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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**

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

**(Twenty-second session, 2-6 December 2002
agenda item 4(a))**

NEW PROPOSALS

Outstanding issues

Transport of solids in portable tanks

Transmitted by the expert from the United States of America

1. At the twenty-first session of the Sub-Committee, the expert from the United States of America agreed to develop a revised proposal to address the transport of solid dangerous goods in portable tanks on the basis of comments that were discussed and considered by an informal working group. On this basis, a final proposal providing amendments to the Model Regulations is provided. Annex 1 includes a rationalized approach that provides the guidelines that were used in assigning portable tank requirements for solids. Annex 2 provides proposed assignments that are based on the rationalized approach that is provided in Annex 1. Annex 3 is a list of currently assigned tank provisions that would need to be changed in the Model Regulations based on the rationalized approach.

Proposals

2. The following new portable tank special provision (TP) is proposed for granular and powdered solids and for solids that are loaded at temperatures above their melting point that are cooled and transported as a solid mass:

"TPXX The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids that are loaded at temperatures above their melting point that are cooled and transported as a solid mass. For solids that are transported above their melting point see 4.2.1.18. "

3. Add a new paragraph 4.2.1.18 as follows:

"4.2.1.18 Additional provisions applicable to the transport of solid substances transported above their melting point

4.2.1.18.1 The highest temperature reached during filling, discharge and transport, if it is in excess of 65 °C, shall be used when calculating the maximum allowable working pressure and design pressure as defined in 6.7.2.1.

4.2.1.18.2 Protection against explosion

(a) In no case shall the temperature at the surface of the heating element for internal heating equipment or the temperature at the portable tank shell for external heating equipment exceed 80% of the autoignition temperature of the substance transported. Power for internal heating elements shall not be available unless the heating elements are completely submerged.

(b) If the electrical heating system is installed inside the portable tank, an earth leakage circuit breaker shall be installed with a releasing current less than 100 mA.

(c) Electrical switch cabinets mounted to portable tanks shall not have a direct connection to the portable tank interior and shall provide protection of at least the equivalent of type IP 56 according to IEC 144 or IEC 529.

4.2.1.18.3 The heating system shall be subject to inspection and tests, including pressure tests on heating coils or ducts as appropriate.

4.2.1.18.4 Solid substances transported above their melting point which are not assigned a portable tank instruction in column (10) of the Dangerous Goods List or when the assigned portable tank instruction does not apply to transport at temperatures above their melting point may be transported in portable tanks provided that the solid substances:

- (a) are classified in divisions 4.1, 4.2, 4.3, 5.1 or 6.1 or classes 8 or 9 and have no subsidiary risk other than that of Division 6.1 or Class 8; and
- (b) are in packing group II or III; or
- (c) are authorized for transport in portable tanks by the competent authority in accordance with the provisions of 6.7.1.3.

4.2.1.18.5 Unless otherwise indicated in the Dangerous Goods List of Chapter 3.2, portable tanks used for the transport of these solid substances shall conform to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II. A portable tank that affords an equivalent or greater level of safety may be selected according to 4.2.5.2.5. The maximum degree of filling (in %) shall be determined according to 4.2.1.9.5 (TP3) ".

The proposed text includes the provisions from IMDG Code paragraphs 4.2.1.18.1 through 4.2.1.18.3 on the basis of comments from the correspondence group. The inclusion of this text should be verified by the Sub-Committee.

Consequential amendments

4. The following consequential amendments are proposed:

a) 1.2.1 Add the following definition:

Elevated temperature substance means a substance which is transported or offered for transport:

- in a liquid state at a temperature at or above 100 °C;
- in a liquid state with a flashpoint at or above 60.5 °C and which is intentionally heated to a temperature at or above its flashpoint; or
- in a solid state and at a temperature at or above 240 °C.

b) In 4.2.1.4 change the second sentence to: “When necessary the shell shall be thermally insulated.”

Amend 4.2.1.9.5.1 to read “The maximum degree of filling (in %) for solid substances transported above their melting points and for elevated temperature liquids shall be determined by the following formula:
...”

c) In 4.2.5.3 amend TP3 as follows:

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

d) In 6.7.2.1 amend the *Design pressure*” definition by deleting the words “elevated temperature” in paragraph (b)(i).

e) In 6.7.2.1 amend the *Design temperature range*” definition by deleting the words “For substances handled under elevated temperature conditions”.

Annex 1

Proposed rationalized approach for the assignment of tank instructions for solids

Rationalized Approach for the Transport of Solids			
Class/SR	PG	T1	TP
4.1	I	<i>Not Authorized</i>	
	II	T3**	TPXX
	III	T1*	TPXX
4.2	I	T21*	TP7, TPXX
	II	T3	TPXX
	III	T1	TPXX
4.3/6.1	I	<i>Not Authorized</i>	-
4.3	I	T9*	TP7, TPXX
	II	T3	TPXX
	III	T1	TPXX
5.1	I	<i>Not Authorized</i>	
	II	T3	TPXX
	III	T1	TPXX
	5.2	-	TPXX
6.1	I	T6	TPXX
	II	T3	TPXX
	III	T1	TPXX
8	I	T6	TPXX
	II	T3	TPXX
	III	T1	TPXX
9	II	T3	TPXX
	III	T1	TPXX
	III	T1	TPXX

- * Some substances in this category are not assigned a T-Code on the basis of the risk posed in transport.
 - ** Wetted substances that may possess explosive properties are not authorized. Some substances in this category are not assigned a T-Code on the basis of the risk posed in transport.
 - *** Only Type F organic peroxides are authorized.
- Solids not considered appropriate for transport in tanks include:
- Explosives, desensitized explosives and self-reactive substances with the exception of Type F;
 - Hypochlorites, dry or wetted (i.e. UN 1471, UN 1748, UN 2208, UN 2880)
 - Division 5.2 substances, except Type F;
 - Division 6.2 substances;
 - Class 7 substances, except LSA, non-fissile or fissile excepted; and
 - UN 3255, tert-Butyl hypochlorite, UN 2907, Isosorbide dinitrate mixture, UN 2956 5 tert-Butyl-2,4,6 Trinitro-m-Xylene (Musk Xylene), UN 3241, 2-Bromo-2-Nitropropane-1,3-Diol and UN 3251, Isosorbide-5-Mononitrate.

