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**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals**

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**Sub-Committee of Experts on the  
Transport of Dangerous Goods**

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Item 11 (a) of the provisional agenda

**Issues relating to the Globally Harmonized System  
of Classification and Labelling of Chemicals:  
review of Chapter 2.1**

**Sub-Committee of Experts on the Globally Harmonized  
System of Classification and Labelling of Chemicals**

**Thirty-ninth session**

Geneva, 9-11 December 2020

Item 3 (b) of the provisional agenda

**Classification criteria and related hazard  
communication: review of Chapter 2.1**

**Possible amendment to proposed new GHS Chapter 2.1 for  
products consisting of or containing explosives, which are not  
classified as Class 1 for transport**

**Transmitted by the expert from Sweden on behalf of the Informal  
Correspondence Group on the Review of GHS Chapter 2.1**

**Background**

1. Document ST/SG/AC.10/C.3/2020/20–ST/SG/AC.10/C.4/2020/5 contains a proposal for a new Chapter 2.1 (Explosives) for the GHS. That document, as amended by document ST/SG/AC.10/C.3/2020/20/Add.1–ST/SG/AC.10/C.4/2020/5/Add.1 together with the decision logics contained in ST/SG/AC.10/C.4/2020/18 comprises the entirety of that GHS chapter. The scope of the new GHS Chapter 2.1, as proposed in these documents, is identical to that of the current GHS Chapter 2.1.
2. An issue brought up in the Informal Correspondence Group (ICG) for the review of GHS Chapter 2.1 is whether it would be possible to improve the current situation for products that qualify as explosives according to the definition of the GHS, but are assigned to a class other than Class 1 according to the Dangerous Goods List (DGL) of the UN Model Regulations.<sup>1</sup> Currently the affected products are in somewhat of a grey area as they are not considered to be explosives (Class 1) for transport but may become so once they exit this sector depending on the interpretation of the GHS as implemented in other sectors. This situation leads to some confusion and to lack of harmonisation across jurisdictions.
3. The ICG has discussed potential solutions to this issue within a small Task Force with members that indicated their interest to do so in a questionnaire that was circulated in the ICG a few days after the virtual GHS-meeting in July 2020. On the basis of answers to the questionnaire, this Task Force sought to explore whether these “non-Class 1 products” could be directed to the corresponding GHS hazard classification where possible, and how to treat products where this is not possible (products in Class 9 for transport).

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<sup>1</sup> See ST/SG/AC.10/C.3/2020/20/Add.1–ST/SG/AC.10/C.4/2020/5/Add.1 and the latest status report on the review of GHS Chapter 2.1, UN/SCETDG/57/INF.16-UN/SCEGHS/39/INF.13. A comprehensive description of these products can be found in UN/SCETDG/57/INF.15-UN/SCEGHS/39/INF.10.

4. The proposals in this document originate from the results of the work in the Task Force and was circulated in the entire ICG before its submission. The time allowed for the ICG's review was, however, quite short in order for this document to be available in good time before the meeting of the Working Group on Explosives (EWG), which is to commence earlier than normal (and virtually) due to the prevailing pandemic situation.

### **The somewhat diffuse concept of “articles”**

5. The affected products are almost exclusively articles where the explosion hazard is considered to be very low but which cannot clearly be excluded from transport Class 1 by definition – the very same definition as used to define the GHS hazard class Explosives.<sup>2</sup> While the Model Regulations apply to “goods”, and comprise a variety of articles, the GHS, according to its provision 1.3.2.1.1, does not apply to articles. However, while an example is given in this provision, the term “article” is not thoroughly defined in the GHS. The concept of an “article” is therefore somewhat diffuse in the GHS itself.

6. The above diffuseness becomes particularly visible when an “explosive article” from GHS Chapter 2.1 is assigned to another GHS hazard class, as that hazard class then comes to comprise an article (which as a result cannot really be an explosive article anymore). As only a few articles are concerned, this could be considered tolerable in relation to retaining the present situation. However, the use of the term “article” seems to cause some confusion in this context and therefore it is suggested to instead use the term “product” – a neutral and undefined term that is used in a general sense throughout the GHS and appears to include substances, mixtures and articles (at least explosive articles).<sup>3</sup>

### **Three types of non-Class 1 products**

#### **Products in transport Class 2, 3, 4 or 5**

7. Class 2, 3, 4 and 5 of the UN Model Regulations have their direct correspondence amongst the physical hazards classes in Part 2 of the GHS (which is not a surprise as the GHS physical hazards were modelled on the UN Model Regulations).<sup>4</sup> Also the GHS categories directly correspond to the packing groups (PG's) of the UN Model Regulations for these GHS physical hazards.<sup>5</sup> Products that have been assigned to any of these classes according to the DGL can therefore in principle be directed to the corresponding GHS hazard class and category. Table 1 in Annex II to this document presents some products of this type that are found in the DGL.

