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COMMITTEE OF EXPERTS
ON THE TRANSPORT OF
DANGEROUS GOODS

REPORT OF THE COMMITTEE OF EXPERTS ON ITS SIXTEENTH SESSION
(3-12 December 1990)

Addendum 2

CONTENTS

Annex 3 Adopted text and amendments to the Recommendations on the Transport
of Dangerous Goods (sixth revised edition) (ST/SG/AC.10/Rev.6)

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Under Chapter 13, delete the reference to table 13.3

Amend the entry for Chapter 14 to read:

"General Notes

Division 4.1 - Flammable solids, self-reactive and related substances, and desensitized explosives

Figure 14.1: Flow chart for assigning readily combustible solids, except metal powders, to Division 4.1

Figure 14.2: Flow chart for assigning self-reactive substances to Division 4.1

Table 14.1: List of currently assigned self-reactive substances

Division 4.2 - Substances liable to spontaneous combustion

Division 4.3 - Substances which in contact with water emit flammable gases ..

Test methods and criteria for substances of Class 4

Figure 14.3: Mould and accessories for the preparation of the pile for the burning rate test"

After Chapter 17 add:

Appendix - List of Generic and N.O.S. PROPER SHIPPING NAMES

Chapter 1

- (a) Renumber paragraph 1.9 as 1.9.1 and insert a new paragraph 1.9.2 as follows:

1.9.2 Wastes should be transported under the requirements of the appropriate class considering their hazards and the criteria of these Recommendations. Wastes not otherwise subject to these Recommendations but covered under the Basel Convention may be transported under class 9.

- (b) Amend paragraph 1.10 to read as follows:

"1.10 Unless there is an explicit or implicit indication to the contrary in the Recommendations, dangerous goods with a melting point of 20° C or lower at a pressure of 101.3 kPa should be considered to be liquids. A viscous substance should be subjected to the ASTM D 4359-84 test; or to the test for determining fluidity (penetrometer test) prescribed in Appendix A.3 of the United Nations publication ECE/TRANS/80 (Vol.1) (ADR) with the modifications that the penetrometer should conform to ISO standard 2137-1985 and that the test should be used for viscous substances of any class."

- (c) Replace paragraphs 1.14 to 1.18 and the heading by the following:

"Class 2 gases

1.14 A gas is a substance which:

- (a) at 50° C has a vapour pressure greater than 300 kPa; or
- (b) is completely gaseous at 20° C at a standard pressure of 101.3 kPa.

1.15 The transport condition of a gas is described according to its physical state as:

- (a) Compressed gas - a gas (other than in solution) which when packaged under pressure for transport is entirely gaseous at 20° C;
- (b) Liquefied gas - a gas which when packaged for transport is partially liquid at 20° C;
- (c) Refrigerated liquefied gas - a gas which when packaged for transport is partially liquid because of its low temperature;
- (d) Gas in solution - compressed gas which when packaged for transport is dissolved in a solvent.

1.16 The class comprises compressed gases; liquefied gases; gas in solution; refrigerated liquefied gases; mixtures of gases; mixtures of one or more gases with one or more vapours of substances of other classes; articles charged with a gas; tellurium hexafluoride; aerosols.

1.17.1 Substances of class 2 are assigned to one of three divisions based on the primary hazard of the gas during transport.

Division 2.1 Flammable gases

Gases which at 20° C and a standard pressure of 101.3 kPa:

- (a) are ignitable when in a mixture of 13 per cent or less by volume with air; or
- (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Flammability should be determined by tests or by calculation in accordance with methods adopted by ISO (see ISO Standard 10156/1990). Where insufficient data are available to use these methods, tests by a comparable method recognized by a national competent authority may be used.

Note. Aerosols (UN 1950) and Receptacles, small, containing gas (UN 2037) should be regarded as being in Division 2.1 when the criteria in Special Provision 63 are met.

