

§ 173.60

Release devices, explosive. Articles consisting of a small charge of explosive with means of initiation. They sever rods or links to release equipment quickly.

Rocket motors. Articles consisting of a solid, liquid, or hypergolic propellant contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or guided missile. The term includes: rocket motors; rocket motors with hypergolic liquids with or without an expelling charge; and rocket motors, liquid fuelled.

Rockets. Articles containing a rocket motor and a payload which may be an explosive warhead or other device. The term includes: guided missiles; rockets, line-throwing; rockets, liquid fuelled, with bursting charge; rockets, with bursting charge; rockets, with expelling charge; and rockets, with inert head.

Signals. Articles consisting of pyrotechnic substances designed to produce signals by means of sound, flame, or smoke or any combination thereof. The term includes: signal devices, hand; signals, distress ship; signals, railway track, explosive; signals, smoke.

Sounding devices, explosive. Articles consisting of a charge of detonating explosive. They are dropped from ships and function when they reach a predetermined depth or the sea bed.

Substance, explosive, very insensitive (Substance, EVI) N.O.S. Substances which present a mass explosive hazard but which are so insensitive that there is very little probability of initiation, or of transition from burning to detonation under normal conditions of transport and which have passed test series 5.

Torpedoes. Articles containing an explosive or non-explosive propulsion system and designed to be propelled through water. They may contain an inert head or warhead. The term includes: torpedoes, liquid fuelled, with inert head; torpedoes, liquid fuelled, with or without bursting charge; and torpedoes, with bursting charge.

Tracers for ammunition. Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.

Warheads. Articles containing detonating explosives, designed to be fitted

49 CFR Ch. I (10–1–04 Edition)

to a rocket, guided missile, or torpedo. They may contain a burster or expelling charge or bursting charge. The term includes: warhead rocket with bursting charge; and warheads, torpedo, with bursting charge.

[Amdt. 173–224, 55 FR 52617 Dec. 21, 1990, as amended at 56 FR 66267, Dec. 20, 1991; Amdt. 173–241, 59 FR 67492, Dec. 29, 1994; 64 FR 10777, Mar. 5, 1999; 66 FR 45379, Aug. 28, 2001]

§ 173.60 General packaging requirements for explosives.

(a) Unless otherwise provided in this subpart and in § 173.7(a), packaging used for Class 1 (explosives) materials must meet Packing Group II requirements. Each packaging used for an explosive must be capable of meeting the test requirements of subpart M of part 178 of this subchapter, at the specified level of performance, and the applicable general packaging requirements of paragraph (b) of this section.

(b) The general requirements for packaging of explosives are as follows:

(1) Nails, staples, and other closure devices, made of metal, having no protective covering may not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosive against contact with the metal.

(2) The closure device of containers for liquid explosives must provide double protection against leakage, such as a screw cap secured in place with tape.

(3) Inner packagings, fittings, and cushioning materials, and the placing of explosive substances or articles in packages, must be such that the explosive substance is prevented from becoming loose in the outer packaging during transportation. Metallic components of articles must be prevented from making contact with metal packagings. Articles containing explosive substances not enclosed in an outer casing must be separated from each other in order to prevent friction and impact. Padding, trays, partitioning in the inner or outer packaging, molded plastics or receptacles may be used for this purpose.

(4) When the packaging includes water that could freeze during transportation, a sufficient amount of anti-freeze, such as denatured ethyl alcohol, must be added to the water to prevent

freezing. If the anti-freeze creates a fire hazard, it may not be used. When a percentage of water in the substance is specified, the combined weight of water and anti-freeze may be substituted.

(5) If an article is fitted with its own means of ignition or initiation, it must be effectively protected from accidental actuation during normal conditions of transportation.

(6) The entry of explosive substances into the recesses of double-seamed metal packagings must be prevented.

(7) The closure device of a metal drum must include a suitable gasket; if the closure device includes metal-to-metal screw-threads, the ingress of explosive substances into the threading must be prevented.

(8) Whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging should be provided with an inner liner or coating.

(9) Packagings must be made of materials compatible with, and impermeable to, the explosives contained in the package, so that neither interaction between the explosives and the packaging materials, nor leakage, causes the explosive to become unsafe in transportation, or the hazard division or compatibility group to change (see § 173.24(e)(2)).

(10) An explosive article containing an electrical means of initiation that is sensitive to external electromagnetic radiation, must have its means of initiation effectively protected from electromagnetic radiation sources (for example, radar or radio transmitters) through either design of the packaging or of the article, or both.

(11) Plastic packagings may not be able to generate or accumulate sufficient static electricity to cause the packaged explosive substances or articles to initiate, ignite or inadvertently function. Metal packagings must be compatible with the explosive substance they contain.

(12) Explosive substances may not be packed in inner or outer packagings where the differences in internal and external pressures, due to thermal or

other effects, could cause an explosion or rupture of the package.

(13) Packagings for water soluble substances must be water resistant. Packagings for desensitized or phlegmatized substances must be closed to prevent changes in concentration during transport. When containing less alcohol, water, or phlegmatizer than specified in its proper shipping description, the substance is a "forbidden" material.

(14) Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged provided that a negative result was obtained in Test Series 4 of the UN Manual of Tests and Criteria on an unpackaged article. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of transport. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of transport and are in accordance with DOD-approved procedures.

[Amdt. 173-260, 62 FR 24719, May 6, 1997, as amended at 65 FR 50461, Aug. 18, 2000]

§ 173.61 Mixed packaging requirements.

(a) An explosive may not be packed in the same outside packaging with any other material that could, under normal conditions of transportation, adversely affect the explosive or its packaging unless packaged by DOD or DOE in accordance with § 173.7(a).

(b) Hardware necessary for assembly of explosive articles at the point-of-use may be packed in the same outside packaging with the explosive articles. The hardware must be securely packed in a separate inside packaging. Sufficient cushioning materials must be used to ensure that all inside packagings are securely packed in the outside packaging.

(c) The following explosives may not be packed together with other Class 1 explosives: UN 0029, UN 0030, UN 0073, UN 0106, UN 0107, UN 0255, UN 0257, UN