

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

Twenty-seventh session
Geneva, 4-8 July 2005
Item 11 of the provisional agenda

GUIDING PRINCIPLES FOR THE MODEL REGULATIONS

Transmitted by the expert from the United States of America

1. The expert from the United States of America has undertaken a review of the portable tank special provisions (TP notes) in order to establish a rationalized approach that can be incorporated into the Guiding Principles for the Model Regulations. This guidance will be useful when new substances are added to the UN Model Regulations and as a basis for reviewing the current assignments to ensure that they have been consistently and appropriately applied to existing substances. During a review of the TP notes proposals for improving the notes were developed. On this basis, the Sub-Committee is invited to consider a number of amendments to the existing special provisions. A proposed TP note rationalized approach is provided in the annex to this paper.

Proposals:

2. It is proposed that the Sub-Committee adopt the annexed rationalized approach for the assignment of portable tank special provisions, and that it be incorporated into the Guiding Principles document within the Guidelines for Assigning Portable Tank Requirements to Substances in Classes 3 to 9.

3. It is proposed that the following changes be made to the existing portable tank special provisions:

- Delete TP6. This provision is not necessary. Pressure-relief devices are already required for all substances and these requirements are referenced within the Portable Tank Instructions and in Chapter 6.7 (see 6.7.2.7.1). TP6 repeats what is already stated in Chapter 6.7.
- Consider the deletion of TP9. This TP note is unnecessary and burdensome to both consignors and competent authorities because it mandates that a competent authority approval be issued. The entries assigned TP9 are n.o.s. entries that already have tank instructions and special provisions indicated in the Dangerous Goods List. Over the last several years, the competent authority of the United States of America has issued numerous TP9 approvals for the transport of substances assigned TP9, and in every case the approval authorization has been identical to that authorized by the tank instructions and Special Provisions shown in the Dangerous Goods List. It is recommended that TP9 be deleted. A list of substances assigned TP9 is attached as Annex 2.

Annex 1

Part III

Guidelines for assigning portable tank special provisions (TP notes) to individual substances:

Portable tank special provisions must be considered on an individual basis depending on the characteristics of the substances. The following guidance shall be used:

TP1 The degree of filling prescribed in 4.2.1.9.2 shall not be exceeded

$$\text{Degree of filling} = \frac{97}{1 + \alpha(t_r - t_f)}$$

TP1 applies to liquid materials with a vapor pressure of not more than 175 kPa (1.75 bar) having a primary or subsidiary hazard of:

Class 3, PG II

Class 3, PG III

Division 5.1 PG II

Division 6.1 PG III

Class 8 PG III

TP2 The degree of filling prescribed in 4.2.1.9.3 shall not be exceeded

$$\text{Degree of filling} = \frac{95}{1 + \alpha(t_r - t_f)}$$

TP2 applies to liquid materials with a vapor pressure of not more than 175 kPa (1.75 bar) and also to materials having a primary or subsidiary hazard of:

Class 3, PG I

Class 3 PG II (with a vapor pressure greater than 175 kPa (1.75 bar))

Division 4.2 PG I

Division 4.3 (all PG)

Division 5.1 PG I

Division 6.1 PG I or PG II

Class 8 PG I and II

TP3 The maximum degree of filling (in %) for solids transported above their melting points and for elevated temperature liquids shall be determined in accordance with 4.2.1.9.5.

$$\text{Degree of filling} = 95 \frac{d_r}{d_f}$$

TP3 applies to solids transported above their melting point and to elevated temperature liquids.

TP4 The degree of filling shall not exceed 90% or, alternatively, any other value approved by the competent authority (see 4.2.1.15.2).

TP4 applies to low specific activity radioactive materials authorized for transport in portable tanks, and to stabilized sulphur trioxide.

TP5 The degree of filling prescribed in 4.2.3.6 shall be met.

TP5 applies to materials transported as refrigerated liquids.

TP6 To prevent the tank bursting in any event, including fire engulfment, it shall be provided with pressure-relief devices which are adequate in relation to the capacity of the tank and to the nature of the substance transported. The device shall also be compatible with the substance.

Propose to delete. The applicable tank instructions and provisions of Chapter 6.7 already establish adequate pressure relief requirements.

TP7 Air shall be eliminated from the vapour space by nitrogen or other means.

TP7 applies to pyrophoric or water reactive materials.

TP8 The test pressure for the portable tank may be reduced to 1.5 bar when the flash point of the substances transported is greater than 0 °C.

