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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Item 3 of the provisional agenda

LISTING, CLASSIFICATION AND PACKING

Assignment of Special Provision 354 to the appropriate UN entries

Transmitted by the Government of Switzerland

SUMMARY	
Executive Summary:	Reconsider the assignment of SP 354 to the entries 1553, 1744, 1745, 1746, 1754, 1828, 1829, 1831, 2032, 2692, 2740, 2743, 2845, 3381 until 3390.
Action to be taken:	Experts are asked to assign these entries to appropriate Special Provisions and Tank Instructions
Related documents:	ST/SG/AC.10/36/Add.1

Introduction

1. In the Guiding principles for toxic by inhalation substances the Tank instructions T20 and T22 were assigned to them. These tank instructions have the following meaning:

> T20: This instruction shall be assigned to substances with an inhalation toxicity less or than or equal to 1000 ml/m3 and saturated vapour concentration greater than or equal to 10 LC50.
>
> T22: This instruction shall be assigned to substances with an inhalation toxicity less than or equal to 200 ml/m3 and a saturated vapour concentration greater than or equal to 500 LC50.

2. By studying the amendments of the Recommendations laid down in document ST/SG/AC.10/36/Add.1, we observed that the new special provision (SP) 354:

> "**354** This substance is toxic by inhalation."

has not been assigned to any of the following entries.

UN No.	Name and description	Class	Packing group	Labels	Portable tanks and bulk containers
					Instruc-tions
	3.1.2	2.2	2.1.1.3	5.2.2	4.2.5.2 7.3.2
1553	ARSENIC ACID, LIQUID	6.1	I	6.1	T20
1559	BROMOACETONE	6.1	II	3	T20
1744	BROMINE or BROMINE SOLUTION	8	I	8 +6.1	T22
1745	BROMINE PENTAFLUORIDE	5.1	I	5.1 +6.1 +8	T22
1746	BROMINE TRIFLUORIDE	5.1	I	5.1 +6.1 +8	T22
1754	CHLOROSULPHONIC ACID (with or without sulphur trioxide)	8	I	8	T20
1828	SULPHUR CHLORIDES	8	I	8	T20
1829	SULPHUR TRIOXIDE, STABILIZED	8	I	8	T20
1831	SULPHURIC ACID, FUMING	8	I	8 +6.1	T20
1834	SULPHURYL CHLORIDE	8	I	8	T20
1994	IRON PENTACARBONYL	6.1	I	6.1 +3	T22
2032	NITRIC ACID, RED FUMING	8	I	8 +5.1 +6.1	T20
2692	BORON TRIBROMIDE	8	I	8	T20
2740	n-PROPYL CHLOROFORMATE	6.1	I	6.1 +3 +8	T20

2743	n-BUTYL CHLOROFORMATE	6.1	II	6.1 +3 +8	T20
2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.	4.2	I	4.2	T22
3381	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	I	6.1	T22
3382	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	I	6.1	T20
3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	I	6.1 +3	T22
3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	I	6.1 +3	T20
3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	I	6.1 +4.3	T22
3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	I	6.1 +4.3	T20
3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	I	6.1 +5.1	T22
3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	I	6.1 +5.1	T20

3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	I	6.1 +8	T22
3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	I	6.1 +8	T20

3. From one side to all these entries the Tank instructions T20 and T22 have been assigned. It seems therefore that the toxic by inhalation characterstics were taken in consideration by asssigning these two Tank Instruction. But this has not been reproduced by assigning the SP 354 in the new amendments.
The Experts are asked to consider if in some cases of the above entries the assignment of SP 354 is not appropriate for the following reasons.

4. In the list we can distinguish five different cases:

1. UN-Numbers 3381 to 3390
2. UN-Numbers 1754, 1828, 1829, 1831, 2032 and 2692
3. UN-Numbers 1553, 2740 and 2743
4. UN-Numbers 1745 and 1746
5. UN-Number 2845

Case 1: UN-Numbers 3381 until 3390
Although we understand the reasoning why no special provision 354 has been assigned to this entries (the name explains the inhalation toxicity) we wonder if it would not be clearer and give coherence to the system if the SP 354 would be assigned also to them.

Case 2: UN-Numbers 1754, 1828, 1829, 1831, 2032 and 2692
According to the UN Guiding Principles, Class 8 PG I liquids meeting the PGI TIH criteria should be assigned T20 or T22 as appropriate. These entries are however classified under Class 8, PG I in application of the note 3 in the precedence of hazards section 2.0.3 which indicates for the Division 6.1 that in the case of substances having an inhalation toxicity of dusts and mists (LC50) in the range of packing group I, but toxicity though oral ingestion or dermal contact only in the range of packing group III or less, the substance shall be allocated to Classe 8. So these entries are without doubt TIH products as indicated both from the footnote and by the allocation of T20 and T22 but are classified under Class 8 because of the mentioned footnote. We believe that in spite of the classification as Class 8 the TIH characteristics make these entries eligible to be assigned with the SP 354 also.

Case 3: UN-Numbers 1553, 1569, 2740 and 2743
According to the UN Guiding Principles, Class 6.1 PGI TIH shall be assigned to T20 and T22. Consequently these entries are also candidates to be assigned with the SP 354.
For UN 1569 and 2743 the Experts should consider the change form PG II to PG I as well.

Case 4: UN-Numbers 1745 and 1746

Entries with UN-Numbers 1745 and 1746 are Division 5.1, PG I liquids with both toxic and corrosive subsidiary risks and are assigned T22. The data about the toxicity by inhalation of these substances are not available for the moment being so it is not possible to decide a change of classification to Division 6.1 but considering the characteristics of the substances we wonder if both of them are not good candidates to change to Division 6.1 as well.

The question should be considered from the Experts.

Case 5: UN-Numbers 2845

For UN 2845, Class 4.2, PG I liquids we wonder if it is really possible to find products having both characteristics pyrophoric and toxic by inhalation. If not then the Experts should consider the assignment of T21 instead of T22 in accordance with the the UN Guiding Principles.

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