

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

16 September 2020

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

**Fifty-seventh session**

Geneva, 30 November-8 December 2020

Item 3 of the provisional agenda

**Listing, classification and packing**

**Request for a new UN number for cobalt dihydroxide powder**

**Transmitted by the Responsible Packaging Management Association of  
Southern Africa (RPMASA) and the International Confederation of  
Plastic Packaging Manufacturers (ICPP)**

## **UN SCETDG – Notes from Virtual Discussion Wed 1<sup>st</sup> July 2020 on**

[ST/SG/AC.10/C.3/2020/21](#) – Request for a new UN number for cobalt dihydroxide powder, and

[UN/SCETDG/57/INF.5](#) – Notes from telecon 4 March re new UN number for cobalt dihydroxide

**Participants** – see list at end of notes

RPMASA (Liz Anderson) introduced the working document + showed slides (attached) informing -

1. The proposal for a new single UN no UN35XX, COBALT DIHYDROXIDE POWDER, containing >10% respirable particles and proposed Provisions, explaining proposed SPP - Bx
2. Proposed Discussion Points
  - **New** Special Packing Provision Bx – UN 35XX may be transported in lined flexible IBC's (13H3 or 13H4 )
  - SPP B1 or B2 or Not necessary?
  - SP 354 – applicable or Not to powders?
  - Refine Definition of respirable
  - Wording to include in the Guiding Principles?
  - Netherlands also raised, excepted quantity should be E0 or E5 if linked to SP354
  - Canada had sent a proposal to amend containing >10% to **≥ 10%** respirable particles
3. Additional information as requested by the Netherlands on physical attributes of the powder: Cobalt dihydroxide powder has a very different risk profile to Class 6.1 liquid vapours -
  - $\text{Co(OH)}_2$  has zero vapour pressure
  - Hygroscopic – takes up water and tends to 'clump together' on exposure to air
  - Relative density is  $3.6\text{g/cm}^3$  – heavy & does not remain in air for extended time
  - Airborne fraction of bulk material has low respirability – 0.8% is modelled to deposit in pulmonary (deep lung) region

Note - above properties indicate that the risk of health risks - toxic by inhalation from minor spill is low.

### **General comments:**

- The French expert agreed with the way things were moving for cobalt dihydroxide, and supported the current proposal.
  - He informed that he had had discussions with Belgium and that France would sign the ADR multi-lateral agreement prepared by Belgium.
- The US expert agreed with the current proposal for a single entry for cobalt dihydroxide.

### **Discussion Points in order on slide**

#### **New Special Packing Provision Bx:**

- Proposed wording: “**Bx** UN 35XX may be transported in lined flexible IBCs (13H3 or 13H4).”
- RPMASA suggested it might be necessary to state “13H3 or 13H4 only” to exclude other FIBC types.
- The German expert was concerned that the wording to preclude a “slight discharge” during the PG I testing (as allowed in 6.5.6.9.5 b) and 6.5.6.11.5) had been removed.
- The UK packaging expert stated that for IBC07 there was no need to specify “13H3 or 13H4 only” since other FIBC types were excluded by definition.
  - Wording to preclude the “slight discharge” was not appropriate in the SPP since the FIBC testing criteria did not refer to the SPP therefore this provision would not be seen.
  - Furthermore it was not possible to prove zero discharge, hence not appropriate to use “absolute” terms .
  - The shortened version of the SPP was preferred as compliant with UN.

- The Belgian expert agreed there was no need to specify “13H3 or 13H4 only”.
  - Wording to disallow the “slight discharge” was different to requiring zero egress of dust.
- The French expert considered the proposed SPP to be appropriate for use with IBC07.
- The US expert suggested that if a design feature had been introduced to prevent egress of dust, this could be included in the SPP in simple form (i.e. one sentence) to require the additional protection this would afford. He was requested to assist with this.

#### **SPP B1 or B2 or not necessary:**

- The UK expert noted that the toxicity seen in animals followed 1hour continuous exposure to a maintained suspension in air, and this type of exposure was not possible in transport.
  - Therefore based on many years of experience, and taking into account considerations of practicality, it was not necessary to require closed cargo transport units (CTU).
  - It was still possible to add requirements relating to closed CTU in the modal regulations, but could be addressed by exclusion in specific National or Regional regulations.
- The Belgian expert did not believe that closed CTU were necessary, based on experience, as well as the new FIBC design which would make transport with sheeted vehicles even more safe now than it had been over the years.
- The Swiss expert had a query which he now supported the UK explanation regarding the lack of risk in transport.
- The AEISG expert asked for clarification on the differences between the FIBC used for transporting PG I goods versus PG II goods. He said that in his experience
  - Tears/rips were frequently seen in consignments of FIBCs, and therefore FIBC should not be transported outside closed CTU.
  - Sheeted vehicles were not tolerable, and SPP B1 was required.
- The Dutch expert was in favour of assigning SPP B1.
- The French expert noted that B2 was assigned for Class 6.1 solids in PG II.
  - The Sub-Committee was trying to make transport easier despite the hazard classification, however it was not possible to always find closed vehicles in the EU.
  - Under ADR, B2 was not assigned against IBC07.
- The German expert displayed a table showing analysis that existing Class 6.1 solids in PG I were always assigned IBC07 and SPP B1 – he was requested to share this with the group.
- RPMASA highlighted the impracticality and unsustainability of transporting a few tonnes of cobalt dihydroxide over short distances in closed CTU.

