

PACKING INSTRUCTION 650

▲ OPERATOR VARIATIONS, AO-03, AS-08, CO-07, CS-07, FX-09, QF-03

General Requirements

Diagnostic specimens must be packed in good quality packagings, which must be strong enough to withstand the shocks and loadings normally encountered during transport, including trans-shipment between transport units and between transport units and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings must be constructed and closed so as to prevent any loss of contents when prepared for transport which might be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure.

Primary receptacles must be packed in secondary packagings in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings must be secured in outer packagings with suitable cushioning material. Any leakage of the contents must not substantially impair the protective properties of the cushioning material or of the outer packaging.

Packages must be prepared as follows:

(a) For liquids:

- The primary receptacle(s) must be leakproof and must not contain more than 500 mL.
- There must be absorbent material placed between the primary receptacle and the secondary packaging; if several fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated so as to prevent contact between them. The absorbent material, such as cotton wool, must be in sufficient quantity to absorb the entire contents of the primary receptacles and there must be a secondary packaging which must be leakproof.
- The primary receptacle or the secondary packaging must be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa in the range of -40°C to +55°C (-40°F to 130°F).
- The outer packaging must not contain more than 4 L.

(b) For solids:

- The primary receptacle(s) must be siftproof and must not contain more than 500 g.
- If several fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated so as to prevent contact between them and there must be a secondary packaging which must be leakproof.
- The outer packaging must not contain more than 4 kg.

☛ An itemized list of contents must be enclosed between the secondary packaging and the outer packaging.

Each completed package must be capable of successfully passing the drop test described in 6.6.1 except that the height of the drop must not be less than 1.2 m.

☛ Packages consigned as freight must be at least 100 mm (4 in) in the smallest overall external dimension.

☛ Each package and the “Nature and Quantity of Goods” box of the air waybill must show the text “DIAGNOSTIC SPECIMEN PACKED IN COMPLIANCE WITH IATA PACKING INSTRUCTION 650”.

With effect from 1 January 2004, each package must also be marked requirements in accordance with 7.1.5.8 to indicate that the shipper has determined that the packaging meets the applicable air transport. The marking must be applied adjacent to the words “Diagnostic Specimens”.

A Shipper's Declaration for Dangerous Goods is not required.

Provided diagnostic specimens are packed in accordance with this Packing Instruction, no other requirements of these Regulations apply except for the definition in 3.6.2.1.4 and the reporting of dangerous goods accidents and incidents in 9.6.1.

☛ Specific Requirements

Although exceptional cases, (for example, the shipment of whole organs) may require special packaging, the great majority of diagnostic specimens can and must be packaged according to the following guidelines.

Substances shipped at ambient temperatures or higher: Primary receptacles include those of glass, metal or plastic. Positive means of ensuring a leak-proof seal, such as heat seal, skirted stopper or metal crimp seal must be provided. If screw caps are used these must be reinforced with adhesive tape.

Substances shipped refrigerated or frozen (wet ice, prefrozen packs, Carbon dioxide, solid [dry ice]): Ice, Carbon dioxide, solid (dry ice) or other refrigerant must be placed outside the secondary packaging(s) or alternatively in an overpack with one or more completed packagings. Interior support must be provided to secure the secondary packaging(s) or packages in the original position after the ice or Carbon dioxide, solid (dry ice) has been dissipated. If ice is used the packaging must be leak-proof. If Carbon dioxide, solid (dry ice) is used the outer packaging must permit the release of carbon-dioxide gas. The primary receptacle must maintain its containment integrity at the temperature of the refrigerant as well as at the temperatures and pressure of air transport to which the receptacle could be subjected if refrigeration were to be lost.

Substances shipped in liquid nitrogen: Plastic capable of withstanding very low temperatures must be used instead of glass receptacles. Secondary packaging must also withstand very low temperatures and in most cases will need to be fitted over individual primary receptacles. Requirements for shipment of liquid nitrogen must also be observed. The primary receptacle must maintain its containment integrity at the temperature of the refrigerant used as well as at the temperatures and pressure of air transport to which the receptacle could be subjected if refrigeration were to be lost.

Lyophilized substances: Primary receptacles must be either flame-sealed glass ampoules or rubber-stoppered glass vials with metal seals.

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below.

