

A10.9. Package Biological Substances, Category B, (formerly Diagnostic Specimens) as follows:

A10.9.1. Except as listed below, Biological Substances, Category B (includes patient/diagnostic specimens containing or believed to contain Biological Substances, Category B) are exempted from all other requirements of this manual (to include a Shipper's Declaration For Dangerous Goods) when offered for transportation or transported in accordance with this paragraph. A patient/diagnostic specimen meeting the definition of a

patient specimen (see Attachment 1), and not containing or believed to contain infectious substance Category A or Category B is not regulated by this manual. A patient/diagnostic specimen meeting the definition of a hazard class is to be transported as required for that class. The following requirements apply to Biological Substances, Category B:

- A10.9.1.1. Use packaging consisting of a primary receptacle, a secondary packaging, and a rigid outer packaging.
- A10.9.1.2. Pack the primary receptacles in secondary packaging in such a way that, under normal conditions of transport, it cannot break, be punctured, or leak the contents into the secondary packaging.
- A10.9.1.3. Secure secondary packagings in outer rigid packagings with suitable cushioning material such that any leakage of the contents will not impair the protective properties of the cushioning material or the outer packaging.
- A10.9.1.4. Ensure completed package is capable of successfully passing the drop test in 49 CFR Section 178.603 at a drop height of at least 1.2 meters (3.9 feet).
- A10.9.1.5. Mark the outer packaging clearly and durably in accordance with paragraphs A14.4.5.3. and A14.4.5.4.
- A10.9.1.6. The minimum dimension of at least one surface of the outer packaging is 100 mm (3.9 inches) by 100 mm (3.9 inches).
- A10.9.2. Liquid Biological Substances, Category B. Package liquid Biological Substances, Category B as follows:
 - A10.9.2.1. Pack in leakproof primary receptacles with a volumetric capacity of not more than 1 L (33.8 ounces).
 - A10.9.2.2. Place absorbent material between the primary receptacle and secondary packaging. If several fragile primary receptacles are placed in a single secondary packaging, they must be individually wrapped or separated so as to prevent contact between them. Ensure the absorbent material is of sufficient quantity to absorb the entire contents of the primary receptacles.
 - A10.9.2.3. Ensure the secondary packaging is leakproof.
 - A10.9.2.4. Ensure the primary receptacle or the secondary packaging is capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa (0.95 bar, 14 psi) in the range of -40 degrees C to 55 degrees C (-40 degrees F to 130 degrees F).
 - A10.9.2.5. The maximum quantity contained in each outer packaging, including any material used to stabilize or prevent degradation of the samples, may not exceed 4 L (1 gallon). The outer packaging limitation does not include ice, dry ice, or liquid nitrogen when used to maintain the integrity of the material.
- A10.9.3. Solid Biological Substances, Category B. Package solid Biological Substances, Category B as follows:
 - A10.9.3.1. Pack in siftproof primary receptacle that does not exceed the outer packaging weight limit.

A10.9.3.2. Then pack in siftproof secondary packaging.

A10.9.3.3. If several fragile primary receptacles are placed in a single secondary packaging, they wrap them individually or separate to prevent contact between them.

A10.9.3.4. Except for packages containing body parts, organs, or whole bodies, the outer packaging may not exceed 4 kg (8.8 pounds). This quantity excludes ice, dry ice, or liquid nitrogen, when used to ship specimens cold.

A10.9.3.5. If there is the possibility of residual liquid in the primary receptacle during transport, then use a packaging suitable for liquids, including absorbent material.

A10.9.4. Refrigerated or Frozen Specimens. The following applies:

A10.9.4.1. Liquid or solid substances shipped refrigerated or frozen (ice, prefrozen packs, or dry ice.) Place ice or dry ice outside the secondary packagings. Provide interior supports to secure the secondary packagings in their original position after the ice or dry ice has dissipated. If ice is used, ensure the outer packaging is leak proof. If dry ice is used, ensure the outer packaging permits the release of carbon dioxide gas.

A10.9.4.2. Liquid or solid substances shipped in liquid nitrogen. Ensure the primary receptacle and the secondary packaging maintains their integrity at the temperature of the liquid nitrogen as well as the temperatures and pressures of transport by aircraft to which they could be subjected if refrigeration were lost. Ensure refrigerated liquid nitrogen packagings are metal vacuum insulated vessels or flasks vented to the atmosphere to prevent any increase in pressure within the packaging. The use of safety relief valves, check valves, frangible discs, or similar devices in the vent lines is prohibited. Protect fill and discharge openings against the entry of foreign materials that might cause an increase in the internal pressure. Mark package orientation markings on the packaging. Design the packaging to prevent the release of any refrigerated liquid nitrogen irrespective of the packaging orientation. Ensure all requirements for shipment of liquid nitrogen are also be met.

A10.10. Package Regulated Medical Waste, N.O.S.; Biomedical Waste, N.O.S.; Clinical Waste, Unspecified, N.O.S.; Medical Waste, N.O.S. as follows: Use non bulk packagings that meet the PG II performance level.

A10.10.1. Package in the following drums, boxes, or jerricans:

Inner packaging	Outer packaging
Not required	Drums: removable head steel (1A2), removable head aluminum (1B2), removable head metal other than steel or aluminum (1N2), plywood (1D), fiber (1G), or removable head plastic (1H2) <i>or</i> Boxes: steel (4A), aluminum (4B), ordinary natural wood (4C1), sift-proof natural wood (4C2), plywood (4D), reconstituted wood (4F), fiberboard (4G), expanded plastic (4H1), solid plastic (4H2), or other metal (4N) <i>or</i> Jerricans: removable head steel (3A2), aluminum removable head (3B2), or plastic removable head (3H2)

A10.10.2. Additionally, prepare packages in such a manner as they will arrive at their destination in good condition, and present no hazard to persons or animals during transport.

A10.10.3. Packaging tests may be those appropriate for solids when there is sufficient absorbent material to absorb the entire amount of liquid present and the package is capable of retaining liquids. In all other instances accomplish the packaging tests appropriate for liquids.

A10.10.4. Ensure packagings intended to contain sharp objects, such as broken glass and needles are resistant to puncture and retain liquids under the performance test conditions for the packaging.

A10.11. Package Chlorosilanes as follows: Packaging meeting the PG I or PG II performance standard is required.

A10.11.1. Package in the following combination drums, or boxes:

Inner packaging	Outer packaging
Receptacles: glass, or steel	Drums: steel (1A2), plywood (1D), fiber (1G), or plastic (1H2) <i>or</i> Boxes: steel (4A), natural wood (4C1 or 4C2), plywood (4D), reconstituted wood (4F), fiberboard (4G), expanded plastic (4H1), or solid plastic (4H2)