leg wires 4 feet long or longer, delay connectors in plastic sheaths, or blasting caps with empty plastic tubing 12 feet long or longer may be packed as follows in which case they are excepted from the packaging requirements of § 173.62:

(1) No more than 50 detonators in one inner packaging;

(2) IME Standard 22 container (IBR, see § 171.7 of this subchapter) or compartment is used as the outer packaging;

(3) No more than 1000 detonators in one outer packaging; and

(4) No material may be loaded on top of the IME Standard 22 container and no material may be loaded against the outside door of the IME Standard 22 compartment.

(g) Detonators that are classed as 1.4B or 1.4S and contain no more than 1 g of explosive (excluding ignition and delay charges) may be packed as follows in which case they are excepted from the packaging requirements of § 173.62:

(1) No more than 50 detonators in one inner packaging;

(2) IME Standard 22 container is used as the outer packaging;

(3) No more than 1000 detonators in one outer packaging; and

(4) Each inner packaging is marked "1.4B Detonators" or "1.4S Detonators", as appropriate.

[Amdt. 173-224, 55 FR 52617, Dec. 21, 1990, as amended at 56 FR 66268, Dec. 20, 1991; Amdt. 173-236, 58 FR 50536, Sept. 24, 1993; Amdt. 173-253, 61 FR 27175, May 30, 1996; 68 FR 75743, Dec. 31, 2003]

### Subpart D—Definitions Classification, Packing Group Assignments and Exceptions for Hazardous Materials Other Than Class 1 and Class 7

SOURCE: Amdt. 173-224, 55 FR 52634 Dec. 21, 1990, unless otherwise noted.

#### § 173.115 Class 2, Divisions 2.1, 2.2, and 2.3—Definitions.

(a) *Division 2.1 (Flammable gas)*. For the purpose of this subchapter, a *flammable gas* (Division 2.1) means any material which is a gas at 20 °C (68 °F) or less and 101.3 kPa (14.7 psia) of pressure (a material which has a boiling point of 20 °C (68 °F) or less at 101.3 kPa (14.7 psia)) which—

(1) Is ignitable at 101.3 kPa (14.7 psia) when in a mixture of 13 percent or less by volume with air; or

(2) Has a flammable range at 101.3 kPa (14.7 psia) with air of at least 12 percent regardless of the lower limit.

Except for aerosols, the limits specified in paragraphs (a)(1) and (a)(2) of this section shall be determined at 101.3 kPa (14.7 psi) of pressure and a temperature of 20 °C (68 °F) in accordance with ASTM E681-85, Standard Test Method for Concentration Limits of Flammability of Chemicals or other equivalent method approved by the Associate Administrator. The flammability of aerosols is determined by the tests specified in § 173.306(i) of this part.

(b) *Division 2.2 (non-flammable, nonpoisonous compressed gas—including compressed gas, liquefied gas, pressurized cryogenic gas, compressed gas in solution, asphyxiant gas and oxidizing gas)*. For the purpose of this subchapter, a non-flammable, nonpoisonous compressed gas (Division 2.2) means any material (or mixture) which—

(1) Exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20 °C (68 °F), and

§ 173.116

49 CFR Ch. I (10–1–04 Edition)

(2) Does not meet the definition of Division 2.1 or 2.3.

(c) *Division 2.3 (Gas poisonous by inhalation)*. For the purpose of this subchapter, a *gas poisonous by inhalation* (Division 2.3) means a material which is a gas at 20 °C (68 °F) or less and a pressure of 101.3 kPa (14.7 psia) (a material which has a boiling point of 20 °C (68 °F) or less at 101.3 kPa (14.7 psia)) and which—

(1) Is known to be so toxic to humans as to pose a hazard to health during transportation, or

(2) In the absence of adequate data on human toxicity, is presumed to be toxic to humans because when tested on laboratory animals it has an LC<sub>50</sub> value of not more than 5000 mL/m<sup>3</sup> (see § 173.116(a) of this subpart for assignment of Hazard Zones A, B, C or D). LC<sub>50</sub> values for mixtures may be determined using the formula in § 173.133(b)(1)(i) or CGA Pamphlet P-20 (IBR, see § 171.7 of this subchapter).

