

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the

Working Party on the Transport of Dangerous Goods

Bern, 20-24 March 2023

Item 5 (b) of the provisional agenda

Proposals for amendments to RID/ADR/ADN: new proposals

23 January 2023

Change of special provision SP 653 in chapter 3.3 RID/ADR

Transmitted by the European Industrial Gases Association (EIGA)

Introduction

1. In Table A of the current RID/ADR 2021, special provision SP 653 is assigned to the following gases: UN 1006 Argon, compressed, UN 1013 Carbon dioxide, UN 1046 Helium, compressed and UN 1066 Nitrogen, compressed.
2. Gas cartridges filled with the above mentioned gases are assigned to **UN 2037** Gas cartridges (5A).
3. SP 653 does not cover UN 2037 gas cartridges.
4. The maximum test pressure capacity product of UN 2037 Gas cartridges (3 MPa.litres (30 bar.litres) for liquefied gases and 5.4 MPa.litres (54 bar.litres) for compressed gases) is much less than the limit specified in SP 653 (15.2 MPa.litres (152 bar.litres)).

Background information

5. Gas cartridges with a design according to EN 16509, referenced for UN 2037 in 6.2.6.4, are limited to a volume of 120 ml.
6. For carbon dioxide, the maximal test pressure for a filling ratio of 0.76 kg/l is 250 bar according to table 2 of P200. This results in a test pressure capacity product of 3 MPa.litres (30 bar.litres).
7. For permanent gases for this application the typical test pressure is 375 bar, which results in 4.5 MPa.litres (45 bar.litres).

Proposals

8. EIGA proposes to add UN 2037 Gas cartridges to SP 653 and “653” to column (6) of Table A in chapter 3.2 for UN 2037 (5A) (new text is underlined):

Proposal 1

“SP653 The carriage of this gas in cylinders and gas cartridges having a test pressure capacity product of maximum 15.2 MPa.litres (152 bar.litres) is not subject to the other provisions of ADR if the following conditions are met:

- The provisions for the construction, testing and filling of cylinders and gas cartridges are observed;

- The cylinders and gas cartridges are contained in outer packagings which at least meet the requirements of Part 4 for combination packagings. The general provisions of packing of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 shall be observed;
- The cylinders and gas cartridges are not packed together with other dangerous goods;
- The total gross mass of a package does not exceed 30 kg; and
- Each package is clearly and durable marked with “UN 1006” for argon compressed, “UN 1013” for carbon dioxide, “UN 1046” for helium compressed, “UN 1066” for nitrogen compressed or “UN 2037 (5A)” for non-flammable and non-toxic gases in gas cartridges (designed according to EN 16509). This mark is displayed within a diamond-shaped area surrounded by a line that measured at least 100 mm by 100 mm.”

Proposal 2

Add SP 653 in table A in chapter 3.2 column 6 for UN 2037 (5A).

Safety

9. There is no impact of change to safety since the maximum test pressure capacity is much less than the limit specified in SP653.