Annex 2
Proposed T-Codes for Solids not Currently Assigned T-Codes

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1309	ALUMINIUM POWDER, COATED	4.1	II		T3	TPXX
1323	FERROCERIUM	4.1	II		T3	TPXX
1341	PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus	4.1	II		T3	TPXX
1343	PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus	4.1	II		T3	TPXX
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	II		T3	TPXX
1437	ZIRCONIUM HYDRIDE	4.1	II		T3	TPXX
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	II		T3	TPXX
2989	LEAD PHOSPHITE, DIBASIC	4.1	II		T3	TPXX
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	II		T3	TPXX
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	II	6.1	T3	TPXX
1868	DECABORANE	4.1	II	6.1	T3	TPXX
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	II	6.1	T3	TPXX
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	II	8	T3	TPXX
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	II	8	T3	TPXX
1339	PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus	4.1	II		T3	TPXX
1345	RUBBER SCRAP or RUBBER SHODDY, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	4.1	II		T3	TPXX
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	II		T3	TPXX
1326	HAFNIUM POWDER, WETTED with not less than 25% water	4.1	II		T3	TPXX
1352	TITANIUM POWDER, WETTED with not less than 25% water	4.1	II		T3	TPXX
1358	ZIRCONIUM POWDER, WETTED with not less than 25% water	4.1	II		T3	TPXX
1871	TITANIUM HYDRIDE	4.1	II		T3	TPXX
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2989	LEAD PHOSPHITE, DIBASIC	4.1	III		T1	TPXX
1330	MANGANESE RESINATE	4.1	III		T1	TPXX
1328	HEXAMETHYLENETETRAMINE	4.1	III		T1	TPXX
1314	CALCIUM RESINATE, FUSED	4.1	III		T1	TPXX
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	III		T1	TPXX
2213	PARAFORMALDEHYDE	4.1	III		T1	TPXX
1869	MAGNESIUM or MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons	4.1	III		T1	TPXX
1332	METALDEHYDE	4.1	III		T1	TPXX
2538	NITRONAPHTHALENE	4.1	III		T1	TPXX
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	III		T1	TPXX
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	III		T1	TPXX
2687	DICYCLOHEXYLAMMONIUM NITRITE	4.1	III		T1	TPXX
2001	COBALT NAPHTHENATES, POWDER	4.1	III		T1	TPXX
2714	ZINC RESINATE	4.1	III		T1	TPXX
2878	TITANIUM SPONGE GRANULES or TITANIUM SPONGE POWDERS	4.1	III		T1	TPXX
1318	COBALT RESINATE, PRECIPITATED	4.1	III		T1	TPXX
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	III	8	T1	TPXX
1338	PHOSPHORUS, AMORPHOUS	4.1	III		T1	TPXX
1313	CALCIUM RESINATE	4.1	III		T1	TPXX
1312	BORNEOL	4.1	III		T1	TPXX
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	III		T1	TPXX
1309	ALUMINIUM POWDER, COATED	4.1	III		T1	TPXX
3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	III	5.1	T1	TPXX
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	III	8	T1	TPXX
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	III	6.1	T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2717	CAMPHOR, synthetic	4.1	III		T1	TPXX
1334	NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED	4.1	III		T1	TPXX
1346	SILICON POWDER, AMORPHOUS	4.1	III		T1	TPXX
2715	ALUMINIUM RESINATE	4.1	III		T1	TPXX
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	III	6.1	T1	TPXX
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	III		T1	TPXX
1350	SULPHUR	4.1	III		T1	TPXX
3254	TRIBUTYLPHOSPHANE	4.2	I		T21	TP 7, TPXX
2881	METAL CATALYST, DRY	4.2	I		T21	TP 7, TPXX
2008	ZIRCONIUM POWDER, DRY	4.2	I		T21	TP 7, TPXX
1854	BARIUM ALLOYS, PYROPHORIC	4.2	I		T21	TP 7, TPXX
1383	PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.	4.2	I		T21	TP 7, TPXX
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.	4.2	I		T21	TP 7, TPXX
2870	ALUMINIUM BOROHYDRIDE	4.2	I	4.3	T21	TP 7, TPXX
3342	XANTHATES	4.2	II		T3	TPXX
2545	HAFNIUM POWDER, DRY	4.2	II		T3	TPXX
1369	p-NITROSODIMETHYLANILINE	4.2	II		T3	TPXX
1385	SODIUM SULPHIDE, ANHYDROUS or SODIUM SULPHIDE with less than 30% water of crystallization	4.2	II		T3	TPXX
2940	9-PHOSPHABICYCLONONANES (CYCLOOCTADIENE PHOSPHINES)	4.2	II		T3	TPXX
2318	SODIUM HYDROSULPHIDE with less than 25% water of crystallization	4.2	II		T3	TPXX
1923	CALCIUM DITHIONITE (CALCIUM HYDROSULPHITE)	4.2	II		T3	TPXX
1374	FISH MEAL (FISH SCRAP), UNSTABILIZED	4.2	II		T3	TPXX
1431	SODIUM METHYLATE	4.2	II	8	T3	TPXX
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	II	8	T3	TPXX
3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	II	8	T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	II	6.1	T3	TPXX
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	II	6.1	T3	TPXX
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	II	5.1	T3	TPXX
3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	II	8	T3	TPXX
1929	POTASSIUM DITHIONITE (POTASSIUM HYDROSULPHITE)	4.2	II		T3	TPXX
2546	TITANIUM POWDER, DRY	4.2	II		T3	TPXX
2881	METAL CATALYST, DRY	4.2	II		T3	TPXX
2008	ZIRCONIUM POWDER, DRY	4.2	II		T3	TPXX
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	II		T3	TPXX
1384	SODIUM DITHIONITE (SODIUM HYDROSULPHITE)	4.2	II		T3	TPXX
3341	THIOUREA DIOXIDE	4.2	II		T3	TPXX
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	II		T3	TPXX
