

## 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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### MISCELLANEOUS

#### Classification of Mixtures and Solutions

The informal working group considered the proposals in INF.33 and preferred the approach as noted in Proposal 1. The working group reviewed and amended the proposed text. During this review it was noted that consequential amendments to Part 2 were also necessary. The below proposed amended text represents consolidated amendments to Part 2 and Part 3 as appropriate.

#### **Amendments to Part 2:**

##### *2.0.2 UN numbers and proper shipping names*

2.0.2.1 Dangerous goods are assigned to UN numbers and proper shipping names according to their hazard classification and their composition.

2.0.2.2 Dangerous goods commonly carried are listed in the Dangerous Goods List in Chapter 3.2. Where an article or substance is specifically listed by name, it shall be identified in transport by the proper shipping name in the Dangerous Goods List. **Such substances may contain technical impurities (for example those deriving from the production process) or additives for stability or other purposes that do not affect its classification. However, a substance listed by name containing technical impurities or additives for stability or other purposes affecting its classification shall be considered a mixture or solution (see 2.0.2.5).** For dangerous goods not specifically listed by name “generic” or “not otherwise specified” entries are provided (see 2.0.2.7) to identify the article or substance in transport.

Each entry in the Dangerous Goods List is characterized by a UN number. This list also contains relevant information for each entry, such as hazard class, subsidiary risk(s) (if any), packing group (where assigned), packing and tank transport requirements, etc. Entries in the Dangerous Goods List are of the following four types:

- (a) Single entries for well-defined substances or articles e.g.

1090	ACETONE
1194	ETHYL NITRITE SOLUTION;

- (b) Generic entries for well-defined group of substances or articles e.g.

1133 ADHESIVES  
 1266 PERFUMERY PRODUCT  
 2757 CARBAMATE PESTICIDE, SOLID, TOXIC  
 3101 ORGANIC PEROXIDE, TYPE B, LIQUID;

- (c) Specific n.o.s. entries covering a group of substances or articles of a particular chemical or technical nature e.g.

1477 NITRATES, INORGANIC, N.O.S.  
 1987 ALCOHOLS, N.O.S.;

- (d) General n.o.s. entries covering a group of substances or articles meeting the criteria of one or more classes or divisions e.g.

1325 FLAMMABLE SOLID, ORGANIC, N.O.S.  
 1993 FLAMMABLE LIQUID, N.O.S.

2.0.2.3 All self-reactive substances of Division 4.1 are assigned to one of twenty generic entries in accordance with the classification principles and flow chart described in 2.4.2.3.3 and Figure 2.4.1.

2.0.2.4 All organic peroxides of Division 5.2 are assigned to one of twenty generic entries in accordance with the classification principles and flow chart described in 2.5.3.3 and Figure 2.5.1.

~~2.0.2.5 A mixture or solution containing a single dangerous substance specifically listed by name in the Dangerous Goods List and one or more substances not subject to these Regulations shall be assigned the UN number and proper shipping name of the dangerous substance, unless:~~

- ~~(a) The mixture or solution is specifically identified by name in these Regulations; or~~  
~~(b) The entry in these Regulations specifically indicates that it applies only to the pure substance; or~~  
~~(c) The hazard class or division, physical state or packing group of the solution or mixture is different from that of the dangerous substances; or~~  
~~(d) There is significant change in the measures to be taken in emergencies.~~

~~———— In those other cases, except the one described in (a), the mixture or solution shall be treated as a dangerous substance not specifically listed by name in the Dangerous Goods List.~~

**2.0.2.5 A mixture or solution composed of a single predominant substance identified by name in the Dangerous Goods List and one or more substances not subject to these Regulations and/or traces of one or more substances identified by name in the Dangerous Goods List, shall be assigned the UN number and proper shipping name of the predominant substance named in the Dangerous Goods List unless:**

- (a) The mixture or solution is identified by name in the Dangerous Goods List;**  
**(b) The name and description of the substance named in the Dangerous Goods List specifically indicates that it applies only to the pure substance;**

- (c) **The hazard class or division, subsidiary risk(s), packing group, or physical state of the mixture or solution is different from that of the substance named in the Dangerous Goods List; or**
- (d) **The hazard characteristics and properties of the mixture or solution necessitate emergency response measures that are different from those required for the substance identified by name in the Dangerous Goods List**

2.0.2.6 For a solution or mixture when the hazard class, the physical state or the packing group is changed in comparison with the listed substance, the appropriate N.O.S. entry shall be used including its packaging and labelling provisions.

