

3.3.1.8 The ingress of explosive substances into the recesses of seamed metal packagings must be prevented.

3.3.1.9 Plastic packagings must not be liable to generate or accumulate sufficient static electricity so that a discharge could cause the packaged explosive substances or articles to initiate, ignite or function.

3.3.1.10 Explosive substances must 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.

3.3.1.11 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 must be provided with an inner liner or coating (see 1.1.3).

3.3.1.12 Packing Instruction 101 may be used for any explosive provided the package has been approved by an appropriate national authority regardless of whether the packaging complies with the packing instruction assignment in the Dangerous Goods List.

3.3.1.13 Electro-explosive devices must be adequately protected against electro-magnetic radiation and stray currents.

3.3.1.14 Large and robust explosive articles, normally intended for military use, without their means of initiation or without their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems must be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. 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.

3.3.1.14.1 Where such large explosive articles are, as part of their operational safety and suitability tests, subjected to test regimes that meet the intentions of these Instructions and such tests have been successfully undertaken, the appropriate national authority may approve such articles to be transported under these Instructions.

Note 1.— The term receptacle used in the Inner and Intermediate packaging columns of this table includes boxes, bottles, cans, drums, jars and tubes, including any means of closure.

Note 2.— Reels are devices made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with, or without, side walls at each end of the spindle. Articles and substances can be wound onto the spindle and may be retained by side walls.

Note 3.— Trays are sheets of metal, plastics, wood, fibreboard or other suitable material which are placed in the inner, intermediate or outer packaging and achieve a close-fit in such packaging. The surface of the tray may be shaped so that packagings or articles can be inserted, held secure and separated from each other.

3.4 PACKING INSTRUCTIONS

Packing Instruction 101		
Inner packagings	Intermediate packagings	Outer packagings
As specified by the appropriate national authority.		
The distinguishing sign used on vehicles in international road traffic of the country for which the authority acts must be marked on the dangerous goods transport document as follows: "Packaging approved by the competent authority of ..."		
<i>Note 1.— In this instance the term "competent authority" is used for intermodal compatibility; it refers to the appropriate national authority.</i>		
<i>Note 2.— The distinguishing sign used on vehicles in international road traffic is the distinguishing sign of the State of registration used on motor vehicles and trailers in international road traffic, such as in accordance with the Geneva Convention on Road Traffic of 1949 or the Vienna Convention on Road Traffic of 1968.</i>		

Packing Instruction 114

a) solid wetted

Inner packagings

Bags
plastics
textile
woven plastics
Receptacles
metal
plastics
wood

Intermediate packagings

Bags
plastics
textile, plastic coated or lined
Receptacles
metal
plastics
Dividing partitions
wood

Outer packagings

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0077, 0234, 0235 and 0236, packagings must be lead-free.
- For UN 0342, inner packagings are not required when metal (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) or plastic (1H1 or 1H2) drums are used as outer packagings.
- Intermediate packagings are not required if leakproof removable head drums are used as the outer packaging.

b) solid dry

Inner packagings

Bags
paper, kraft
plastics
textile, siftproof
woven plastics, siftproof
Receptacles
fibreboard
metal
paper
plastics
wood
woven plastics, siftproof

Intermediate packagings

Not necessary

Outer packagings

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
plywood (4D)
reconstituted wood (4F)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0077, 0132, 0234, 0235 and 0236, packagings must be lead-free.
- For UN 0508 and 0509, metal packagings must not be used. Packagings of other material with a small amount of metal, for example metal closures or other metal fittings such as those mentioned in 6.3, are not considered metal packagings.
- For UN 0160 and 0161, when metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) are used as the outer packaging, metal packagings must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is prevented.
- For UN 0160 and 0161, inner packagings are not required if drums are used as the outer packaging.

Packing Instruction 130

Inner packagings

Not necessary

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
expanded plastics (4H1)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- The following applies to UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0238, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0459, 0488, 0502 and 0510. Large and robust explosive 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. When such articles have propelling charges or are self-propelled, their ignition systems must be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. 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. Where such large explosive articles are as part of their operational safety and suitability tests subjected to test regimes that meet the intentions of these Instructions and such tests have been successfully undertaken, the appropriate national authority may approve such articles to be transported under these Instructions.
- For UN 0457, 0458, 0459 and 0460, 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 must be provided with an inner liner or coating.