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	II		T3	TPXX
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	II		T3	TPXX
1382	POTASSIUM SULPHIDE, ANHYDROUS or POTASSIUM SULPHIDE with less than 30% water of crystallization	4.2	II		T3	TPXX
2004	MAGNESIUM DIAMIDE	4.2	II		T3	TPXX
1361	CARBON, animal or vegetable origin	4.2	II		T3	TPXX
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	II		T3	TPXX
1378	METAL CATALYST, WETTED with a visible excess of liquid	4.2	II			TPXX
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	III		T1	TPXX
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	III	8	T3	TPXX
3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	III	8	T3	TPXX
3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	III	8	T3	TPXX
1376	IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification	4.2	III		T1	TPXX
3341	THIOUREA DIOXIDE	4.2	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1932	ZIRCONIUM SCRAP	4.2	III		T1	TPXX
1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil	4.2	III		T1	TPXX
1361	CARBON, animal or vegetable origin	4.2	III		T1	TPXX
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	III		T1	TPXX
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	III		T1	TPXX
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	III		T1	TPXX
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	III	5.1	T1	TPXX
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	III		T1	TPXX
3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	III	6.1	T1	TPXX
3174	TITANIUM DISULPHIDE	4.2	III		T1	TPXX
2210	MANEB or MANEB PREPARATION with not less than 60% maneb	4.2	III	4.3	T1	TPXX
3342	XANTHATES	4.2	III		T1	TPXX
1362	CARBON, ACTIVATED	4.2	III		T1	TPXX
2008	ZIRCONIUM POWDER, DRY	4.2	III		T1	TPXX
2545	HAFIUM POWDER, DRY	4.2	III		T1	TPXX
2546	TITANIUM POWDER, DRY	4.2	III		T1	TPXX
2881	METAL CATALYST, DRY	4.2	III		T1	TPXX
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	III	6.1	T1	TPXX
1422	POTASSIUM SODIUM ALLOYS	4.3	I		T9	TP3, TP7
1428	SODIUM	4.3	I		T9	TP3, TP7
2257	POTASSIUM	4.3	I		T9	TP3, TP7
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	II	4.2	T3	TPXX
1400	BARIUM	4.3	II		T3	TPXX
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	II	8	T3	TPXX
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	II	6.1	T3	TPXX
1395	ALUMINIUM FERROSILICON POWDER	4.3	II	6.1	T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1418	MAGNESIUM POWDER or MAGNESIUM ALLOY'S POWDER	4.3	II	4.2	T3	TPXX
1401	CALCIUM	4.3	II		T3	TPXX
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	II		T3	TPXX
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	II	4.2	T3	TPXX
3372	ORGANOMETALLIC COMPOUND, SOLID, WATER-REACTIVE, FLAMMABLE, N.O.S.	4.3	II	4.1	T3	TPXX
1393	ALKALINE EARTH METAL ALLOY, N.O.S.	4.3	II		T3	TPXX
1405	CALCIUM SILICIDE	4.3	II		T3	TPXX
2624	MAGNESIUM SILICIDE	4.3	II		T3	TPXX
2830	LITHIUM FERROSILICON	4.3	II		T3	TPXX
2835	SODIUM ALUMINIUM HYDRIDE	4.3	II		T3	TPXX
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	II		T3	TPXX
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	II		T3	TPXX
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	II	4.1	T3	TPXX
3078	CERIUM, turnings or gritty powder	4.3	II		T3	TPXX
1394	ALUMINIUM CARBIDE	4.3	II		T3	TPXX
2805	LITHIUM HYDRIDE, FUSED SOLID	4.3	II		T3	TPXX
1396	ALUMINIUM POWDER, UNCOATED	4.3	II		T3	TPXX
1390	ALKALI METAL AMIDES	4.3	II		T3	TPXX
1402	CALCIUM CARBIDE	4.3	II		T3	TPXX
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.	4.3	II		T3	TPXX
1417	LITHIUM SILICON	4.3	II		T3	TPXX
1436	ZINC POWDER or ZINC DUST	4.3	II	4.2	T3	TPXX
1340	PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus	4.3	II	4.1	T3	TPXX
1405	CALCIUM SILICIDE	4.3	III		T1	TPXX
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2950	MAGNESIUM GRANULES, COATED, particle size not less than 149 microns	4.3	III		T1	TPXX
2968	MANEB, STABILIZED or MANEB PREPARATION, STABILIZED against self-heating	4.3	III		T1	TPXX
2844	CALCIUM MANGANESE SILICON	4.3	III		T1	TPXX
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	III		T1	TPXX
3372	ORGANOMETALLIC COMPOUND, SOLID, WATER-REACTIVE, FLAMMABLE, N.O.S.	4.3	III	4.1	T1	TPXX
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	III		T1	TPXX
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	III	4.2	T1	TPXX
1435	ZINC ASHES	4.3	III		T1	TPXX
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	III	8	T1	TPXX
1396	ALUMINIUM POWDER, UNCOATED	4.3	III		T1	TPXX
1398	ALUMINIUM SILICON POWDER, UNCOATED	4.3	III		T1	TPXX
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	III	4.1	T1	TPXX
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	III	4.2	T1	TPXX
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	III	4.2	T1	TPXX
1408	FERROSILICON with 30% or more but less than 90% silicon	4.3	III	6.1	T1	TPXX
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	III	6.1	T1	TPXX
1403	CALCIUM CYANAMIDE with more than 0.1% calcium carbide	4.3	III		T1	TPXX
1436	ZINC POWDER or ZINC DUST	4.3	III	4.2	T1	TPXX
1475	MAGNESIUM PERCHLORATE	5.1	II		T3	TPXX
