**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

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Geneva, 29 June-8 July 2020
Item 6 (e) of the provisional agenda
**Miscellaneous proposals for amendments to the
Model Regulations on the Transport of Dangerous Goods**

Transport of butylene

Submitted by the expert from Spain[*]

Introduction

1.   In the last years, Spain has been searching for harmonizing the names of the UN numbers, specifically for the Spanish language version. Additionally, attention has been focused on those cases where the name and description of the UN numbers is not the same in the Model Regulations as in RID/ADR, for all languages.

2.   This has led to a series of proposal for harmonization sent to the Joint Meeting (see (documents   ECE/TRANS/WP.15/AC.1/2019/32,   ECE/TRANS/WP.15/AC.1/2020/37, ECE/TRANS/WP.15/AC.1/2020/39, ECE/TRANS/WP.15/AC.1/2020/41).

3.   Following the discussion of ECE/TRANS/WP.15/AC.1/19/32 in the Joint Meeting, Spain was asked to submit to the Sub-Committee a proposal for an amendment related to UN 1012, BUTYLENE. Name and description of UN 1012 in the Model Regulations and RID/ADR are the following:

UN Number	Model Regulations	RID/ADR
1012	BUTYLENE	BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE

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[*]   2020 (A/74/6 (Sect.20) and Supplementary, Subprogramme 2

4. Butylene, also known as butene, is a series of alkenes with the general formula C_4H_8. There exist four different isomers of alkenes that correspond to the mentioned formula:

IUPAC name	Common name	Structure
But-1-ene	*1-butylene*	
(2Z)-but-2-ene	*cis*-2-butylene	
(2E)-but-2-ene	*trans*-2-butylene	
2-methylprop-1-ene	Isobutylene	

5. The name "butylene" includes all 4 isomers.

6. Nevertheless, UN 1055 is a UN number specifically devoted to one of these monomers, isobutylene. The transport conditions for both UN numbers are similar, but slightly different (slightly higher maximal allowable pressure and lower filling ratio for isobutylene) and it seems interesting to clearly separate isobutylene from the other monomers.

7. European regulators for the land modes and the related industry recognized the need to clearly indicate that UN 1012 did not cover isobutylene, and this lead to a modification for the name of UN 1012. The modification was already introduced before RID/ADR 2001. Industry and regulators of the European environment were concerned about a not appropriate use of this entry.

8. To clearly avoid that isobutylene is classified and transported under UN 1012, two possible alternative ways forward could be considered:

• Amend the name and description of UN 1012 to specifically name the applicable monomers, by using the same name and description as in RID/ADR:

BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE

This clearly includes the 3 monomers (all except isobutylene) and the mixture of all 4 monomers, and by not naming isobutylene excludes isobutylene.

- Include a Special Provision applicable only to UN 1012, indicating that for the transport of isobutylene UN 1055 should be used.

9.   In the following paragraphs, these alternative proposals are presented.

Proposal

10.   Two <u>alternative</u> sets of amendments are presented (new text added in **bold**):

Option 1

11.   Amend the name and description in the Dangerous Goods List of Chapter 3.2 for UN 1012 to read (same name and description as currently in RID/ADR):

"UN 1012 BUTYLENE**S MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2- BUTYLENE**"

Option 2

12.   Include into the Dangerous Goods List of Chapter 3.2 for UN 1012 a new special provision with the following text:

SP XXX: This UN number covers transport of butylenes mixture, or 1-butylene or cis-2-butylene or trans-2- butylene. **For transport of isobutylene, see UN 1055.**

Consequential amendments

13.   As a consequential amendment for Option 1, T50 and P200 should be amended by introducing the new name.

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