UNITED
NATIONS

ST

Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/60
26 September 1997

Original: ENGLISH

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 2 (a))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Tanks

Additional Marking of Tanks

Transmitted by the Expert from Germany

Following the discussion on tank instruction/coded sequence (see Report of the Committee of Experts on its nineteenth session, 2-10 December 1996, paras. Nos. 94 - 114), it was agreed that the question of "additional marking of tanks" could be included in the work programme for the next biennium (see ST/SG/AC.10/23, para. No. 211).
The expert from Germany indicated his intention to submit a proposal accordingly.

In the meantime, the subject was discussed in a RID/ADR Joint Meeting Working Group because there was no final decision concerning tank coding for identification of tanks in the context of restructuring RID/ADR and the reformatted UN Recommendations. We refer to the report of the Working Group contained in OCTI/RID/GT-III/1997/60 (TRANS/WP.15/AC.1/1997/60) and the decisions of the Joint Meeting at its September 1997 session.

In consideration of the reason mentioned above and the proposal from the expert from the United States concerning the rationalized approach to portable tank assignments, Germany proposed to amend the portable tank instruction tables by using IMO abbreviations and adding a column containing the tank code for additional marking of tanks as performed in Annex 1. As an example, only Annex 2 shows the proposed code by assignment to the substances listed in Chapter 3.2.

In contrast to the T-type in column 1 and for user-friendly handling, it is possible to see directly all relevant parameters for design and equipment on a tank by implementing the tank code. The code is a summary of the well known and worldwide used abbreviations of the IMDG-Code tank requirements.

To avoid confusion between test pressure and shell thickness, the order of code elements has changed. Minimum shell thickness as mentioned in 6.6.2.4.2 and normal pressure relief devices are not indicated in the code. Furthermore the term "NF" is replaced by "H" (hermetically closed) for reducing the length of the code (see explanation below).

An extension to cover all tank types, e.g. for Gases - at a later stage - and Solids and another implementation of the term F = "flame trap" (included only if vacuum relief device is in existence - not H - and equipped with a flame trap respectively the tank is "explosion proof") is also proposed.

As a consequence the paragraphs 4.2.4.2.2 (Portable tank instructions) should be read as follows:

4.2.4.2.2 "...test pressure in bar, bottom opening requirements, pressure relief requirements, the minimum shell thickness in mm reference steel and a tank code showing these requirements in a coded short form. Pressure relief requirements are indicated only if 6.6.2.8.3 is applicable (not "normal"). The minimum shell thickness is indicated only if a higher value as given in 6.6.2.4.2 is applicable.
The tank code consists of 2 to 4 alpha-numeric cells/terms depending on the tank type.

The following terms are possible:

Cell1 Minimum test pressure in bar: **1.5, 2.65, 4, 6** or **10**

Cell2 Bottom opening requirements: **A** (2 closures, see 6.6.2.6.2),**B** (3 closures, see 6.6.2.6.3) or **C** (bottom openings not allowed, see 6.6.2.6.1)

Cell3 -only if applicable- Pressure relief requirements: **H** (hermetically closed, see 6.6.2.8.3) or **F** (flame trap, see 6.6.2.2.11)

Cell4 -only if applicable- Minimum shell thickness in mm reference steel: **6, 8, 10** or **12**.

In T34,...temperatures.

6.6.4.15 (Marking) should be amend as follows:

Add a line with the text "Tank code according 4.2.4.2.6 preceded by UN"

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Annex 1

4.2.4.2.6 *Portable tank instructions*

T1 - T33	PORTABLE TANK INSTRUCTIONS				T1 - T33
These portable tank instructions apply to liquid and solid substances of Classes 3 to 9. The general provisions of section 4.2.1 and the requirements of section 6.6.2 shall be met.					
Portable tank instruction	**Minimum test pressure (bar)**	**Minimum shell thickness (in reference steel) (see 6.2.4)**	**Bottom opening requirements (see 6.6.2.6)**	**Pressure-relief requirements (see 6.6.2.8)**	**Tank coding/Marking (see 4.2.4.2.2 and 6.6.4.15)**
T1	1.5	6.6.2.4.2	A	N	1.5A
T2	1.5	6.6.2.4.2	B	N	1.5B
T3	2.65	6.6.2.4.2	A	N	2.65A
T4	2.65	6.6.2.4.2	B	N	2.65B
T5	2.65	6.6.2.4.2	C	N	2.65C
T6	2.65	6.6.2.4.2	C	H	2.65CH
T7	2.65	6	B	N	2.65B6
T8	2.65	6	C	N	2.65C6
T9	2.65	6	C	H	2.65CH6
T10	2.65	8	B	N	2.65B8
T11	2.65	8	C	N	2.65C8
T12	2.65	8	C	H	2.65CH8
T13	4	6.6.2.4.2	B	N	4B
T14	4	6.6.2.4.2	B	H	4BH
T15	4	6.6.2.4.2	C	N	4C
T16	4	6.6.2.4.2	C	H	4CH
T17	4	6	B	N	4B6
T18	4	6	B	H	4BH6
T19	4	6	C	N	4C6
T20	4	6	C	H	4CH6
T21	4	8	C	N	4C8
T22	4	8	C	H	4CH8
T23	4	12	C	H	4CH12
T24	6	6.6.2.4.2	B	N	6B
T25	6	6.6.2.4.2	B	H	6BH
T26	6	6.6.2.4.2	C	N	6C
T27	6	6.6.2.4.2	C	H	6CH