#### **Products in transport Class 6 or 8**

8. Products in division 6.1 of Class 6 and in Class 8 of the UN Model Regulations in principle also have their correspondence in the GHS. Transport Class 6, division 6.1, corresponds to the GHS hazard class Acute toxicity. Transport Class 8 is a bit more complex, as it has its correspondence in the GHS hazard classes Skin corrosion/irritation, Serious eye damage/eye irritation and Corrosive to metals. The products in the DGL that are classified in

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<sup>2</sup> See provision 2.1.1.1 (b) in Chapter 2.1 of the UN Model Regulations and provision 2.1.1.2 (b) in Chapter 2.1 of the GHS, respectively. (The latter corresponds to provision 2.1.1.2.1 (b) in the proposed new GHS Chapter 2.1.)

<sup>3</sup> In the definitions of “Hazard statement”, “Label” and “Precautionary statement” in Chapter 1.2 of the GHS, reference is made to the concept “hazardous product”.

<sup>4</sup> See Table 1.1 in Section 1 of the Manual of Tests and Criteria (Rev. 7)

<sup>5</sup> Class 2 of the UN Model Regulations comprises gases and does not use packing groups. The relation to the GHS is more complicated as the GHS splits the various hazards associated with gases into several hazard classes (Gases under pressure, Flammable gases, Oxidizing gases and Aerosols). A translation from a transport classification within Class 2 to a GHS classification is, however, generally possible, see Table 1.1 in Section 1 of the Manual of Tests and Criteria (Rev. 7).

Class 6 or Class 8 while having some explosive component are very few. Amongst the affected products are special acid or alkali batteries that contain explosive triggers, which are classified as corrosive (Class 8). As acid batteries (without any explosives) are very common (sulphuric acid batteries commonly used e.g. in cars), it was noted that it could become problematic to direct these explosives-containing batteries to classification as corrosive in the GHS generally. Table 2 in Annex II to this document lists a few products of this type that are found in the DGL.

### **Products in transport Class 9**

9. Products in transport Class 9 (Miscellaneous dangerous substances and articles [...]) generally do not have a corresponding GHS hazard classification, so the option for these is to either exclude them from the GHS altogether or to keep them in the GHS hazard class Explosives. If the latter option is chosen, they would be classified as Explosives in the new Category 1 unless explicitly directed to another classification, as they have not been assigned a division according to Part I of the Manual of Test and Criteria.<sup>6</sup> Table 3 in Annex II to this document lists some products of this type that are found in the DGL.

### **General conditions for exclusion from GHS Chapter 2.1**

10. The classification of products consisting of or containing explosives in a class other than Class 1 for transport in some cases depends on a particular transport configuration, and in other cases it does not. For the former products, remaining in the transport configuration is considered a necessary condition also for a deviating GHS classification. For the latter, such a condition is, however, not needed.

11. In addition, it is considered that the use of a product generally needs to be allowed without triggering reclassification, for practical reasons. This is similar to how reclassification of an explosive classified in the new Category 2 should not be triggered by the use of the product.<sup>7</sup>

### **Proposals**

#### **Proposal 1: Direct products in transport Class 2, 3, 4 and 5 to the corresponding GHS hazard classification**

12. For products classified in Class 2, 3, 4 or 5 according to the DGL, it is proposed to insert a provision that directs them to the corresponding GHS (physical) hazard class and category, provided that (a) they are in the transport configuration; or (b) the transport classification does not depend on a particular configuration or (c) they are in use.

#### **Proposal 2: Allow the direction of products in transport Class 6 or 8 to the corresponding GHS hazard class**

13. For products classified in Class 6 or 8 according to the DGL, it is proposed to insert a note that directs them to the corresponding GHS hazard class, subject to a competent authority approval. In this way these products are not forced into another classification but the option to do so exists. A competent authority approval should be unproblematic for these very special products. The same general conditions as for products directed to Class 2, 3, 4 and 5 would apply. It should be noted that by applying this note to Class 6 as a whole, also division 6.2 (Infectious substances) would be included although there is no corresponding GHS hazard class as the GHS does not cover this type of hazard at all.

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<sup>6</sup> See the criteria for Category 1 in section 2.1.2 of the proposed new GHS Chapter 2.1.

<sup>7</sup> See provision 2.1.1.3.4 in section 2.1.1 of the proposed new GHS Chapter 2.1.

**Proposal 3: Classify products in transport Class 9 as GHS Explosives in Sub-category 2C**

14. For products classified in Class 9 according to the DGL, it is proposed to insert a provision that directs them to classification in Sub-category 2C within the hazard class Explosives as proposed, provided that (a) they are in the transport configuration; or (b) the transport classification does not depend on a particular configuration or (c) they are in use. As these products represent an explosion hazard corresponding to Sub-category 2C (“low hazard”) or less, this seems more appropriate than to classify them as Category 1 which would lead to exaggerated hazard communication.