1458	CHLORATE AND BORATE MIXTURE	5.1	II		T3	TPXX
1496	SODIUM CHLORITE	5.1	II		T3	TPXX
1495	SODIUM CHLORATE	5.1	II		T3	TPXX
1494	SODIUM BROMATE	5.1	II		T3	TPXX
1473	MAGNESIUM BROMATE	5.1	II		T3	TPXX
1472	LITHIUM PEROXIDE	5.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1471	LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE	5.1	II		T3	TPXX
2468	TRICHLOROISOCYANURIC ACID, DRY	5.1	II		T3	TPXX
2465	DICHLOROISOCYANURIC ACID, DRY or DICHLOROISOCYANURIC ACID SALTS	5.1	II		T3	TPXX
1439	AMMONIUM DICROMATE	5.1	II		T3	TPXX
1462	CHLORITES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	II	8	T3	TPXX
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1509	STRONTIUM PEROXIDE	5.1	II		T3	TPXX
1450	BROMATES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1461	CHLORATES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1457	CALCIUM PEROXIDE	5.1	II		T3	TPXX
1484	POTASSIUM BROMATE	5.1	II		T3	TPXX
1485	POTASSIUM CHLORATE	5.1	II		T3	TPXX
3212	HYPOCHLORITES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
3247	SODIUM PEROXOBORATE, ANHYDROUS	5.1	II		T3	TPXX
1490	POTASSIUM PERMANGANATE	5.1	II		T3	TPXX
1489	POTASSIUM PERCHLORATE	5.1	II		T3	TPXX
1488	POTASSIUM NITRITE	5.1	II		T3	TPXX
1493	SILVER NITRATE	5.1	II		T3	TPXX
1512	ZINC AMMONIUM NITRITE	5.1	II		T3	TPXX
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	II	8	T3	TPXX
1449	BARIUM PEROXIDE	5.1	II	6.1	T3	TPXX
1469	LEAD NITRATE	5.1	II	6.1	T3	TPXX
2573	THALLIUM CHLORATE	5.1	II	6.1	T3	TPXX
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	II	6.1	T3	TPXX
2741	BARIUM HYPOCHLORITE with more than 22% available chlorine	5.1	II	6.1	T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2719	BARIUM BROMATE	5.1	II	6.1	T3	TPXX
1446	BARIUM NITRATE	5.1	II	6.1	T3	TPXX
1448	BARIUM PERMANGANATE	5.1	II	6.1	T3	TPXX
2464	BERYLLIUM NITRATE	5.1	II	6.1	T3	TPXX
1445	BARIUM CHLORATE	5.1	II	6.1	T3	TPXX
1447	BARIUM PERCHLORATE	5.1	II	6.1	T3	TPXX
1470	LEAD PERCHLORATE	5.1	II	6.1	T3	TPXX
1515	ZINC PERMANGANATE	5.1	II		T3	TPXX
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1502	SODIUM PERCHLORATE	5.1	II		T3	TPXX
1503	SODIUM PERMANGANATE	5.1	II		T3	TPXX
2721	COPPER CHLORATE	5.1	II		T3	TPXX
2723	MAGNESIUM CHLORATE	5.1	II		T3	TPXX
1514	ZINC NITRATE	5.1	II		T3	TPXX
2880	CALCIUM HYPOCHLORITE, HYDRATED, or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE with not less than 5.5% but not more than 10% water	5.1	II		T3	TPXX
1516	ZINC PEROXIDE	5.1	II		T3	TPXX
1513	ZINC CHLORATE	5.1	II		T3	TPXX
1506	STRONTIUM CHLORATE	5.1	II		T3	TPXX
1508	STRONTIUM PERCHLORATE	5.1	II		T3	TPXX
1453	CALCIUM CHLORITE	5.1	II		T3	TPXX
1481	PERCHLORATES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1487	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	5.1	II		T3	TPXX
1452	CALCIUM CHLORATE	5.1	II		T3	TPXX
1476	MAGNESIUM PEROXIDE	5.1	II		T3	TPXX
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with	5.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
	more than 39% available chlorine (8.8% available oxygen)					
1456	CALCIUM PERMANGANATE	5.1	II		T3	TPXX
2626	CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid	5.1	II		T3	TPXX
2627	NITRITES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1477	NITRATES, INORGANIC, N.O.S.	5.1	II		T3	TPXX
1455	CALCIUM PERCHLORATE	5.1	II		T3	TPXX
1442	AMMONIUM PERCHLORATE	5.1	II		T3	TPXX
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE	5.1	II		T3	TPXX
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	III		T1	TPXX
1466	FERRIC NITRATE	5.1	III		T1	TPXX
1492	POTASSIUM PERSULPHATE	5.1	III		T1	TPXX
1458	CHLORATE AND BORATE MIXTURE	5.1	III		T1	TPXX
2208	CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine	5.1	III		T1	TPXX
1444	AMMONIUM PERSULPHATE	5.1	III		T1	TPXX
1465	DIDYMIUM NITRATE	5.1	III		T1	TPXX
1438	ALUMINIUM NITRATE	5.1	III		T1	TPXX
1505	SODIUM PERSULPHATE	5.1	III		T1	TPXX
2469	ZINC BROMATE	5.1	III		T1	TPXX
2726	NICKEL NITRITE	5.1	III		T1	TPXX
1451	CAESIUM NITRATE	5.1	III		T1	TPXX
1474	MAGNESIUM NITRATE	5.1	III		T1	TPXX
1499	SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	5.1	III		T1	TPXX
2720	CHROMIUM NITRATE	5.1	III		T1	TPXX
1507	STRONTIUM NITRATE	5.1	III		T1	TPXX
1511	UREA HYDROGEN PEROXIDE	5.1	III	8	T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	III	8	T1	TPXX
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	III	6.1	T1	TPXX
1500	SODIUM NITRITE	5.1	III	6.1	T1	TPXX
3215	PERSULPHATES, INORGANIC, N.O.S.	5.1	III		T1	TPXX
1481	PERCHLORATES, INORGANIC, N.O.S	5.1	III		T1	TPXX
2722	LITHIUM NITRATE	5.1	III		T1	TPXX
1486	POTASSIUM NITRATE	5.1	III		T1	TPXX
2724	MANGANESE NITRATE	5.1	III		T1	TPXX
2725	NICKEL NITRATE	5.1	III		T1	TPXX
1498	SODIUM NITRATE	5.1	III		T1	TPXX
1872	LEAD DIOXIDE	5.1	III		T1	TPXX
2728	ZIRCONIUM NITRATE	5.1	III		T1	TPXX
1454	CALCIUM NITRATE	5.1	III		T1	TPXX
1477	NITRATES, INORGANIC, N.O.S.	5.1	III		T1	TPXX
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	III		T1	TPXX
1467	GUANIDINE NITRATE	5.1	III		T1	TPXX
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE	5.1	III		T1	TPXX
3110	ORGANIC PEROXIDE TYPE F, SOLID	5.2	II		T23	TPXX