(d) *Non-liquefied compressed gas*. A gas, which when packaged under pressure for transportation is entirely gaseous at –50 °C (–58 °F) with a critical temperature less than or equal to –50 °C (–58 °F), is considered to be a non-liquefied compressed gas.

(e) *Liquefied compressed gas*. A gas, which when packaged under pressure for transportation is partially liquid at temperatures above –50 °C (–58 °F), is considered to be a liquefied compressed gas. A liquefied compressed gas is further categorized as follows:

(1) *High pressure liquefied gas* which is a gas with a critical temperature between –50 °C (–58 °F) and + 65 °C (149 °F), and

(2) *Low pressure liquefied gas* which is a gas with a critical temperature above + 65 °C (149 °F).

(f) *Compressed gas in solution*. A *compressed gas in solution* is a non-liquefied compressed gas which is dissolved in a solvent.

(g) *Cryogenic liquid*. A *cryogenic liquid* means a refrigerated liquefied gas having a boiling point colder than –90 °C (–130 °F) at 101.3 kPa (14.7 psia) absolute. A material meeting this definition is subject to requirements of this subchapter without regard to whether it meets the definition of a non-flam-

mable, non-poisonous compressed gas in paragraph (b) of this section.

(h) *Flammable range*. The term *flammable range* means the difference between the minimum and maximum volume percentages of the material in air that forms a flammable mixture.

(i) *Service pressure*. The term *service pressure* means the authorized pressure marking on the packaging. For example, for a cylinder marked “DOT 3A1800”, the service pressure is 12410 kPa (1800 psig).

(j) *Refrigerant gas or Dispersant gas*. The terms *Refrigerant gas* and *Dispersant gas* apply to all nonpoisonous refrigerant gases; dispersant gases (fluorocarbons) listed in § 172.101 of this subchapter and §§ 173.304, 173.314(c), 173.315(a), and 173.315(h) and mixtures thereof; and any other compressed gas having a vapor pressure not exceeding 260 psia at 54 °C (130 °F), used only as a refrigerant, dispersant, or blowing agent.

[Amdt. 173–224, 55 FR 52634, Dec. 21, 1990, as amended at 56 FR 66268, Dec. 20, 1991; 57 FR 45461, Oct. 1, 1992; Amdt. 173–236, 58 FR 50236, Sept. 24, 1993; Amdt. 173–234, 58 FR 51532, Oct. 1, 1993; Amdt. 173–241, 59 FR 67506, Dec. 29, 1994; Amdt. 173–255, 61 FR 50625, Sept. 26, 1996; 66 FR 45379, 45380, 45382, Aug. 28, 2001; 67 FR 51642, Aug. 8, 2002; 67 FR 16013, Sept. 27, 2002; 68 FR 45033, July 31, 2003; 68 FR 75742, Dec. 31, 2003]

**§ 173.116 Class 2—Assignment of hazard zone.**

(a) The hazard zone of a Class 2, Division 2.3 material is assigned in column 7 of the § 172.101 table. There are no hazard zones for Divisions 2.1 and 2.2. When the § 172.101 table provides more than one hazard zone for a Division 2.3 material, or indicates that the hazard zone be determined on the basis of the grouping criteria for Division 2.3, the hazard zone shall be determined by applying the following criteria:

Hazard zone	Inhalation toxicity
A .....	LC <sub>50</sub> less than or equal to 200 ppm.
B .....	LC <sub>50</sub> greater than 200 ppm and less than or equal to 1000 ppm.
C .....	LC <sub>50</sub> greater than 1000 ppm and less than or equal to 3000 ppm.
D .....	LC <sub>50</sub> greater than 3000 ppm or less than or equal to 5000 ppm.