



## 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

#### Fifty-seventh session

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Item 6 (e) of the provisional agenda

#### Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: other miscellaneous proposals

### Interpretation issue: Aromatic and flavouring, UN 1169 and UN 1197

#### Transmitted by the expert from Spain\*

#### Introduction

1. In the twentieth edition of the Model Regulations, the name for the UN number 1197 in English, French and Spanish was the following:

1197	EXTRACTS, FLAVOURING, LIQUID	EXTRAITS LIQUIDES POUR AROMATISER	EXTRACTOS SAPORÍFEROS LÍQUIDOS
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2. As the word for flavouring is not a very common one in the Spanish language, and extracts used for adding flavour are generally also used for adding aroma, for the 21st edition of the Model Regulation the Spanish version has been amended in a way similar to the French language, remaining as follows:

1197	EXTRACTS, FLAVOURING, LIQUID	EXTRAITS LIQUIDES POUR AROMATISER	EXTRACTOS LÍQUIDOS PARA AROMATIZAR
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3. However, as has been indicated by our colleagues from Mexico, this change of name has led to doubts about how to differentiate UN 1197 from UN 1169:

1169	EXTRACTS, AROMATIC, LIQUID	EXTRAITS AROMATIQUES LIQUIDES	EXTRACTOS AROMÁTICOS LÍQUIDOS
1197	EXTRACTS, FLAVOURING, LIQUID	EXTRAITS LIQUIDES POUR AROMATISER	EXTRACTOS LÍQUIDOS PARA AROMATIZAR

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

4. With the current name no differentiation in between those two UN numbers is possible. Nevertheless, with the English names the differentiation is possible, and as two different UN numbers were created, it should be reasonable to distinguish them.

5. For the Spanish language version this is a new problem starting from the 21st edition, but for the French language version this is already an existing problem. Spain has consulted the French speaking delegations about how they differentiate these two UN numbers currently, if they think it would be reasonable to amend the French (and also Spanish) name for UN 1197, and if this is not possible, maintaining the current names, what we could do to differentiate them.

6. Spain is thankful for all the comments and interesting discussions provided by different French speaking delegations (France, Canada, Belgium), which have served as a basis for this document. Also, the UNECE secretariat has given an historical background to the different proposals and changes in the name of these UN numbers, which has also been helpful.

### **Analysis of problem**

7. In the English version, the name of both UN numbers is quite distinctive: UN 1169, EXTRACTS, AROMATIC, LIQUID and UN 1197 EXTRACTS, FLAVOURING, LIQUID.

8. However, there is a need to clarify the difference between both proper shipping names for UN 1169 and UN 1197 in the French and Spanish versions of the UN Recommendations.

9. When searching in dictionaries the definitions of the words AROMATIC and FLAVOURING, it can be found that: AROMATIC relates to a) having aroma (pleasant smell) and b) unsaturated chemical configuration; FLAVOURING relates to a substance that adds flavour (the quality of something that affects the sense of taste).

10. But additionally FLAVOURING also refers to odour and fragrance. Even more, the French translation of FLAVOURING is AROMATISER. This means that substances that are assigned to UN 1197 EXTRACTS, FLAVOURING, LIQUID may have aromatic properties in the sense of adding or enhancing good smell.