3120	ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED	5.2	II		T23	TPXX
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	I		T6	TPXX
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	I		T6	TPXX
1575	CALCIUM CYANIDE	6.1	I		T6	TPXX
2642	FLUOROACETIC ACID	6.1	I		T6	TPXX
2630	SELENATES or SELENITES	6.1	I		T6	TPXX
2629	SODIUM FLUOROACETATE	6.1	I		T6	TPXX
2628	POTASSIUM FLUOROACETATE	6.1	I		T6	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1698	DIPHENYLAMINE CHLOROARSINE	6.1	1		T6	TPXX
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	1		T6	TPXX
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	1		T6	TPXX
1570	BRUCINE	6.1	1		T6	TPXX
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
1565	BARIUM CYANIDE	6.1	1		T6	TPXX
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	1		T6	TPXX
3048	ALUMINIUM PHOSPHIDE PESTICIDE	6.1	1		T6	TPXX
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	1		T6	TPXX
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	1		T6	TPXX
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	1		T6	TPXX
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	1		T6	TPXX
1889	CYANOGEN BROMIDE	6.1	1	8	T6	TPXX
1699	DIPHENYLCHLOROARSINE, SOLID	6.1	1		T6	TPXX
2570	CADMIIUM COMPOUND	6.1	1		T6	TPXX
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	1	8	T6	TPXX
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	1	8	T6	TPXX
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	1	5.1	T6	TPXX
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	1	4.3	T6	TPXX
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	1	4.1	T6	TPXX
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1693	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	1		T6	TPXX
1692	STRYCHNINE or STRYCHNINE SALTS	6.1	1		T6	TPXX
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	1		T6	TPXX
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2781	BIPYRIDILUM PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	1	4.2	T6	TPXX
2471	OSMIUM TETROXIDE	6.1	1		T6	TPXX
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	1		T6	TPXX
1713	ZINC CYANIDE	6.1	1		T6	TPXX
1626	MERCURIC POTASSIUM CYANIDE	6.1	1		T6	TPXX
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	1		T6	TPXX
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	1		T6	TPXX
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
2316	SODIUM CUPROCYANIDE, SOLID	6.1	1		T6	TPXX
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	1		T6	TPXX
1680	POTASSIUM CYANIDE	6.1	1		T6	TPXX
1689	SODIUM CYANIDE	6.1	1		T6	TPXX
1694	BROMOBENZYL CYANIDES, SOLID	6.1	1		T6	TPXX
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	1		T6	TPXX
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, N.O.S., solid	6.1	1		T6	TPXX
3280	ORGANOARSENIC COMPOUND, N.O.S., solid	6.1	1		T6	TPXX
3281	METAL CARBONYLS, N.O.S., solid	6.1	1		T6	TPXX
3282	ORGANOMETALLIC COMPOUND, TOXIC, N.O.S., solid	6.1	1		T6	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3283	SELENIUM COMPOUND, N.O.S.	6.1	I		T6	TPXX
3284	TELLURIUM COMPOUND, N.O.S.	6.1	I		T6	TPXX
3285	VANADIUM COMPOUND, N.O.S.	6.1	I		T6	TPXX
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2567	SODIUM PENTACHLOROPHENATE	6.1	II		T3	TPXX
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	II		T3	TPXX
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
1678	POTASSIUM ARSENITE	6.1	II		T3	TPXX
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2671	AMINOPYRIDINES (o-, m-, p,)	6.1	II		T3	TPXX
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2657	SELENIUM DISULPHIDE	6.1	II		T3	TPXX
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
1636	MERCURY CYANIDE	6.1	II		T3	TPXX
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
2863	SODIUM AMMONIUM VANADATE	6.1	II		T3	TPXX
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	II	5.1	T3	TPXX
2859	AMMONIUM METAVANADATE	6.1	II		T3	TPXX
1651	NAPHTHYLTHIOUREA	6.1	II		T3	TPXX
2673	2-AMINO-4-CHLOROPHENOL	6.1	II		T3	TPXX
2931	VANADYL SULPHATE	6.1	II		T3	TPXX
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	II		T3	TPXX
2587	BENZOQUINONE	6.1	II		T3	TPXX
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	II		T3	TPXX
2645	PHENACYL BROMIDE	6.1	II		T3	TPXX
2647	MALONONITRILE	6.1	II		T3	TPXX
2861	AMMONIUM POLYVANADATE	6.1	II		T3	TPXX
2649	1,3-DICHLOROACETONE	6.1	II		T3	TPXX
2570	CADMIIUM COMPOUND	6.1	II		T3	TPXX
1617	LEAD ARSENATES	6.1	II		T3	TPXX
1684	SILVER CYANIDE	6.1	II		T3	TPXX
2027	SODIUM ARSENITE, SOLID	6.1	II		T3	TPXX
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	II		T3	TPXX
1679	POTASSIUM CUPROCYANIDE	6.1	II		T3	TPXX
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	II		T3	TPXX
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	II	4.2	T3	TPXX
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	II	4.1	T3	TPXX
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	II		T3	TPXX
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	II	4.3	T3	TPXX
1895	PHENYLMERCURIC NITRATE	6.1	II		T3	TPXX
2727	THALLIUM NITRATE	6.1	II	5.1	T3	TPXX
1751	CHLOROACETIC ACID, SOLID	6.1	II	8	T3	TPXX
