

## COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

### Sub-Committee of Experts on the Transport of Dangerous Goods

Twenty-sixth session, 29 November-3 December 2004  
Item 3 (c) of the provisional agenda

### OUTSTANDING ISSUES OR PROPOSALS OF AMENDMENTS TO THE RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS

#### Miscellaneous proposals

#### Revision of 4.1.3 to incorporate requirements for pressure receptacles to containing liquid or solid dangerous goods other than of Class 2

#### **Proposal**

Replace the existing 4.1.3.6 by the following text:

4.1.3.6 Pressure receptacles for liquids and solids

4.1.3.6.1 Unless otherwise indicated in these Regulations, pressure receptacles conforming to:

- a) the applicable requirements of Chapter 6.2 or
- b) the National or International standards on the design, construction, testing, manufacturing and inspection, as applied by the country in which the pressure receptacles are manufactured, provided that the provisions of 4.1.3.6 and 6.2.3.3 are met,

are authorized for the transport of any liquid or solid substance other than explosives, thermally unstable substances, organic peroxides, self reactive substances, substances where significant pressure may develop by evolution of chemical reaction and radioactive material (unless permitted in 4.1.9).

This sub-section is not applicable to the substances mentioned in 4.1.4.1, packing instruction P200, table 3.

4.1.3.6.2 Every design type of pressure receptacle shall be approved by the competent authority of the country of manufacture or as indicated in chapter 6.2.

4.1.3.6.3 Unless otherwise indicated, pressure receptacles having a minimum test pressure of 0.6 MPa shall be used.

4.1.3.6.4 Unless otherwise indicated, pressure receptacles may be provided with an emergency pressure relief device designed to avoid bursting in case of overfill or fire accidents.

Pressure receptacle valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the methods as given in 4.1.6.1.8 (a)-(e).

4.1.3.6.5 The level of filling shall not exceed 95% of the capacity of the pressure receptacle at 50 °C. Sufficient ullage (outage) shall be left to ensure that the pressure receptacle will not be liquid full at a temperature of 55 °C.

4.1.3.6.6 Unless otherwise indicated pressure receptacles shall be subjected to a periodic inspection and test every 5 years. The periodic inspection shall include an external examination, an internal examination or alternative method as approved by the competent authority, a pressure test or equivalent effective non-destructive testing with the agreement of the competent authority including an inspection of all accessories (e.g. tightness of valves, emergency relief valves or fusible elements). Pressure receptacles shall not be filled after they become due for periodic inspection and test but may be transported after the expiry of the time limit. Pressure receptacle repairs shall meet the requirements of 4.1.6.1.11.

4.1.3.6.7 Prior to filling, the filler shall perform an inspection of the pressure receptacle and ensure that the pressure receptacle is authorized for the substances to be transported and that the provisions of these Regulations have been met. Shut-off valves shall be closed after filling and remain closed during transport. The consignor shall verify that the closures and equipment are not leaking.

4.1.3.6.8 Refillable pressure receptacles shall not be filled with a substance different from that previously contained unless the necessary operations for change of service have been performed.

4.1.3.6.9 Marking of pressure receptacles for liquids and solids according to 4.1.3.6 (not conforming the requirements of 6.2). Marking shall be in accordance with the requirements of the competent authority of the country of manufacturing.

#### **Amendments to packing instructions**

##### **P400 replace P400(1) with the following:**

(1) Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6. They shall be made of steel and shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1MPa (10 bar) (gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar).

##### **P401 and P402 replace P401(1) and P402(2) with the following:**

(1) Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6. They shall be made of steel and subjected to an initial test and periodic tests every 10 years at a pressure of not less than 0.6MPa (6 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar).

##### **P601 and 602 replace P601(4) and P602(4) with the following:**

(4) Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6. They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1MPa (10 bar) (gauge pressure). Pressure receptacles may not be equipped with any pressure relief device. Each pressure receptacle containing a toxic by inhalation liquid with an LC50 less than or equal to 200 ml/m<sup>3</sup> (ppm) shall be closed with a plug or valve conforming to the following:

- (a) Each plug or valve shall have a taper-threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle without damage or leakage;
- (b) Each valve shall be of the packless type with non-perforated diaphragm, except that, for corrosive materials, a valve may be of the packed type with an assembly

- made gas-tight by means of a seal cap with gasket joint attached to the valve body or the pressure receptacle to prevent loss of material through or past the packing;
- (c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;
  - (d) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the lading.

Each pressure receptacle with a wall thickness at any point of less than 2.0 mm and each pressure receptacle that does not have fitted valve protection shall be transported in an outer packaging. Pressure receptacles shall not be manifolded or interconnected.

**Consequential amendments:**

**Add in P001 and P002 a new row below “composite packagings” reading:**

**Pressure receptacles**

May be used provided that they fulfil the requirements of 4.1.3.6.

**Add in P403, P404 and P410 a new row below “composite packagings” reading:**

Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6.

**Replace (1) in P800 with the following sentences:**

Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6.

**Replace (5) in P802 with the following sentences:**

Pressure receptacles may be used provided that they fulfil the requirements of 4.1.3.6.

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