2.0.2.7 A mixture or solution containing one or more substances identified by name in these Regulations or classified under a N.O.S. entry and one or more substances is not subject to these Regulations if the hazard characteristics of the mixture or solution are such that they do not meet the criteria (including human experience criteria) for any class.

2.0.2.8 Substances or articles which are not specifically listed by name in the Dangerous Goods List shall be classified under a “generic” or “not otherwise specified” (“N.O.S.”) entry. The substance or article shall be classified according to the class definitions and test criteria in this Part, and the article or substance classified under the generic or “N.O.S.” entry in the Dangerous Goods List which most appropriately describes the article or substance<sup>2</sup>. This means that a substance is only to be assigned to an entry of type c), as defined in 2.0.2.2, if it cannot be assigned to an entry of type b), and to an entry of type d) if it cannot be assigned to an entry of type b) or c)<sup>2</sup>.

**2.0.2.9 A mixture or solution that is not identified by name in the Dangerous Goods List and that is composed of two or more dangerous goods shall be assigned to an entry that has the proper shipping name, description, hazard class or division, subsidiary risk(s) and packing group that most precisely describe the mixture or solution.**

### **Amendments to Part 3:**

Delete the existing 3.1.3 and replace with the following.

#### 3.1.3 Mixtures or Solutions

Note: Where a substance is specifically listed by name, it shall be identified in transport by the proper shipping name in the Dangerous Goods List. Such substances may contain technical impurities (for example those deriving from the production process) or additives for stability or other purposes that do not affect its classification. However, a substance listed by name containing technical impurities or additives for stability or other purposes affecting its classification shall be considered a mixture or solution (see 2.0.2.2 and 2.0.2.5).

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<sup>2</sup> See also the “List of generic or n.o.s. proper shipping names” in Appendix A.

3.1.3.1 A mixture or solution is not subject to these Regulations if the characteristics, properties, form or physical state of the mixture or solution are such that it does not meet the criteria, including human experience criteria, for inclusion in any class.

3.1.3.2 A mixture or solution composed of a single predominant substance identified by name in the Dangerous Goods List and one or more substances not subject to these Regulations and/or traces of one or more substances identified by name in the Dangerous Goods List, shall be assigned the UN number and proper shipping name of the predominant substance named in the Dangerous Goods List unless:

- (a) The mixture or solution is identified by name in the Dangerous Goods List;
- (b) The name and description of the substance named in the Dangerous Goods List specifically indicates that it applies only to the pure substance;
- (c) The hazard class or division, subsidiary risk(s), packing group, or physical state of the mixture or solution is different from that of the substance named in the Dangerous Goods List; or
- (d) The hazard characteristics and properties of the mixture or solution necessitate emergency response measures that are different from those required for the substance identified by name in the Dangerous Goods List.

3.1.3.2.1 Qualifying words such as "MIXTURE" or "SOLUTION", as appropriate, shall be added as part of the proper shipping name, for example, "ACETONE SOLUTION". In addition, the concentration of the mixture or solution may also be indicated after the basic description of the mixture or solution, for example, "ACETONE 75% SOLUTION".

3.1.3.3 A mixture or solution that is not identified by name in the Dangerous Goods List and that is composed of two or more dangerous goods shall be assigned to an entry that has the proper shipping name, description, hazard class or division, subsidiary risk(s) and packing group that most precisely describe the mixture or solution.

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