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	II	8	T3	TPXX
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	II	8	T3	TPXX
1567	BERYLLIUM POWDER	6.1	II	4.1	T3	TPXX
1885	BENZIDINE	6.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1704	TETRAETHYL DITHIOPYROPHOSPHATE	6.1	II		T3	TPXX
1691	STRONTIUM ARSENITE	6.1	II		T3	TPXX
1707	THALLIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
1712	ZINC ARSENATE, ZINC ARSENITE or ZINC ARSENATE AND ZINC ARSENITE MIXTURE	6.1	II		T3	TPXX
2864	POTASSIUM METAVANADATE	6.1	II		T3	TPXX
1688	SODIUM CACODYLATE	6.1	II		T3	TPXX
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	II		T3	TPXX
1685	SODIUM ARSENATE	6.1	II		T3	TPXX
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	II		T3	TPXX
1894	PHENYLMERCURIC HYDROXIDE	6.1	II		T3	TPXX
1639	MERCURY NUCLEATE	6.1	II		T3	TPXX
1693	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	II		T3	TPXX
1683	SILVER ARSENITE	6.1	II		T3	TPXX
3155	PENTACHLOROPHENOL	6.1	II		T3	TPXX
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
1665	NITROXYLENES, SOLID	6.1	II		T3	TPXX
1586	COPPER ARSENITE	6.1	II		T3	TPXX
1587	COPPER CYANIDE	6.1	II		T3	TPXX
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	II		T3	TPXX
1590	DICHLOROANILINES, SOLID	6.1	II		T3	TPXX
1597	DINITROBENZENES, SOLID	6.1	II		T3	TPXX
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	II		T3	TPXX
1606	FERRIC ARSENATE	6.1	II		T3	TPXX
1564	BARIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
1653	NICKEL CYANIDE	6.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1674	PHENYLMERCURIC ACETATE	6.1	II		T3	TPXX
1658	NICOTINE SULPHATE, SOLID	6.1	II		T3	TPXX
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	II		T3	TPXX
1585	COPPER ACETOARSENITE	6.1	II		T3	TPXX
1656	NICOTINE HYDROCHLORIDE, solid	6.1	II		T3	TPXX
1657	NICOTINE SALICYLATE	6.1	II		T3	TPXX
1652	NAPHTHYLUREA	6.1	II		T3	TPXX
1638	MERCURY IODIDE	6.1	II		T3	TPXX
1637	MERCURY GLUCONATE	6.1	II		T3	TPXX
1607	FERRIC ARSENITE	6.1	II		T3	TPXX
1634	MERCURY BROMIDES	6.1	II		T3	TPXX
1608	FERROUS ARSENATE	6.1	II		T3	TPXX
1630	MERCURY AMMONIUM CHLORIDE	6.1	II		T3	TPXX
1629	MERCURY ACETATE	6.1	II		T3	TPXX
1627	MERCUROUS NITRATE	6.1	II		T3	TPXX
1625	MERCURIC NITRATE	6.1	II		T3	TPXX
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
1620	LEAD CYANIDE	6.1	II		T3	TPXX
1664	NITROTOLUENES, SOLID	6.1	II		T3	TPXX
1642	MERCURY OXYCYANIDE, DESENSITIZED	6.1	II		T3	TPXX
1572	CACODYLIC ACID	6.1	II		T3	TPXX
1631	MERCURY BENZOATE	6.1	II		T3	TPXX
1646	MERCURY THIOCYANATE	6.1	II		T3	TPXX
1645	MERCURY SULPHATE	6.1	II		T3	TPXX
1644	MERCURY SALICYLATE	6.1	II		T3	TPXX
1677	POTASSIUM ARSENATE	6.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1643	MERCURY POTASSIUM IODIDE	6.1	II		T3	TPXX
1624	MERCURIC CHLORIDE	6.1	II		T3	TPXX
1641	MERCURY OXIDE	6.1	II		T3	TPXX
1574	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	6.1	II		T3	TPXX
1623	MERCURIC ARSENATE	6.1	II		T3	TPXX
1659	NICOTINE TARTRATE	6.1	II		T3	TPXX
1622	MAGNESIUM ARSENATE	6.1	II		T3	TPXX
1621	LONDON PURPLE	6.1	II		T3	TPXX
1640	MERCURY OLEATE	6.1	II		T3	TPXX
1611	HEXAETHYL TETRAPHOSPHATE	6.1	II		T3	TPXX
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	II		T3	TPXX
1573	CALCIUM ARSENATE	6.1	II		T3	TPXX
1618	LEAD ARSENITES	6.1	II		T3	TPXX
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
1562	ARSENICAL DUST	6.1	II		T3	TPXX
1561	ARSENIC TRIOXIDE	6.1	II		T3	TPXX
1559	ARSENIC PENTOXIDE	6.1	II		T3	TPXX
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	II		T3	TPXX
1555	ARSENIC BROMIDE	6.1	II		T3	TPXX
1554	ARSENIC ACID, SOLID	6.1	II		T3	TPXX
1558	ARSENIC	6.1	II		T3	TPXX
1546	AMMONIUM ARSENATE	6.1	II		T3	TPXX
1577	CHLORODINITROBENZENES, SOLID	6.1	II		T3	TPXX
1578	CHLORONITROBENZENES, solid	6.1	II		T3	TPXX
1596	DINITROANILINES	6.1	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1650	beta-NAPHTHYLAMINE	6.1	II		T3	TPXX
1661	NITROANILINES (o-, m-, p-)	6.1	II		T3	TPXX
1671	PHENOL, SOLID	6.1	II		T3	TPXX
1708	TOLUIDINES, SOLID	6.1	II		T3	TPXX
1711	XYLIDINES, SOLID	6.1	II		T3	TPXX
1843	AMMONIUM DINITRO-o-CRESOLATE	6.1	II		T3	TPXX
2018	CHLOROANILINES, SOLID	6.1	II		T3	TPXX
2038	DINITROTOLUENES, SOLID	6.1	II		T3	TPXX
2236	3-CHLORO-4-METHYLPHENYL ISOCYANATE	6.1	II		T3	TPXX
2261	XYLENOLS, solid	6.1	II		T3	TPXX
2306	NITROBENZOTRIFLUORIDES, solid	6.1	II		T3	TPXX
2669	CHLOROCRESOLS, solid	6.1	II		T3	TPXX
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	II		T3	TPXX
3243	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.	6.1	II		T3	TPXX
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, N.O.S., solid	6.1	II		T3	TPXX
3280	ORGANOARSENIC COMPOUND, N.O.S., solid	6.1	II		T3	TPXX
3281	METAL CARBONYLS, N.O.S., solid	6.1	II		T3	TPXX
3282	ORGANOMETALLIC COMPOUND, TOXIC, N.O.S., solid	6.1	II		T3	TPXX
3283	SELENIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
3284	TELLURIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
3285	VANADIUM COMPOUND, N.O.S.	6.1	II		T3	TPXX
2076	CRESOLS, SOLID	6.1	II	8	T3	TPXX
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	III		T1	TPXX
2862	VANADIUM PENTOXIDE, non-fused form	6.1	III		T1	TPXX