**Proposed additional text for insertion into new GHS Chapter 2.1**

15. Annex I to this document contains proposed provisions for insertion into section 2.1.1 of GHS Chapter 2.1 as proposed in ST/SG/AC.10/C.3/2020/20–ST/SG/AC.10/C.4/2020/5, amended by ST/SG/AC.10/C.3/2020/20/Add.1–ST/SG/AC.10/C.4/2020/5/Add.1, for consideration of the Sub-committees.

16. The Sub-committees are reminded that adopting these additional provisions is not necessary for the adoption of the new GHS Chapter 2.1 as proposed. Not adopting the additional provisions presented in Annex I to this document would only mean that the affected products will remain in the grey area where they currently are, i.e. it represents the status quo.

## Annex I

### Proposed additional provisions for the new GHS Chapter 2.1

“2.1.1.2.3 For products consisting of or containing explosives, which are assigned a specific UN-number in a class other than Class 1 according to the Dangerous Goods List of the *UN Model Regulations*, the following applies:

2.1.1.2.3.1 Products according to 2.1.1.2.3 which are assigned a specific UN-number in Class 2, 3, 4 or 5 are classified in the GHS hazard class and category corresponding to the transport classification, and excluded from the hazard class explosives, provided that:

- (a) the product is in the transport configuration; or
- (b) the transport classification does not depend on a particular configuration; or
- (c) the product is in use (see 2.1.1.3.4)

*NOTE: Subject to approval from the competent authority, products according to 2.1.1.2.3 which are assigned a specific UN-number in Class 6 or 8 may be classified in the corresponding GHS hazard class and category, and excluded from the hazard class explosives, provided that the same conditions as stated in 2.1.1.2.3.1 are met.*

2.1.1.2.3.2 Products according to 2.1.1.2.3 which are assigned a specific UN-number in Class 9 are classified as explosives in Sub-category 2C, provided that:

- (a) the product is in the transport configuration; or
- (b) the transport classification does not depend on a particular configuration; or
- (c) the product is in use (see 2.1.1.3.4)”

## Annex II

### Tables of affected products in the Dangerous Goods List (DGL)

**Table 1: Examples of products consisting of or containing explosives, which are classified in Class 2, 3, 4 or 5 according to the DGL**

UN-number	Name and description	Transport classification <sup>8</sup>	Corresponding GHS classification
1044	Fire extinguishers	Class 2, Division 2.2	Gas under pressure (group as applicable)
1331	MATCHES, 'STRIKE ANYWHERE'	Class 4, Division 4.1, PG III	Flammable solids, Cat. 2
1944	MATCHES, SAFETY (book, card or strike on box)	Class 4, Division 4.1, PG III	Flammable solids, Cat. 2
1945	MATCHES, WAX 'VESTA'	Class 4, Division 4.1, PG III	Flammable solids, Cat. 2
1956	Compressed gas	Class 2.2	Gas under pressure, compressed gas
2254	MATCHES, FUSEE	Class 4, Division 4.1, PG III	Flammable solids, Cat. 2
3270	NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6 % nitrogen, by dry mass	Class 4, Division 4.1, PG II	Flammable solids, Cat. 1

<sup>8</sup> PG stands for Packing Group.

**Table 2: Examples of products consisting of or containing explosives, which are classified in Class 6 or 8 according to the DGL**

UN-number	Name and description	Transport classification	Corresponding GHS classification <sup>9</sup>
2016	AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	Class 6, Division. 6.1	Acute toxicity
2017	AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	Class 6, Division 6.1	Acute toxicity
2794	BATTERIES, WET, FILLED WITH ACID, electric storage	Class 8	Skin/eye corrosive
2795	BATTERIES, WET, FILLED WITH ALKALI, electric storage	Class 8	Skin/eye corrosive
2800	BATTERIES, WET, NON-SPILLABLE, electric storage	Class 8	Skin/eye corrosive

**Table 3: Examples of products consisting of or containing explosives, which are classified in Class 9 according to the DGL**

UN-number	Name and description	Transport classification	Proposed GHS classification
2990	LIFE SAVING APPLIANCES SELF-INFLATING	Class 9	Explosive, Sub-category. 2C
3072	LIFE SAVING APPLIANCES NOT SELF-INFLATING	Class 9	Explosive, Sub-category. 2C
3268	SAFETY DEVICES	Class 9	Explosive, Sub-category. 2C

<sup>9</sup> Packing groups are normally not assigned to articles, and therefore no corresponding GHS category can be assigned by default.