Division 2.2 Non-flammable, non-toxic gases

Gases which are transported at a pressure not less than 280 kPa at 20° C, or as refrigerated liquids, and which:

- (a) are asphyxiant - gases which dilute or replace the oxygen normally in the atmosphere; or
- (b) are oxidizing - gases which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does; or
- (c) do not come under the other divisions.

Division 2.3 Toxic gases

Gases which:

- (a) are known to be so toxic or corrosive to humans as to pose a hazard to health; or

- (b) are presumed to be toxic or corrosive to humans because they have an LC₅₀ value equal to or less than 5,000 ml/m³ (ppm) when tested in accordance with paragraph 6.5 (c).

Note. Gases meeting the above criteria owing to their corrosivity are to be classified as toxic with a subsidiary corrosive risk.

1.17.2 Mixtures of gases

For the classification of gas mixtures into one of the three divisions (including vapours of substances from other classes) the following principles may be used:

- (a) Flammability should be determined by tests or by calculation in accordance with methods adopted by ISO (see ISO Standard 10156/1990). Where insufficient data are available to use these methods, tests by a comparable method recognized by a national competent authority may be used;
- (b) The level of toxicity is determined by either tests in accordance with paragraph 6.5 (c) or a calculation method using the following formula:

$$LC_{50} \text{ Toxic (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_i}{T_i}}$$

where f_i = mole fraction of the i^{th} component substance of the mixture

T_i = Toxicity index of the i^{th} component substance of the mixture (the T_i equals the LC₅₀ value when available).

When LC₅₀ values are unknown the toxicity index is determined by using the lowest LC₅₀ value of substances of similar physiological and chemical effects, or through testing if this is the only practical possibility.

- (c) A gas mixture has a subsidiary risk of corrosivity when the mixture is known by human experience to be destructive to the skin, eyes or mucous membranes or when the LC₅₀ value of the corrosive components of the mixture is equal to or less than 5,000 ml/m³ (ppm) when the LC₅₀ is calculated by the formula:

$$LC_{50} \text{ Corrosive (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_{ci}}{T_{ci}}}$$

where f_{ci} = mole fraction of the i^{th} corrosive component substance of the mixture

T_{ci} = Toxicity index of the i^{th} corrosive component substance of the mixture (the T_{ic} equals the LC_{50} value when available).

- (d) Oxidizing ability is determined either by tests or by calculation methods adopted by the International Standards Organisation.

1.18 Hazard precedence

Gases and gas mixtures with hazards associated with more than one division take the following precedence:

- (a) Division 2.3 takes precedence over all other divisions;
- (b) Division 2.1 takes precedence over Division 2.2;
- (d) In paragraph 1.21 amend the definition of Division 4.1 to read: "Solids which, under conditions encountered in transport, are readily combustible or may cause or contribute to fire through friction; self-reactive and related substances which are liable to undergo a strongly exothermic reaction; desensitized explosives which may explode if not diluted sufficiently.";
- (e) In the first part of paragraph 1.23, delete the second sentence in the definition of Division 6.1;
- (f) Modify second part of paragraph 1.23 to read:

"Division 6.2 Infectious substances

Substances containing viable micro-organisms including a bacterium, virus, rickettsia, parasite, fungus, or a recombinant, hybrid or mutant, that are known or reasonably believed to cause disease in animals or humans.

Note 1. Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them should be considered for transport as UN 3172."

- (g) Add "Note 2. For the purposes of these Recommendations, genetically modified substances are divided into the following groups:
- (a) genetically modified micro-organisms which meet the definition of an infectious substance given above, should be classified in Division 6.2 and assigned UN 2814 or UN 2900;

- (b) animals which contain, or are contaminated with, genetically modified substances that meet the definition of an infectious substance should be transported in accordance with chapter 6 and assigned UN 2814 or UN 2900;
- (c) except when authorized for unconditional use by the governments of the countries of origin, transit and destination, genetically modified micro-organisms which do not meet the definition of infectious substances and which are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction, should be assigned UN 3245;
- (d) genetically modified organisms, which are known or suspected to be dangerous to humans, animals or the environment, should be transported according to relevant national regulations."