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	III		T1	TPXX
2871	ANTIMONY POWDER	6.1	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2875	HEXACHLOROPHENE	6.1	III		T1	TPXX
2876	RESORCINOL	6.1	III		T1	TPXX
2853	MAGNESIUM FLUOROSILICATE	6.1	III		T1	TPXX
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	III		T1	TPXX
2291	LEAD COMPOUND, SOLUBLE, N.O.S.	6.1	III		T1	TPXX
1549	ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.	6.1	III		T1	TPXX
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	III		T1	TPXX
2856	FLUOROSILICATES, N.O.S.	6.1	III		T1	TPXX
2855	ZINC FLUOROSILICATE	6.1	III		T1	TPXX
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	III		T1	TPXX
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	III		T1	TPXX
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
1550	ANTIMONY LACTATE	6.1	III		T1	TPXX
2854	AMMONIUM FLUOROSILICATE	6.1	III		T1	TPXX
1548	ANILINE HYDROCHLORIDE	6.1	III		T1	TPXX
1551	ANTIMONY POTASSIUM TARTRATE	6.1	III		T1	TPXX
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	III		T1	TPXX
2570	CADMIUM COMPOUND	6.1	III		T1	TPXX
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2716	1,4-BUTYNEDIOL	6.1	III		T1	TPXX
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2516	CARBON TETRABROMIDE	6.1	III		T1	TPXX
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	III		T1	TPXX
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
15794	4-CHLORO-o-TOLUIDINE HYDROCHLORIDE	6.1	III		T1	TPXX
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2713	ACRIDINE	6.1	III		T1	TPXX
2674	SODIUM FLUOROSILICATE	6.1	III		T1	TPXX
2660	NITROTOLUIDINES (MONO)	6.1	III		T1	TPXX
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	III		T1	TPXX
2659	SODIUM CHLOROACETATE	6.1	III		T1	TPXX
2655	POTASSIUM FLUOROSILICATE	6.1	III		T1	TPXX
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
2233	CHLOROANISIDINES	6.1	III		T1	TPXX
2512	AMINOPHENOLS (o-, m-, p-)	6.1	III		T1	TPXX
2505	AMMONIUM FLUORIDE	6.1	III		T1	TPXX
2473	SODIUM ARSANILATE	6.1	III		T1	TPXX
2446	NITROCRESOLS	6.1	III		T1	TPXX
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	III		T1	TPXX
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
1564	BARIUM COMPOUND, N.O.S.	6.1	III		T1	TPXX
2237	CHLORONITROANILINES	6.1	III		T1	TPXX
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	III		T1	TPXX
2026	PHENYL MERCURIC COMPOUND, N.O.S.	6.1	III		T1	TPXX
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2020	CHLOROPHENOLS, SOLID	6.1	III		T1	TPXX
1884	BARIUM OXIDE	6.1	III		T1	TPXX
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	III		T1	TPXX
2433	CHLORONITROTOLUENES, SOLID	6.1	III		T1	TPXX
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
1616	LEAD ACETATE	6.1	III		T1	TPXX
1663	NITROPHENOLS (o-, m-, p-)	6.1	III		T1	TPXX
1673	PHENYLENEDIAMINES (o-, m-, p-)	6.1	III		T1	TPXX
1690	SODIUM FLUORIDE	6.1	III		T1	TPXX
1709	2,4-TOLYLENEDIAMINE	6.1	III		T1	TPXX
1812	POTASSIUM FLUORIDE	6.1	III		T1	TPXX
2074	ACRYLAMIDE	6.1	III		T1	TPXX
2235	CHLOROBENZYL CHLORIDES	6.1	III		T1	TPXX
2239	CHLOROTOLUIDINES, solid	6.1	III		T1	TPXX
2651	4,4-DIAMINODIPHENYLMETHANE	6.1	III		T1	TPXX
2662	HYDROQUINONE	6.1	III		T1	TPXX
2729	HEXACHLOROENZENE	6.1	III		T1	TPXX
2730	NITROANISOLE, SOLID	6.1	III		T1	TPXX
2732	NITROBROMOBENZENES, SOLID	6.1	III		T1	TPXX
2753	N-ETHYLBENZYL TOLUIDINES, SOLID	6.1	III		T1	TPXX
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	III		T1	TPXX
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, N.O.S., solid	6.1	III		T1	TPXX
3280	ORGANOARSENIC COMPOUND, N.O.S., solid	6.1	III		T1	TPXX
3281	METAL CARBONYLS, N.O.S., solid	6.1	III		T1	TPXX
3282	ORGANOMETALLIC COMPOUND, TOXIC, N.O.S., solid	6.1	III		T1	TPXX
3283	SELENIUM COMPOUND, N.O.S.	6.1	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3284	TELLURIUM COMPOUND, N.O.S.	6.1	III		T1	TPXX
3285	VANADIUM COMPOUND, N.O.S.	6.1	III		T1	TPXX
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	I		T6	TPXX
1759	CORROSIVE SOLID, N.O.S.	8	I		T6	TPXX
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	I		T6	TPXX
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	I		T6	TPXX
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	I		T6	TPXX
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	I	5.1	T6	TPXX
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	I		T6	TPXX
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	I	6.1	T6	TPXX
1905	SELENIC ACID	8	I		T6	TPXX
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	I	4.3	T6	TPXX
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	I	4.1	T6	TPXX
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	I		T6	TPXX
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C2-C12 homologues)	8	I		T6	TPXX
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	II		T3	TPXX
2680	LITHIUM HYDROXIDE MONOHYDRATE	8	II		T3	TPXX
2682	CAESIUM HYDROXIDE	8	II		T3	TPXX
2691	PHOSPHORUS PENTABROMIDE	8	II		T3	TPXX
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	II		T3	TPXX
2869	TITANIUM TRICHLORIDE MIXTURE	8	II		T3	TPXX
2583	ALKYL SULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid	8	II		T3	TPXX