11. The following table summarizes the definitions of the words AROMATIC and FLAVOURING in English, French and Spanish:

Words	English	French	Spanish
<b>Aromatic</b>	<p>of, relating to, or having aroma:</p> <p>having a noticeable and pleasant smell: fragrant</p> <p>having a strong smell</p> <p>having a distinctive quality of an organic compound: characterized by increased chemical stability resulting from the delocalization of electrons in a ring system (such as benzene) containing usually multiple conjugated double bonds</p> <p>(<a href="#">Merriam-Webster online dictionary</a>)</p>	<p>De la nature des aromates ; qui exhale une odeur agréable : Huile aromatique.</p> <p>Se dit d'un composé présentant un ensemble de propriétés physiques et chimiques comparables à celles du benzène.</p> <p>(<a href="#">Larousse en ligne</a>)</p>	<p>Que tiene aroma.</p> <p>It means that has aroma.</p> <p>Dicho de una molécula: que tiene estructura cerrada no saturada.</p> <p>It means said of a molecule: which has a closed unsaturated structure.</p> <p>(<a href="#">Diccionario de la Real Academia Española</a>)</p>
<b>Flavouring</b>	<p>A substance used to flavour food or drink (<i>The Canadian Oxford Dictionary</i>)</p> <p><i>Flavour (verb)</i></p> <p><i>A distinctive or characteristic taste</i> (The Canadian Oxford Dictionary)</p> <p><i>To give or add flavor to</i> (<a href="#">Merriam-Webster online dictionary</a>)</p> <p><i>Flavor (noun)</i></p> <p>(ARCHAIC) Odor, fragrance</p> <p>The quality of something that affects the sense of taste;</p> <p>The blend of taste and smell sensations evoked by a substance in the mouth (Webster online)</p> <p>(<a href="#">Merriam-Webster online dictionary</a>)</p>	<p>Parfumer un aliment, un plat, une boisson, avec une substance aromatique.</p> <p>Procéder à l'aromatization d'un composé organique.</p> <p>(<a href="#">Larousse en ligne</a>)</p>	<p>Dar o comunicar aroma a algo.</p> <p>Give or communicate aroma to something</p> <p>(<a href="#">Diccionario de la Real Academia Española</a>)</p>

## Historical background to these UN numbers in the Model Regulations

12. Spain has also consulted UNECE to know the origin of these UN numbers. The original specific proposal relating to the introduction of these UN numbers could not be found; nevertheless, these UN numbers have been in the Model Regulations since 1956. At that time, they were listed by class in the English alphabetical order within each class, i.e. without a UN number. The entries corresponding to the current UN Nos. 1169 and 1197 were as follows:

UN 1169: Essences, having a flash point below 150 °F (65.6 °C). Essences, de point d'éclair inférieur à 65.6 °C (150 °F).

UN 1197: Extracts, Flavouring, liquid having a flash point below 150 °F (65.6 °C). Extraits aromatiques liquides, de point d'éclair inférieur à 65.6 °C (150 °F)

13. In a document dated in 1959, these entries are already assigned to UN numbers with a slightly modified name, as follows:

UN 1169: Essences, having a flash point below 150 °F (65.6 °C). Essence de point d'éclair inférieur à 65.6 °C (150 °F).

UN 1197: Extracts, Flavouring, liquid having a flash point below 150 °F (65.6 °C). Extraits liquides pour aromatiser ayant un point d'éclair inférieur à 65.6 °C (150 °F).

14. The same names appear in the 1964 edition of the Recommendations, except for the fact that the temperature in °F does not appear in the French version:

UN 1169: Essences, having a flash point below 150 °F (65.6 °C). Essence de point d'éclair inférieur à 65.6 °C.

UN 1197: Extracts, Flavouring, liquid having a flash point below 150 °F (65.6 °C). Extraits liquides pour aromatiser ayant un point d'éclair inférieur à 65.6 °C (150 °F).

15. In the 1966 edition of the Recommendations, the names of both entries lose the reference to the temperatures, as follows:

1169: Essences. Essences.

1197: Extracts, Flavouring, liquid-Extraits liquides pour aromatiser.

16. In a document submitted by OCTI (Central Office for International Carriage by Rail) in 1968, containing comments on the 1966 edition of the Recommendations, there is a comment indicating that UN 1169 should read: "Essences, natural or essential"/ "Essences, naturelles ou parfumées".

17. In 1969, the Report of the Committee on the Transport of Dangerous Goods on its 6th session, (Annex 2 on "Proposals for amendments to the annexes to the Recommendations" (ST/ECA/81/Rev.1-E/CN.2/CONF.5/10/Rev.1)), includes the following amendment to UN 1169:

(English) Should read: "Extracts".