TP8 applies to certain flammable liquids with a flash point greater than 0 °C.

TP9 A substance under this description shall only be transported in a portable tank under an approval granted by the competent authority.

Propose to delete.

TP10 A lead lining, not less than 5 mm thick, which shall be tested annually, or another suitable lining material approved by the competent authority is required.

TP10 applies to bromine or bromine solutions.

TP12 This substance is highly corrosive to steel.

TP12 applies to all substances which are highly corrosive to steel .

TP13 Self-contained breathing apparatus shall be provided when this substance is transported.

TP13 applies to substances which are toxic by inhalation.

TP16 The tank shall be fitted with a special device to prevent under-pressure and excess pressure during normal transport conditions. This device shall be approved by the competent authority. Pressure-relief requirements are as indicated in 6.7.2.8.3 to prevent crystallization of the product in the pressure-relief valve.

TP16 is applies to ammonium nitrate, liquid (hot concentrated solution).

TP17 Only inorganic non-combustible materials shall be used for thermal insulation of the tank.

TP17 applies to blasting explosives and blasting agents of types B or E, ammonium nitrate, liquid (hot concentrated solution), and to ammonium nitrate emulsions, suspensions, or gels.

TP18 Temperature shall be maintained between 18 °C and 40 °C. Portable tanks containing solidified methacrylic acid shall not be reheated during transport.

TP18 applies to stabilized methacrylic acid.

TP19 The calculated shell thickness shall be increased by 3 mm. Shell thickness shall be verified ultrasonically at intervals midway between periodic hydraulic tests.

TP19 applies to sulphur dioxide and chlorine.

TP20 This substance shall only be transported in insulated tanks under a nitrogen blanket.

TP20 applies to ethylene oxide, or ethylene oxide with nitrogen, up to a total pressure of 1 MPa (10 bar) at 50 EC.

TP21 The shell thickness shall be not less than 8 mm. Tanks shall be hydraulically tested and internally inspected at intervals not exceeding 2.5 years.

TP21 applies to dinitrogen tetroxide and trifluoroacetyl chloride.

TP22 Lubricant for joints or other devices shall be oxygen compatible.

TP22 applies to refrigerated liquids containing oxygen.

TP23 Transport permitted under special conditions prescribed by the competent authorities.

TP23 applies to hydrogen, refrigerated liquid.

TP24 The portable tank may be fitted with a device located under maximum filling conditions in the vapour space of the shell to prevent the build up of excess pressure due to the slow decomposition of the substance transported. This device shall also prevent an unacceptable amount of leakage of liquid in the case of overturning or entry of foreign matter into the tank. This device shall be approved by the competent authority or its authorized body.

TP24 applies to substances liable to build up excess pressure due to decomposition.

TP25 Sulphur trioxide 99.95% pure and above may be transported in tanks without an inhibitor provided that it is maintained at a temperature equal to or above 32.5 °C.

TP25 applies to stabilized sulphur trioxide.

TP26 When transported under heated conditions, the heating device shall be fitted outside the shell. For UN 3176 this requirement only applies when the substance reacts dangerously with water.

TP26 applies to materials transported in a molten state which react dangerously with water.

TP27 A portable tank having a minimum test pressure of 4 bar may be used if it is shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in 6.7.2.1.

TP27 applies when a higher test pressure has been assigned to a substance on the basis of its generic nomenclature, but it can be shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in 6.7.2.1 for the particular substance transported.

TP28 A portable tank having a minimum test pressure of 2.65 bar may be used if it is shown that a test pressure of 2.65 bar or less is acceptable according to the test pressure definition in 6.7.2.1.

TP28 applies when a higher test pressure has been assigned to a substance on the basis of its generic nomenclature, but it can be shown that a test pressure of 2.65 bar or less is acceptable according to the test pressure definition in 6.7.2.1 for the particular substance transported.

TP29 A portable tank having a minimum test pressure of 1.5 bar may be used if it is shown that a test pressure of 1.5 bar or less is acceptable according to the test pressure definition in 6.7.2.1.

TP3 applies when a higher test pressure has been assigned to a substance on the basis of its generic nomenclature, but it can be shown that a test pressure of 1.5 bar or less is acceptable according to the test pressure definition in 6.7.2.1 for the particular substance transported.

TP30 This substance shall be transported in insulated tanks.

TP30 applies to stabilized methacrylic acid.

TP31 This substance may only be transported in tanks in the solid state.