Permitted in or as carry-on baggage					
Permitted in or as checked baggage					
Permitted on one's person					
The approval of the operator(s) is required					
The pilot-in-command must be informed of the location					
NO	NO	NO	n/a	n/a	Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are prohibited on the person, in checked and carry-on baggage.
NO	NO	NO	n/a	n/a	Security-type attaché cases, cash boxes, cash bags , etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, are totally forbidden. See entry in 4.2 - List of Dangerous Goods.
NO	YES	NO	YES	NO	Ammunition (cartridges for weapons) for sporting purposes, securely boxed (in Division 1.4S), in quantities less than 5 kg (11 lb) gross weight per person for that person's own use, excluding ammunition with explosive or incendiary projectiles. Allowances for more than one passenger must not be combined into one or more packages.
NO	YES	NO	YES	NO	Camping stoves and fuel containers that have contained a flammable liquid fuel , may be carried provided the fuel tank of the camping stove and/or fuel container has been completely drained of all liquid fuel and action has been taken to nullify the danger. (See 2.3.2.5 for details.)
YES	YES	NO	YES	NO	Carbon dioxide, solid (dry ice) , in quantities not exceeding 2 kg (4.4 lb) per passenger when used to pack perishables not subject to these Regulations in carry-on baggage, provided the package permits the release of carbon dioxide gas. Operator approval required for checked baggage only.
NO	YES	NO	YES	NO	Wheelchairs or other battery-powered mobility devices with non-spillable batteries (see Packing Instruction 806 and Special Provision A67), provided that the battery is disconnected, the battery terminals are insulated to prevent accidental short circuits and the battery is securely attached to the wheelchair or mobility aid. <i>Note: Wheelchairs/mobility aids with gel type batteries do not require the battery to be disconnected provided the battery terminals are insulated to prevent accidental short circuits.</i>
NO	YES	NO	YES	YES	Wheelchairs or other battery-powered mobility devices with spillable batteries. (See 2.3.2.4 for details.)
YES	NO	NO	YES	NO	Heat producing articles such as underwater torches (diving lamps) and soldering irons. (See 2.3.3.2 for details.)
YES	NO	NO	YES	YES	Mercury barometer or thermometer carried by a representative of a government weather bureau or similar official agency. (See 2.3.3.1 for details.)
YES	YES	NO	YES	NO	Avalanche rescue backpack , one (1) per passenger, equipped with a pyrotechnic trigger mechanism containing less than 200 mg net of Division 1.4S and less than 250 mg of compressed gas in Division 2.2. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.
YES	YES	NO	YES	NO	Insulated packagings containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material and intended for transport, at low temperature, of non-dangerous products are not subject to these Regulations provided the design of the insulated packaging would not allow the build-up of pressure within the container and would not permit the release of any refrigerated liquid nitrogen irrespective of the orientation of the insulated packaging.

Note: n/a means not applicable.

Permitted in or as carry-on baggage					
Permitted in or as checked baggage					
Permitted on one's person					
The approval of the operator(s) is required					
The pilot-in-command must be informed of the location					
YES	YES	YES	YES	NO	Non-flammable gas cylinder fitted into a life jacket containing carbon dioxide or other suitable gas in Division 2.2, up to two (2) small cylinders per passenger, and up to two (2) spare cartridges.
YES	YES	NO	YES	NO	Oxygen or air, gaseous, small cylinders required for medical use.
NO	YES	NO	NO	NO	Aerosols in Division 2.2 , with no subsidiary risk, for sporting or home use. And
YES	YES	YES	NO	NO	Non-radioactive medicinal or toilet articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol. The <u>total</u> net quantity of all above mentioned articles must not exceed 2 kg (4.4 lb) or 2 L (2 qt), and the net quantity of each single article must not exceed 0.5 kg (1 lb) or 0.5 L (1 pt).
YES	YES	YES	NO	NO	Alcoholic beverages , when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.
YES	YES	YES	NO	NO	Carbon dioxide gas cylinders worn for the operation of mechanical limbs. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.
YES	YES	YES	NO	NO	Consumer electronic devices containing lithium or lithium ion cells or batteries , such as watches, calculating machines, cameras, cellular phones, lap-top computers, camcorders, etc., when carried by passengers or crew for personal use (See Packing Instruction 912 and Special Provision A45). Spare batteries must be individually protected to prevent short circuits and carried in carry-on baggage only. In addition, each spare battery must not exceed the following quantities: a) for lithium metal or lithium alloy batteries, a lithium content of less than 2 g; or b) for lithium ion batteries, an aggregate equivalent lithium content of less than 8 g. Lithium ion batteries with an aggregate equivalent lithium content of more than 8 g but not more than 25 g may be carried in carry-on baggage if they are individually protected so as to prevent short circuits and are limited to two spare batteries per person.
YES	YES	NO	NO	NO	Hair curlers containing hydrocarbon gas , up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. These hair curlers must not be used on board the aircraft at any time. Gas refills for such curlers are not permitted in checked or carry-on baggage.
YES	YES	YES	NO	NO	Medical or clinical thermometer , which contains mercury, one (1) per passenger for personal use, when in its protective case.
NO	NO	YES	NO	NO	Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person, or radiopharmaceuticals contained within the body of a person as the result of medical treatment.
NO	NO	YES	NO	NO	Safety matches or a lighter with fuel/fluid fully absorbed in a solid and intended for use by an individual when carried on one's person. However, lighters with a flammable liquid reservoir containing unabsorbed liquid fuel (other than liquefied gas), lighter fuel and lighter refills are not permitted on one's person nor in checked or carry-on baggage. Note: "Strike anywhere" matches are forbidden for air transport.