

(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]

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

(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 LC₅₀ value of not more than 5000 mL/m³ (see § 173.116(a) of this subpart for assignment of Hazard Zones A, B, C or D). LC₅₀ values for mixtures may be determined using the formula in § 173.133(b)(1)(i) or CGA Pamphlet P-20 (incorporated by reference; 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-flammable, 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.

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§ 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 ₅₀ less than or equal to 200 ppm.
B	LC ₅₀ greater than 200 ppm and less than or equal to 1000 ppm.
C	LC ₅₀ greater than 1000 ppm and less than or equal to 3000 ppm.
D	LC ₅₀ greater than 3000 ppm or less than or equal to 5000 ppm.

(b) The criteria specified in paragraph (a) of this section are represented graphically in §173.133, Figure 1.

[Amdt. 173–224, 55 FR 52634, Dec. 21, 1990, as amended at 56 FR 66268, Dec. 20, 1991; Amdt. 173–138, 59 FR 49133, Sept. 26, 1994; 67 FR 61013, Sept. 27, 2002]

§§ 173.117–173.119 [Reserved]

§ 173.120 Class 3—Definitions.

(a) *Flammable liquid.* For the purpose of this subchapter, a *flammable liquid* (Class 3) means a liquid having a flash point of not more than 60.5 °C (141 °F), or any material in a liquid phase with a flash point at or above 37.8 °C (100 °F) that is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging, with the following exceptions:

(1) Any liquid meeting one of the definitions specified in §173.115.

(2) Any mixture having one or more components with a flash point of 60.5 °C (141 °F) or higher, that make up at least 99 percent of the total volume of the mixture, if the mixture is not offered for transportation or transported at or above its flash point.

(3) Any liquid with a flash point greater than 35 °C (95 °F) which does not sustain combustion according to ASTM 4206 or the procedure in appendix H of this part.

(4) Any liquid with a flash point greater than 35 °C (95 °F) and with a fire point greater than 100 °C (212 °F) according to ISO 2592.

(5) Any liquid with a flash point greater than 35 °C (95 °F) which is in a water-miscible solution with a water content of more than 90 percent by mass.

(b) *Combustible liquid.* (1) For the purpose of this subchapter, a *combustible liquid* means any liquid that does not meet the definition of any other hazard class specified in this subchapter and has a flash point above 60.5 °C (141 °F) and below 93 °C (200 °F).

(2) A flammable liquid with a flash point at or above 38 °C (100 °F) that does not meet the definition of any other hazard class may be reclassified as a combustible liquid. This provision does not apply to transportation by vessel or aircraft, except where other