Packing Instruction 131

Inner packagings

Bags
 paper
 plastics
 Receptacles
 fibreboard
 metal
 plastics
 wood
 Reels

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
 other metal (4N)
 plastics, solid (4H2)
 plywood (4D)
 reconstituted wood (4F)
 steel (4A)
 Drums
 aluminium (1B1, 1B2)
 fibre (1G)
 plastics (1H1, 1H2)
 other metal (1N1, 1N2)
 plywood (1D)
 steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— For UN 0029, 0267 and 0455, bags and reels must not be used as inner packagings.

Packing Instruction 133

Inner packagings

Receptacles
 fibreboard
 metal
 plastics
 wood
 Trays, fitted with dividing partitions
 fibreboard
 plastics
 wood

Intermediate packagings

Receptacles
 fibreboard
 metal
 plastics
 wood

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
 other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— Receptacles are only required as intermediate packagings when the inner packagings are trays.
 — For UN 0043, 0212, 0225, 0268 and 0306, trays must not be used as inner packagings.

Packing Instruction 134

Inner packagings

Bags
 water-resistant
 Receptacles
 fibreboard
 metal
 plastics
 wood
 Sheets
 fibreboard, corrugated
 Tubes
 fibreboard

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
 other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)
 Drums
 aluminium (1B1, 1B2)
 fibre (1G)
 plastics (1H1, 1H2)
 other metal (1N1, 1N2)
 plywood (1D)
 steel (1A1, 1A2)

Packing Instruction 135

Inner packagings

Bags
 paper
 plastics
 Receptacles
 fibreboard
 metal
 plastics
 wood
 Sheets
 paper
 plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 expanded plastics (4H1)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
 other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)
 Drums
 aluminium (1B1, 1B2)
 fibre (1G)
 other metal (1N1, 1N2)
 plastics (1H1, 1H2)
 plywood (1D)
 steel (1A1, 1A2)

Packing Instruction 136

Inner packagings

Bags

plastics
textile

Boxes

fibreboard
plastics
wood

Dividing partitions in the
outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

Packing Instruction 137

Inner packagings

Bags

plastics

Boxes

fibreboard
wood

Tubes

fibreboard
metal
plastics

Dividing partitions in the
outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plastics, solid (4H2)
plywood (4D)
reconstituted wood (4F)
steel (4A)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0059, 0439, 0440 and 0441, when the shaped charges are packed singly, the conical cavity must face downwards and the package must be marked as illustrated in Figure 5-29. When the shaped charges are packed in pairs, the conical cavities must face inwards to minimize the jetting effect in the event of accidental initiation.

Packing Instruction 138

Inner packagings

Bags
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— If the ends of the articles are sealed, inner packagings are not necessary.

Packing Instruction 139

Inner packagings

Bags
plastics
Receptacles
fibreboard
metal
plastics
wood
Reels
Sheets
paper
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— For UN 0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord must be sealed, for example by a plug firmly fixed so that the explosive cannot escape. The ends of “**Cord, detonating**, flexible”, must be fastened securely.
— For UN 0065 and 0289, inner packagings are not required when they are in coils.

Packing Instruction 140

Inner packagings

Bags
plastics
Reels
Sheets
paper, kraft
plastics
Receptacles
wood

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- If the ends of UN 0105 are sealed, no inner packagings are required.
- For UN 0101, the packaging must be siftproof except when the fuse is covered by a paper tube and both ends of the tube are covered with removable caps.
- For UN 0101, steel, aluminium or other metal boxes or drums must not be used.

Packing Instruction 141

Inner packagings

Receptacles
fibreboard
metal
plastics
wood
Trays, fitted with dividing partitions
plastics
wood
Dividing partitions in the
outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)
Drums
aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

Packing Instruction 142

Inner packagings

Bags

paper
plastics

Receptacles

fibreboard
metal
plastics
wood

Sheets

paper

Trays, fitted with dividing partitions
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

Packing Instruction 143

Inner packagings

Bags

paper, kraft
plastics
textile
textile, rubberized

Receptacles

fibreboard
metal
plastics
wood

Trays, fitted with dividing partitions
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
other metal (4N)
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium (1B1, 1B2)
fibre (1G)
other metal (1N1, 1N2)
plastics (1H1, 1H2)
plywood (1D)
steel (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0271, 0272, 0415 and 0491, when metal packagings are used, metal packagings must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is prevented.
- Instead of the above inner and outer packagings, composite packagings (6HH2) (plastic receptacle with outer solid box) may be used.