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**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, 25-28 March 2008  
Item 5 (b) of the provisional agenda

**PROPOSALS FOR AMENDMENTS TO RID/ADR/ADN\* \*\***

**Safety of gas cartridges**

**Transmitted by the Government of France**

**SUMMARY**

**Summary:** The purpose of the present document is to improve the safety of gas cartridges

**Action to be taken:** Add a provision to paragraphs 6.2.6.1 and 6.2.6.4 of RID/ADR 2009

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\* In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.7 (c)).

\*\* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2008/7.

## Introduction

1. In 2001 the Netherlands raised a formal objection with the European Commission against harmonized standard EN 521 (Portable vapour pressure liquefied petroleum gas appliances). The objection was raised following a study by Delft University of Technology (“Replacing pierceable cartridges in gas lamps” by Freija H. van Duijne and Heimrich Kanis), according to which gas appliances complying with the standard could present a risk to users when replacing pierceable gas cartridges containing liquid petroleum gas (LPG).
2. Consequently, standard EN 521 has been revised in order to prevent hazardous and/or accidental perforation when replacing cartridges in these appliances. However, these amendments do not resolve the safety issues concerning:
  - Old gas appliances that do not comply with the provisions of this standard;
  - Gas leakages caused by users removing, unintentionally or by accident, gas cartridges that are not empty.
3. In 2004, in France, the regional burns centre in Marseilles alerted the Consumer Safety Commission about this issue. Accidents in the use of gas cartridges had been caused by a gas leakage occurring when the container in an appliance was pierced or replaced.
4. The Consumer Safety Commission, in an opinion published in 2006, recommended amending standard EN 417 (Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances) in order to include, as a matter of obligation, specifications designed to “limit any possible gas leakage that might occur when installing or removing the cartridge, to below a certain threshold - to be determined - in order to ensure that any mistakes or incorrect handling, of any kind, do not present any danger for the user”. The Commission recommended that professionals in the sector “promote the design, manufacture and distribution of safe cartridges” and has drawn up a safety data sheet for users recommending that they “purchase cartridges fitted with an anti-leakage device”.
5. In view of these safety issues we propose, pending amendment of the standard, the addition of a provision to RID/ADR concerning the design of gas cartridges to ensure prevention of any LPG leakage that would present a danger to users. In some countries, such as Japan, the anti-leakage device has already become mandatory.

## Proposals

6. Add a new provision to paragraph 6.2.6.1 of RID/ADR 2009 to read as follows:

“6.2.6.1.6 UN No. 2037, small recipients containing gas (gas cartridges) containing UN No. 1965, hydrocarbon gas mixture n.o.s., liquefied shall be fitted with a device to prevent - when the cartridge is installed or withdrawn, including by accident - any gas leakage with a flow rate of above 10 g/h under normal conditions of temperature and pressure.”

7. Add a note to paragraph 6.2.6.4 of RID/ADR 2009 to read as follows:

**“6.2.6.4 *Reference to standards***

The requirements of this section are deemed to be met if the following standards are complied with:

- for aerosol dispensers (UN No. 1950 aerosols): Annex to Council Directive 75/324/EEC 5 as amended by Commission Directive 94/1/EC 6;
- for UN No. 2037, small recipients containing gas (gas cartridges) containing UN No. 1965, hydrocarbon gas mixture n.o.s., liquefied: EN 417:2003 Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances - Construction, inspection, testing and marking.

NOTE: This standard does not ensure compliance with paragraph 6.2.6.1.6.”

**Justification**

8. Safety: the proposal is in response to accidents reported, particularly in France. The proposal improves safety in the use of LPG gas cartridges.
9. Feasibility: a number of solutions that comply with this provision are already on the market.
10. Enforceability: a number of solutions that comply with this provision are already on the market.

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