- (h) Table 1.1: amend footnote ** to read:

"Substances of Division 4.1 other than self-reactive and related substances and desensitized explosives."

In the table, add to row 3 III, column 6.1 III, the symbol "***"; then add a new footnote:

"*** Division 6.1 for pesticides".

- (i) Add to 1.39.1 at end of the fourth sentence:

"and the name in Chapter 2 which most appropriately describes the substance should be used (see also the 'List of Generic or N.O.S. Proper Shipping Names' in the Appendix)."

- (j) Add a new 1.39.3 to read:

1.39.3 All self-reactive substances accepted for transport under the provisions of Division 4.1 are assigned to one of 20 generic entries in accordance with the classification principles and flow chart described in 14.2.2.4 and Figure 14.2.

1.45 Persons engaged in the transport of dangerous goods should receive training in the contents of dangerous goods requirements commensurate with their responsibilities.

Individuals such as those who classify dangerous goods; pack dangerous goods; mark and label dangerous goods; prepare transport documents for dangerous goods; offer or accept dangerous goods for transport; carry or handle dangerous goods in transport; mark or placard or load or unload packages into or from transport vehicles, bulk packagings or freight containers; or are otherwise directly involved in the transport of dangerous goods as determined by the competent authority; should receive the following training:

(a) General awareness/familiarization training:

Each person should receive training designed to provide familiarity with the general provisions of dangerous goods transport requirements.

Such training should include a description of the classes of dangerous goods; labelling, marking, placarding and packaging, segregation and compatibility requirements; a description of the purpose and content of the transport document; and a description of available emergency response documents.

(b) Function-specific training:

Each person should receive detailed training concerning specific dangerous goods transport requirements which are applicable to the function that person performs.

(c) Safety training.

Commensurate with the risk of exposure in the event of a release and the functions performed, each person should receive training on:

- (i) methods and procedures for accident avoidance, such as proper use of package-handling equipment and appropriate methods of stowage of dangerous goods;
- (ii) available emergency response information and how to use it;
- (iii) general dangers presented by the various classes of dangerous goods and how to prevent exposure to those hazards, including if appropriate the use of personal protective clothing and equipment;
- (iv) immediate procedures to be followed in the event of an unintentional release of dangerous goods, including any emergency response procedures for which the person is responsible and personal protection procedures to be followed.

Such training should be provided or verified upon employment in a position involving dangerous goods transport and should be periodically supplemented with retraining as deemed appropriate by the competent authority."

(k) In paragraph 1.44 amend the third item in the list to read:

"self-reactive and related substances and desensitized explosives in Division 4.1,"

- (1) After paragraph 1.44 insert the following new heading and text:

"Training of dangerous goods transport workers

1.45 Persons ..."

- (m) Figure 1.1 Replace Section 4.5 with:

"Is the substance a self-reactive substance (1.21*/) or an organic peroxide (1.22*/)? yes/no.

If yes, is temperature control required (11.3.5/14.2.2.5*/)?
yes/no

If yes state

4.5.1 proposed control temperature (11.3.5.3*/) ... ° C

4.5.2 proposed emergency temperature (11.3.5.3*/) ... ° C".

Chapter 2

- (a) Place an asterisk at the end of those proper shipping names listed in this chapter which also appear in table 13.3. For example:

"UN 2735 ALKYLAMINES, N.O.S.* or POLYALKYLAMINES, N.O.S.*, corrosive"

- (b) For those N.O.S. entries in this list which include the words "gases", "liquids" or "solids" in the proper shipping name:

Change "gases", "liquids" or "solids" to "gas", "liquid" or "solid" respectively.

- (c) Add at the beginning of Chapter 2:

In the list that follows:

- (1) the abbreviation "N.O.S." denotes "not otherwise specified";
- (2) an alternative shipping name may be shown in brackets following a proper shipping name, e.g. ETHANOL; (ETHYL ALCOHOL);
- (3) an asterisk appearing after a proper shipping name indicates that, for the purposes of documentation and package marking, the name given should be supplemented with the technical name and the applicable packing group (see paragraph 13.8.4)."

