Pipeline and Hazardous Materials Safety Administration, DOT

§ 178.33b–5 Material.
(a) The receptacles must be constructed of polyethylene terephthalate (PET), polyethylene napthalate (PEN), polyamide (Nylon) or a blend of PET, PEN, ethyl vinyl alcohol (EVOH) and/or Nylon.
(b) Material with seams, cracks, laminations or other injurious defects are forbidden.

§ 178.33b–6 Manufacture.
(a) Each container must be manufactured by thermoplastic processes that will assure uniformity of the completed container. No used material other than production residues or regrind from the same manufacturing process may be used. The packaging must be adequately resistant to aging and to degradation caused either by the substance contained or by ultraviolet radiation.
(b) [Reserved]

§ 178.33b–7 Design qualification test.
(a) Drop testing. (1) To ensure that creep does not affect the ability of the container to retain the contents, each new design must be drop tested as follows: Three groups of twenty-five filled containers must be dropped from 1.8 m (5.9 ft) on to a rigid, non-resilient, flat and horizontal surface. One group must be conditioned at 38 °C (100 °F) for 26 weeks, the second group for 100 hours at 50 °C (122 °F) and the third group for 18 hours at 55 °C (131 °F), prior to performing the drop test. The closure, or sealing component of the container, must not be protected during the test. The orientation of the test container at drop must be statistically random, but direct impact on the valve or valve closure must be avoided.

(b) Criteria for passing the drop test: The containers must not break or leak.

Subpart C—Specifications for Cylinders

§ 178.35 General requirements for specification cylinders.
(a) Compliance. Compliance with the requirements of this subpart is required in all details.
(b) Inspections and analyses. Chemical analyses and tests required by this subchapter must be made within the any change in the properties of the material of construction.