TP31 applies to certain materials whose proper shipping name authorizes a solid and a liquid state but whose portable tank instruction and special provisions only apply to the solid state.

TP32 For UN Nos. 0331, 0332 and 3375, portable tanks may be used subject to the following conditions:

- (a) To avoid unnecessary confinement, each portable tank constructed of metal shall be fitted with a pressure-relief device that may be of the reclosing spring-loaded type, a frangible disc or a fusible element. The set to discharge or burst pressure, as

applicable, shall not be greater than 2.65 bar for portable tanks with minimum test pressures greater than 4 bar;

- (b) The suitability for transport in tanks shall be demonstrated. One method to evaluate this suitability is test 8 (d) in Test Series 8 (see "*Manual of Tests and Criteria*", Part 1, sub-section 18.7).
- (c) Substances shall not be allowed to remain in the portable tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning, etc).

TP32 applies to blasting explosives and blasting agents of types B or E, ammonium nitrate, liquid (hot concentrated solution), and to ammonium nitrate emulsions, suspensions, or gels.

TP33 The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. For solids which are transported above their melting point see 4.2.1.18.

TP33 applies to certain granular and powdered solids and to certain solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass.

TP34 Portable tanks need not be subjected to the impact test in 6.7.4.14.1 if the portable tank is marked "NOT FOR RAIL TRANSPORT" on the plate specified in 6.7.4.15.1 and also in letters of at least 10 cm high on both sides of the outer jacket.

TP34 applies to hydrogen, refrigerated liquid and helium, refrigerated liquid.

Annex 2

Substances assigned TP9 in the UN Model Regulations 13th revised edition

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
1993	FLAMMABLE LIQUID, N.O.S.	TP1 TP9 TP27	3	I		274	T11
3295	HYDROCARBONS, LIQUID, N.O.S.	TP1 TP8 TP9 TP28	3	I			T11
1989	ALDEHYDES, N.O.S.	TP1 TP9 TP27	3	I		274	T11
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	TP1 TP8 TP9	3	I			T11
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3350	PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23 °C	TP2 TP9 TP13 TP27	3	I	6.1	274	T14
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	TP2 TP9 TP13 TP27	3	I	6.1 8	274	T14
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	TP2 TP9	3	I	8	274	T14
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	TP1 TP9 TP27	3	I	8	274	T14
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	TP1 TP8 TP9 TP28	3	II			T7
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	TP1 TP9 TP29	3	III		223	T4
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.	TP7 TP9 TP33	4.2	I		274	T21
1383	PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.	TP7 TP9 TP33	4.2	I		274	T21
2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.	TP2 TP7 TP9	4.2	I		274	T22
3051	ALUMINIUM ALKYL	TP2 TP7 TP9	4.2	I	4.3	320	T21
3052	ALUMINIUM ALKYL HALIDES, LIQUID	TP2 TP7 TP9	4.2	I	4.3	320	T21
2988	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	TP2 TP7 TP9 TP13	4.3	I	3 8		T10
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives	TP1 TP9 TP17 TP32	5.1	II		309	T1 T2

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
1935	CYANIDE SOLUTION, N.O.S.	TP2 TP9 TP13 TP27	6.1	I			T14
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	TP2 TP9 TP27	6.1	I			T14
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		43 274	T14
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3016	BIPYRIDILUM PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
1556	ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	TP2 TP9 TP13 TP27	6.1	I		43	T14
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13	6.1	I		61 274	T14
3276	NITRILES, TOXIC, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274 315	T14
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		43 274 315	T14
3281	METAL CARBONYLS, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274 315	T14
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274 315	T14
3282	ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274	T14
3287	TOXIC LIQUID, INORGANIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274 315	T14