2678	RUBIDIUM HYDROXIDE	8	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	II		T3	TPXX
1756	CHROMIC FLUORIDE, SOLID	8	II		T3	TPXX
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	II		T3	TPXX
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	II		T3	TPXX
1839	TRICHLOROACETIC ACID	8	II		T3	TPXX
1740	HYDROGENDIFLUORIDES, N.O.S.	8	II		T3	TPXX
2033	POTASSIUM MONOXIDE	8	II		T3	TPXX
1794	LEAD SULPHATE with more than 3% free acid	8	II		T3	TPXX
1847	POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization	8	II		T3	TPXX
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	II		T3	TPXX
1770	DIPHENYLMETHYL BROMIDE	8	II		T3	TPXX
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	II	6.1	T3	TPXX
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	II	5.1	T3	TPXX
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	II	4.3	T3	TPXX
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	8	II	4.2	T3	TPXX
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	II	4.1	T3	TPXX
1806	PHOSPHORUS PENTACHLORIDE	8	II		T3	TPXX
1725	ALUMINIUM BROMIDE, ANHYDROUS	8	II		T3	TPXX
2670	CYANURIC CHLORIDE	8	II		T3	TPXX
2506	AMMONIUM HYDROGEN SULPHATE	8	II		T3	TPXX
1825	SODIUM MONOXIDE	8	II		T3	TPXX
1759	CORROSIVE SOLID, N.O.S.	8	II		T3	TPXX
2509	POTASSIUM HYDROGEN SULPHATE	8	II		T3	TPXX
1813	POTASSIUM HYDROXIDE, SOLID	8	II		T3	TPXX
1823	SODIUM HYDROXIDE, SOLID	8	II		T3	TPXX
1727	AMMONIUM HYDROGENDIFLUORIDE, SOLID	8	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
1726	ALUMINIUM CHLORIDE, ANHYDROUS	8	II		T3	TPXX
1807	PHOSPHORUS PENTOXIDE	8	II		T3	TPXX
1939	PHOSPHORUS OXYBROMIDE	8	II		T3	TPXX
2308	NITROSYLSULPHURIC ACID, SOLID	8	II		T3	TPXX
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C2-C12 homologues)	8	II		T3	TPXX
2439	SODIUM HYDROGENDIFLUORIDE	8	II		T3	TPXX
3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	8	II		T3	TPXX
2508	MOLYBDENUM PENTACHLORIDE	8	III		T1	TPXX
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	III		T1	TPXX
1805	PHOSPHORIC ACID, SOLID	8	III		T1	TPXX
3253	DISODIUM TRIOXOSILICATE	8	III		T1	TPXX
1773	FERRIC CHLORIDE, ANHYDROUS	8	III		T1	TPXX
1759	CORROSIVE SOLID, N.O.S.	8	III		T1	TPXX
1740	HYDROGENDIFLUORIDES, N.O.S.	8	III		T1	TPXX
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	III		T1	TPXX
2869	TITANIUM TRICHLORIDE MIXTURE	8	III		T1	TPXX
1907	SODA LIME with more than 4% sodium hydroxide	8	III		T1	TPXX
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	III		T1	TPXX
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	III	6.1	T1	TPXX
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	III		T1	TPXX
2578	PHOSPHORUS TRIOXIDE	8	III		T1	TPXX
2905	CHLOROPHENOLATES, SOLID or PHENOLATES, SOLID	8	III		T1	TPXX
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	III		T1	TPXX
2585	ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid	8	III		T1	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	III		T1	TPXX
2865	HYDROXYLAMINE SULPHATE	8	III		T1	TPXX
2802	COPPER CHLORIDE	8	III		T1	TPXX
2507	CHLOROPLATINIC ACID, SOLID	8	III		T1	TPXX
2503	ZIRCONIUM TETRACHLORIDE	8	III		T1	TPXX
2475	VANADIUM TRICHLORIDE	8	III		T1	TPXX
2331	ZINC CHLORIDE, ANHYDROUS	8	III		T1	TPXX
1910	CALCIUM OXIDE	8	III		T1	TPXX
2698	TETRAHYDROPTHALIC ANHYDRIDES with more than 0.05% of maleic anhydride	8	III		T1	TPXX
2967	SULPHAMIC ACID	8	III		T1	TPXX
2812	SODIUM ALUMINATE, SOLID	8	III		T1	TPXX
2803	GALLIUM	8	III		T1	TPXX
2440	STANNIC CHLORIDE PENTAHYDRATE	8	III		T1	TPXX
2214	PTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride	8	III		T1	TPXX
2215	MALEIC ANHYDRIDE	8	III		T1	TPXX
2280	HEXAMETHYLENEDIAMINE, SOLID	8	III		T1	TPXX
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C2-C12 homologues)	8	III		T1	TPXX
2511	2-CHLOROPROPIONIC ACID, SOLID	8	III		T1	TPXX
2579	PIPERAZINE	8	III		T1	TPXX
2823	CROTONIC ACID	8	III		T1	TPXX
2834	PHOSPHOROUS ACID	8	III		T1	TPXX
3335	AVIATION REGULATED SOLID, N.O.S.	9			T1	TPXX
2969	CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE	9	II		T3	TPXX
2212	BLUE ASBESTOS (crocidolite) or BROWN ASBESTOS (amosite, mysortite)	9	II		T3	TPXX
3152	POLYHALOGENATED BIPHENYLS, SOLID or POLYHALOGENATED TERPHENYLS, SOLID	9	II		T3	TPXX

UN#	Name/Description	Class	PG	SR	Proposed UN T-Code	Proposed TP Note(s)
2590	WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)	9	III		T1	TPXX
2216	FISH MEAL (FISH SCRAP), STABILIZED	9	III		T1	TPXX
1931	ZINC DITHIONITE (ZINC HYDROSULPHITE)	9	III		T1	TPXX
1841	ACETALDEHYDE AMMONIA	9	III		T1	TPXX
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	9	III		T1	TPXX
2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	9	III		T1	TPXX

Annex 3

Currently assigned tank provisions that would need to be changed in the Model Regulations based on the rationalized approach

UN#	Name	Class	PG	Sub-Risk	EXISTING		PROPOSED	
					TI	TP	TI	TP
1445	BARIUM CHLORATE	5.1	II	6.1	T4	TP1	T3	TPXX
1447	BARIUM PERCHLORATE	5.1	II	6.1	T4	TP1	T3	TPXX
1470	LEAD PERCHLORATE	5.1	II	6.1	T4	TP1	T3	TPXX
1811	POTASSIUM HYDROGENDIFLUORIDE	8	II	6.1	T7	TP2	T3	TPXX
2076	CRESOLS, SOLID	6.1	II	8	T7	TP2	T3	TPXX