

**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 Globally
Harmonized System of Classification
and Labelling of Chemicals

Seventh session, 14-16 July 2004
Item 2 (a) of the provisional agenda

**UPDATING OF THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS (GHS)**

Physical hazards

Note by the secretariat

The document ST/SG/AC.10/C.3/2004/21 submitted to the TDG Sub-Committee for its twenty-fifth session (5-14 July 2004) may be of interest to the GHS Sub-Committee for the discussion of the above agenda item. It is reproduced hereafter.



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DANGEROUS GOODS AND ON THE GLOBALLY
HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the
Transport of Dangerous Goods

Twenty-fifth session, 5-14 July 2004
Item 12 (c) of the provisional agenda

**HARMONIZATION WITH THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS (GHS)**

Physical hazards

A new label for Division 5.2

Transmitted by the expert from Norway

1. Background

During the 24th session of UNSCETDG, Norway presented in ST/SG/AC.10/C.3/2003/33 a proposal for a new label for division 5.2. The main issue of the Norwegian proposal was that the labels in Division 5.1 and Division 5.2 are identical (apart from the division number printed on the label), while substances in the two divisions present different potentials for danger in a fire.

As was mentioned in the Norwegian proposal, in a fire, substances belonging to Division 5.1 contributes oxygen, but normally not combustible material. For these substances to contribute to the fire, as a rule, combustible material must be added, e.g. combustible material transported together with the 5.1 substances, or in the form of contamination with reducing agents, e.g. metal powders.

Substances belonging to Division 5.2, on the other hand, contain both oxygen and combustible material. They may therefore themselves burn, e.g. if they are ignited by an existing fire, or if they reach a sufficiently high temperature as to undergo an exothermic decomposition, to which they are liable (cf. 2.5.3.1.1).

From the above, it should be self evident that substances of Division 5.2 represent a far greater risk and danger for emergency responders than substances of Division 5.1. It would be favourable if this greater danger involved with Division 5.2 substances is communicated to the emergency responders quickly and efficiently i.e. through the ensuing label or placard.

In short, paper ST/SG/AC.10/C.3/2003/33 called for different labels for these two divisions to reflect differences between divisions as regards intrinsic properties of substances. The overall aim is to increase safety through a clear, unambiguous hazard communication through different labels, especially for emergency responders in an emergency situation. With today's situation, it might not be easy for the emergency responders to differentiate between these two labels, especially since they must often, due to safety considerations, make observations as well as tactical and strategic planning from a distance.

Following the Norwegian presentation at the 24th session we had a very fruitful discussion in the sub-committee, and the Norwegian proposal was supported by several experts. It is important to note that the proposal was supported by a number of experts who had already presented the proposed label to organizations of emergency responders (e. g. fire fighters, police forces), and who reported unanimous support for the Norwegian proposal from these organizations. Especially interesting is the support from CTIF, both during the 24th session, and in later discussions of a more informal character.

During the discussions, Norway demonstrated that the proposed new label also enhance risk communication in bad light conditions. As is well known, colour vision deteriorates with decreasing light intensity. The uniqueness of the new proposed label is nevertheless upheld, with good contrast, as red in bad light conditions evolves into black, and yellow into white. Hence, the new label also represent an improvement over the old one for persons with reduced or lacking colour vision.

The expert from Norway would like to use this opportunity to thank the expert from the United States of America for supplying results from an empirical distance visibility test. This test shows that a label corresponding to Norway's proposed label, relative to a number of proposed alternatives, shows better contrast, and hence a better relative visibility, with increasing distance. A factor of the utmost importance for emergency responders.

Some members countries suggested that there was a need for a transition period during which the existing version of the label for Division 5.2 might still be used. This to allow industry to get time to prepare themselves, and to adjust. Norway supports this view, and is thankful for this suggestion as an improvement to the original proposal.

2. Proposal

Norway is still of the opinion that substances of Division 5.1 and substances of Division 5.2 should be labelled in a sufficiently different way, so as to make sure this difference being relatively easily observed also at a distance. We therefore propose to substitute the existing label No. 5.2 with a modified label with the upper half of the label in red colour as shown in fig. 1.



Figure 1.

To implement the possibility of a transition period, as requested by some delegations, Norway proposes that the existing label No. 5.2 may be used until 1 January 2011, and propose in 5.2 below two alternative ways in which this can be written into the Model Regulations.

3. Justification

The justification for a new label was presented in ST/SG/AC.10/C.3/2003/33, and is repeated below.

Firstly, and most important, a clear difference is achieved between the two labels in Class 5. This in itself, as indicated above, decreases ambiguity and thereby increases safety of the emergency response. In fact, the whole idea of changing the label No. 5.2 is based on safety concerns expressed by a large number of Norwegian fire fighters, as regards having two so similar labels. A common remark is that the ambiguity much reduces the information content, and that this in turn could lead to doubts, stress, and to unnecessary information seeking processes taking valuable time. Experience from training and educating approximately 4000 emergency responders in Norway was unanimous: presented with a prototype of the label shown in fig. 1, they all felt such a change in label No. 5.2 would be a major improvement in hazard communication.

Secondly, having two labels for Class 5 is in line with the rest of the labelling system, where each different class/division is labelled with its own label.

Thirdly, adding red colour to the new label symbolizes, as is the case with the red colour on other labels, the existence of combustible material.

And, fourthly, the lower part of the label retains the yellow colour, symbolizing the oxygen content of the substance.

In addition, the proposed new label is kept within the general appearance of the “old” label as far as the icon is concerned. In addition, no totally new colours are introduced; the same colours are used for indicating the inherent properties of the substances as in the overall labelling system. Therefore the new proposed labels fits into the overall system of labelling, whose unity is preserved.

4. Implementation

The change of the existing label No. 5.2 calls for no major amendment in existing legislations. Apart from introducing a note, alternatively a new special provision, in the label itself only a minor change in colour is involved; no new icons or numberings are introduced. As was mentioned in ST/SG/AC.10/C.3/2003/33, in training and education, having two different labels will simplify things both pedagogically and epistemologically, i.e. create an easier situation for both teacher (pedagogically) and student (epistemologically). This since much fewer words are necessary to convey the difference in information content between two different labels, than between two in practice nearly identical ones. As the old saying goes: a picture tells more than a thousand words.

5. Consequential amendments

5.1. Amendment in 5.2.2.2.1

In 5.2.2.2.2, under Class 5

substitute label No. 5.2 with the new label proposed in this document; and change the text under label No. 5.1 to read:

“Symbol (flame over circle): black;
Background: yellow”;

at the corresponding place, under (the new) label No. 5.2, insert the text:

“Symbol (flame over circle): black;
Background: upper half red;
lower half yellow”

5.2. Regarding a transition period

With reference to the above-mentioned transition period, we present two alternative ways in which this could be written into the Model Regulations

Alternative 1

Insert a note in 5.2.2.2.1 of the Model Regulations as follows:

Note: For Division 5.2 the label conforming to the model prescribed in the thirteenth edition of the Model Regulations may be used until 1 January 2011.

Alternative 2

Create a new special provision *AAA* to be inserted in column 6 in the dangerous goods list in Chapter 3.2 for all entries in Division 5.2, as follows:

Special provision AAA. The label conforming to the model prescribed in the thirteenth edition of the Model Regulations may be used until 1 January 2011.