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Portable tank instruction	**Minimum test pressure (bar)**	**Minimum shell thickness (in reference steel) (see 6.2.4)**	**Bottom opening requirements (see 6.6.2.6)**	**Pressure-relief requirements (see 6.6.2.8)**	**Tank coding/Marking (see 4.2.4.2.2 and 6.6.4.15)**
T28	6	6	B	N	6B6
T29	6	6	C	H	6CH6
T30	6	8	C	H	6CH8
T31	10	6	C	H	10CH6
T32	10	10	C	N	10C10
T33	10	10	C	H	10CH10

Annex 2

Excerpt of Chapter 3.2
(Dangerous Goods List)

EXAMPLE

UN No.	Name and description	Class or divsion	Subsi-diary risk	UN packing group	Special provisions	Limited quantities	Packagings and IBCs		Portable tanks	
							Packing instruction	Special provi-sions	Portable tank instruction	Portable tank special provisions
-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	(11)
2370	1-HEXENE	3		II		1 L			2.65B	TP1
2371	ISOPENTENES	3		I		NONE			6B	TP2
2372	1,2-DI-(DIMETHYLAMINO) ETHANE	3		II		1 L			2.65B	TP1
2373	DIETHOXYMETHANE	3		II		1 L			2.65B	TP1
2374	3,3-DIETHOXYPROPENE	3		II		1 L			1.5B	TP1
2375	DIETHYL SULPHIDE	3		II		1 L			4B	TP1, TP13
2376	2,3-DIHYDROPYRAN	3		II		1 L			2.65B	TP1
2377	1,1-DIMETHOXYETHANE	3		II		1 L			4B	TP1
2378	2-DIMETHYLAMINOACETONITRILE	3	6.1	II		1 L			2.65B	TP1
2379	1,3-DIMETHYLBUTYLAMINE	3	8	II		1 L			2.65B	TP1
2380	DIMETHYLDIETHOXYSILANE	3		II		1 L			2.65B	TP1
2381	DIMETHYL DISULPHIDE	3		II		1 L			2.65B	TP1

UN No.	Name and description	Class or divsion	Subsi-diary risk	UN packing group	Special provisions	Limited quantities	Packagings and IBCs		Portable tanks	
							Packing instruction	Special provi-sions	Portable tank instruction	Portable tank special provisions
2382	DIMETHYLHYDRAZINE, SYMMETRICAL	6.1	3	I		NONE			4CH6	TP2, TP13
2383	DIPROPYLAMINE	3	8	II		1 L			2.65B	TP1
2384	DI-n-PROPYL ETHER	3		II		1 L			1.5B	TP1
2385	ETHYL ISOBUTYRATE	3		II		1 L			1.5B	TP1
2386	1-ETHYLPIPERIDINE	3	8	II		1 L			2.65B	TP1
2387	FLUOROBENZENE	3		II		1 L			2.65B	TP1
2388	FLUOROTOLUENES	3		II		1 L			2.65B	TP1
2389	FURAN	3		I		NONE			4CH	TP2, TP13
2390	2-IODOBUTANE	3		II		1 L			2.65B	TP1
2391	IODOMETHYLPROPANES	3		II		1 L			2.65B	TP1
2392	IODOPROPANES	3		III		5 L			2.65B	TP1
2393	ISOBUTYL FORMATE	3		II		1 L			1.5B	TP1
2394	ISOBUTYL PROPIONATE	3		III		5 L			1.5B	TP1
2395	ISOBUTYRYL CHLORIDE	3	8	II		1 L			2.65C6	TP2
2396	METHACRYLALDEHYDE, INHIBITED	3	6.1	II		1 L			2.65B	TP1, TP13
2397	3-METHYLBUTAN-2-ONE	3		II		1 L			1.5B	TP1
2398	METHYL tert-BUTYL ETHER	3		II		1 L			4B	TP1
2399	1-METHYLPIPERIDINE	3	8	II		1 L			2.65B	TP1
2400	METHYL ISOVALERATE	3		II		1 L			1.5B	TP1
2401	PIPERIDINE	8	3	I		NONE			4BH6	TP2