#### **SP 354 – applicable or not to solids/powders:**

- The Belgian expert believed that SP 354 was not required.
  - All that was required was clarification on the meaning and applicability of SP 354.
- The US expert noted that SP 354 was originally assigned to identify goods that were toxic by inhalation during discussion on liquids in portable tanks a few years previously.
  - Based on its current usage, assigning SP 354 to cobalt dihydroxide would be misleading, since this would imply that the Sub-Committee had evaluated all Class 6.1 solids for inhalation toxicity.
  - SP 354 should not be assigned to cobalt dihydroxide at this stage.
  - Further discussion on applicability of SP 354 was required by the sub-committee
- The Dutch expert believed that SP 354 was applicable only to liquids and vapours.
  - However, the provision was not clear and improvements to the wording were required.
  - Expanding the scope of SP 354 to solids would require a lot of investigation + more data.
- The USA expert mentioned that ICAO A5 states that carriage of solids with PGI inhalation toxicity is forbidden. The origin of this should be investigated to assist clarifying the applicability.

#### **Refine definition of respirable:**

- The Belgian expert agreed with the Canadian written proposal to amend the Proposed PS Name to state “containing ≥ 10% respirable particles” instead of “containing > 10% respirable particles”.

- Clarification of the definition of respirable dusts was required and would be discussed intersessionally.
- The US expert agreed with this proposed change to the proposed Proper Shipping Name (i.e. “containing ≥ 10% respirable particles”), since this aligned with the criteria for classification in Class 6.1.
- The Dutch expert aligned with the US position.

#### **Wording to include in the Guiding Principles:**

- The Belgian expert suggested that wording should be added to the Guiding Principles in section 4.2 beneath the table on the assignment of IBC packing instructions.
- The US expert believed that cobalt dihydroxide could be transported safely in FIBCs, although this was diverging from the current Guiding Principles, thus agreed a need to include wording in the Guiding Principles to address this change.
- The Dutch expert agreed that assignment of a PG I substance to FIBC was not in line with the Guiding Principles as currently written, and new wording in the Guiding Principles was therefore required.

#### **Summary and conclusions**

RPMASA summarised the outcome of discussion as follows:

- ✓ New Special Packing Provision Bx: The proposed SPP was agreed though RPMASA would consider an additional sentence on FIBC design features. Proposed wording would be appreciated from the experts that raised this for consideration.
- ✓ SP 354 – applicable or not: There was agreement not to assign SP 354 for cobalt dihydroxide powder at present. There was a need for separate discussion on the applicability of SP 354 to physical forms other than liquids/vapours which can be addressed intersessionally to agree if this should be included in the programme of work for the next biennium?
- ✓ Refine the definition of respirable: Clarification of the definition of respirable dusts would be discussed intersessionally.
- ✓ Wording to include in the Guiding Principles: This was also required but would be addressed separately to the current proposal for a new DGL entry. Agreed to place under the table in 4.2 and proposals for wording would be appreciated?
- ✓ SPP B1 or B2 or not necessary: This was the only issue that required further discussion and agreement prior to adoption of the new DGL entry for cobalt dihydroxide, which would be progressed intersessionally.

Kindly advise me if I have missed capturing any significant issues, or missed any participants - below

**Liz Anderson**  
**12 July 2020**

**Participants:****Chairman: Duane Pfund**

- Liz Anderson - RPMASA
- Paul Marsh - RPMASA / Cobalt Institute
- Torben Knoess - ICPP
- Chris Lind - ICPP
- Hannes Demare - Belgium
- Remko Dardenne - Belgium
- Kristel Vermeersch - Belgium
- Claude Pfauvadel - France
- Keith White - UK
- Shane Kelly - USA
- Hillary Sadoff - USA
- Steven Webb - USA
- Amelia Gonzalez
- Genevieve Sansoucy – Canada
- France Bernier - Canada
- Yasmijn v/d Knaap - Netherlands
- Sjofn Gunnarsdottir - Netherlands
- Marcel Neitsch – Germany
- Korinna Rakowski - Germany
- Silvia Garcia Wolfrum - Spain
- Angles de Marcos – Spain
- Camilla Oscarsson - Sweden
- Josefine Gullö - Sweden
- Fan Bin - China
- Li Xiaoyu -China
- Jin Young Park - Korea
- Ken Price - AESIG
- Marco Ottivani – RECHARGE
- Akiko Kamata – FAO
- Zeynep Eker Genel – Turkey
- Alicia Tong – Australia
- Daniel Massey – Australia
- David Gilabert – Switzerland
- Chan Candy Pui Shan – Switzerland

Please advise if I missed anyone?

Liz A