(French) Lire: "Extraits aromatiques liquides".

18. This is the name that appears afterwards in the 1970 edition of the Recommendations.

19. Summing up, it seems that the change from "essences" to "extracts" happened in 1969, but the specific proposal related to the modification of these entries could not be found. And since they exist already in the first edition of the Recommendations, they could have been taken from other regulations (e.g. those applicable to maritime or rail transport).

20. Another conclusion that can be drawn is that, given the names that were assigned initially to these UN numbers, it seems clear that none of these entries is referring to the chemical family of "aromatic" cyclic substances.

## Use in the European Legislation

21. Concerning the difference in between both UN numbers, in the European regulation this differentiation is irrelevant as can be seen in these documents:

REGULATION (EC) No 1334/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods.

REGLAMENTO (CE) No 1334/2008 DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 16 de diciembre de 2008 sobre los aromas y determinados ingredientes alimentarios con propiedades aromatizantes utilizados en los alimentos.

RÈGLEMENT (CE) No 1334/2008 DU PARLEMENT EUROPÉEN ET DU CONSEIL du 16 décembre 2008 relatif aux arômes et à certains ingrédients alimentaires possédant des propriétés aromatisantes.

## Use in Industry

22. Canada has informed that consignors there are using both shipping names to classify similar dangerous goods without clear distinction between both UN numbers. They have provided some safety data sheets (SDS) from those consignors. A similar situation has been reported by France.

## Use of these UN numbers in modal regulations

23. After checking the different modal regulations (RID, ADR, IMDG and Technical Instructions), the names for UN 1169 and UN 1197 in the French and English versions are the same than in the Model Regulations. For IMDG Code and Technical Instructions, also the names in the Spanish version are the same as in the Model Regulations, 20th Edition (before modification of the name in the Spanish version of the Model Regulations, see paragraph 2).

24. For all modal regulations the transport conditions for UN 1169 and 1197 are exactly the same in between them.

25. Additionally, in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air, 2019-2020 Edition, (English and Spanish versions) the following definition, applicable for both UN 1169 and 1197 together, can be found in the Glossary (of informative nature only):

EXTRACTS, AROMATIC OR EXTRACTS, FLAVOURING. Substances used for fragrances or for flavouring foods or beverages. Where they contain a solvent or other liquid with a sufficiently low flash point they are classified as flammable liquids. However, where they contain a liquid which has corrosive or toxic properties they must be classified according to that criteria. They may have obnoxious properties such that in the event of a leakage from the package they may cause extreme discomfort to the crew or passengers.

EXTRACTOS AROMÁTICOS O EXTRACTOS SAPORÍFEROS. Sustancias que se utilizan para fragancias y dar sabor a los alimentos o bebidas. Cuando contienen un disolvente u otro líquido cuyo punto de inflamación es suficientemente reducido, se clasifican como líquidos inflamables. Sin embargo, cuando contienen un líquido que tiene propiedades corrosivas o tóxicas, deben clasificarse de acuerdo con los criterios pertinentes. Estas sustancias pueden tener propiedades que produzcan molestias y en el caso de producirse una fuga en el bulto, por ejemplo, pueden causar gran incomodidad en la tripulación y los pasajeros.

26. No distinction can be found in the transport conditions of any of the modal regulations for UN 1169 and 1197.

## Conclusions and open questions

27. It seems that both entries are covering the same reality, as the definitions for both substances overlap. Transport conditions for both UN numbers are the same in all modal regulations, too.

28. It would be important to learn how industry classifies these substances, if there is an overlap in between both UN numbers; chemical companies could also provide some very valuable input on these aspects.

29. If no difference in between the use of both UN numbers exists, thought may be given to eliminate one entry; if there is a difference, the names in the French and Spanish versions should be modified.

30. It would be appreciated if the different delegations and associations represented in the Sub-Committee could provide some further information on the use of these UN numbers.

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