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
2810	TOXIC LIQUID, ORGANIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I		274 315	T14
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	TP2 TP9 TP13 TP27	6.1	I		61 274	T14
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	TP2 TP9 TP13	6.1	I		274	T20
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	TP2 TP9 TP13	6.1	I		274	T22
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	TP9 TP33	6.1	I		61 274	T6
2026	PHENYLMERCURIC COMPOUND, N.O.S.	TP9 TP33	6.1	I		43	T6
3467	ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.	TP9 TP33	6.1	I		274	T6
2811	TOXIC SOLID, ORGANIC, N.O.S.	TP9 TP33	6.1	I		274	T6
3284	TELLURIUM COMPOUND, N.O.S.	TP9 TP33	6.1	I			T6
3466	METAL CARBONYLS, SOLID, N.O.S.	TP9 TP33	6.1	I		274	T6
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	TP9 TP33	6.1	I		274	T6
3464	ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.	TP9 TP33	6.1	I		43 274	T6
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	TP9 TP33	6.1	I		210 274	T6
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	TP9 TP33	6.1	I		274	T6
3439	NITRILES, TOXIC, SOLID, N.O.S.	TP9 TP33	6.1	I		274	T6
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	TP9 TP33	6.1	I		61 274	T6
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	TP9 TP33	6.1	I		61 274	T6
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	TP9 TP33	6.1	I		43 274	T6
3288	TOXIC SOLID, INORGANIC, N.O.S.	TP9 TP33	6.1	I		274	T6
3285	VANADIUM COMPOUND, N.O.S.	TP9 TP33	6.1	I			T6
3283	SELENIUM COMPOUND, SOLID, N.O.S.	TP9 TP33	6.1	I			T6

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	TP9 TP33	6.1	I		43	T6
2025	MERCURY COMPOUND, SOLID, N.O.S.	TP9 TP33	6.1	I		43 66	T6
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	TP9 TP33	6.1	I		274	T6
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	TP9 TP33	6.1	I		43 274	T6
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	TP9 TP33	6.1	I		47 274	T6
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	TP9 TP33	6.1	I		43	T6
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	TP9 TP33	6.1	I		274	T6
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I	3	274 315	T14
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	TP2 TP9 TP13 TP27	6.1	I	3	43 274 315	T14
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13 TP27	6.1	I	3	61 274	T14
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 °C	TP2 TP9 TP13	6.1	I	3	61 274	T14
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.	TP2 TP9 TP13 TP27	6.1	I	3	274 315	T14
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	TP2 TP9 TP13	6.1	I	3	274	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	TP2 TP9 TP13	6.1	I	3	274	T22
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	TP9 TP33	6.1	I	4.1	274	T6
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	TP9 TP33	6.1	I	4.2	274	T6
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	TP2 TP9 TP13	6.1	I	4.3	274	T20

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
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	TP2 TP9 TP13	6.1	I	4.3	274	T22
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	TP9 TP33	6.1	I	4.3	274	T6
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	TP2 TP9 TP13	6.1	I	5.1	274	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	TP2 TP9 TP13	6.1	I	5.1	274	T22
3086	TOXIC SOLID, OXIDIZING, N.O.S.	TP9 TP33	6.1	I	5.1	274	T6
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I	8	274 315	T14
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	TP2 TP9 TP13 TP27	6.1	I	8	274 315	T14
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	TP2 TP9 TP13	6.1	I	8	274	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	TP2 TP9 TP13	6.1	I	8	274	T22
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	TP9 TP33	6.1	I	8	274	T6
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	TP9 TP33	6.1	I	8	274	T6
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	TP2 TP9 TP27	8	I		274	T14
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	TP2 TP9 TP27	8	I		274	T14
1760	CORROSIVE LIQUID, N.O.S.	TP2 TP9 TP27	8	I		274	T14
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	TP2 TP9 TP27	8	I		274	T14

UN	Name	Portable Tank SP	Class	PG	Sub-Risk	SP	TI
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	TP2 TP9 TP27	8	I		274	T14
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)	TP2 TP9	8	I			T14
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	TP2 TP9 TP27	8	I		274	T14
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	TP2 TP9 TP27	8	I		274	T14
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	TP9 TP33	8	I		274	T6
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	TP9 TP33	8	I		274	T6
1759	CORROSIVE SOLID, N.O.S.	TP9 TP33	8	I		274	T6
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	TP9 TP33	8	I		274	T6
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	TP9 TP33	8	I		274	T6
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	TP9 TP33	8	I		274	T6
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C2-C12 homologues)	TP9 TP33	8	I			T6
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	TP9 TP33	8	I		274	T6
2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	TP2 TP9 TP27	8	I	3	274	T14
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.	TP2 TP9 TP27	8	I	3	274	T14
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	TP9 TP33	8	I	4.1	274	T6
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	TP9 TP33	8	I	4.2	274	T6
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	TP9 TP33	8	I	4.3	274	T6
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	TP9 TP33	8	I	5.1	274	T6
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	TP2 TP9 TP13 TP27	8	I	6.1	274	T14
2923	CORROSIVE SOLID, TOXIC, N.O.S.	TP9 TP33	8	I	6.1	274	T6