- (d) Delete the Notes at the foot of the first page of Chapter 2.

- (e) Delete the following entries:

UN 0273, 0274, 0416, 1584, 1592, 1821, 2449, 2951, 2952, 2953, 2954, 2955, 2970, 2971, 2972, 2973, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043.

(f) Add the following new entries:

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
0491	CHARGES, PROPELLING	1.4C				E158
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.3G				E151
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.4G				E151
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.4D				E140
1851	MEDICINES, LIQUID, POISONOUS, N.O.S.	6.1		109 184 221		
3155	PENTACHLOROPHENOL	6.1		43	II	
3156	COMPRESSED GAS, OXIDIZING, N.O.S.*	2.2	5.1	109		
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.*	2.2	5.1	109		
3158	GAS, REFRIGERATED LIQUID, N.O.S.*	2.2		109		
3159	1, 1, 1, 2-TETRAFLUOROETHANE	2.2				M
3160	LIQUEFIED GAS, TOXIC, FLAMMABLE N.O.S.*	2.3	2.1	109		
3161	LIQUEFIED GAS, FLAMMABLE N.O.S.* .	2.1		109		
3162	LIQUEFIED GAS, TOXIC, N.O.S.*	2.3		109		
3163	LIQUEFIED GAS, N.O.S.*	2.2		109		
3164	ARTICLES, PRESSURIZED PNEUMATIC or HYDRAULIC (containing non- flammable gas)	2.2				
3165	AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel)	3	6.1 8		I	
3166	ENGINES, INTERNAL COMBUSTION, including when fitted in machinery or vehicles	9		106		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3167	GAS SAMPLES, NON-PRESSURIZED, TOXIC, FLAMMABLE, not deeply refrigerated	2.1		209		
3168	GAS SAMPLES, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not deeply refrigerated	2.3	2.1	209		
3169	GAS SAMPLES, NON-PRESSURIZED, TOXIC, N.O.S., not deeply refrigerated	2.3		209		
3170	ALUMINIUM DROSS	4.3		184		
3171	WHEELCHAIR, ELECTRIC with batteries.....	9		106		
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, N.O.S.*	6.1		109 185 210		
3174	TITANIUM DISULPHIDE	4.2			III	
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.*	4.1		109 216	II	
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.*	4.1		109 184		M
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.*	4.1		109 184		
3179	FLAMMABLE SOLID, INORGANIC, POISONOUS, N.O.S.*	4.1	6.1	109 192		
3180	FLAMMABLE SOLID, INORGANIC, CORROSIVE, N.O.S.*	4.1	8	109 192		
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.*	4.1		109 184		
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.*	4.1		109 184		
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.*	4.2		109 184		
3184	SELF-HEATING LIQUID, ORGANIC, POISONOUS, N.O.S.*	4.2	6.1	109 192		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3185	SELF-HEATING LIQUID, ORGANIC, CORROSIVE, N.O.S.*	4.2	8	109 192		
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.*	4.2		109 184		
3187	SELF-HEATING LIQUID, INORGANIC, POISONOUS, N.O.S.*	4.2	6.1	109 192		
3188	SELF-HEATING LIQUID, INORGANIC, CORROSIVE, N.O.S.*	4.2	8	109 192		
3189	SELF-HEATING METAL POWDERS, N.O.S.*	4.2		109 184		
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.*	4.2		109 184		
3191	SELF-HEATING SOLID, INORGANIC, POISONOUS, N.O.S.*	4.2	6.1	109 192		
3192	SELF-HEATING SOLID, INORGANIC, CORROSIVE, N.O.S.*	4.2	8	109 192		
3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.*	4.2		109 110		I
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.*	4.2		109 110		I
3203	PYROPHORIC ORGANOMETALLIC COMPOUNDS, N.O.S.*	4.2		109 110		I
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.*	4.2		109 184		
3206	ALKALI METAL ALCOHOLATES, N.O.S.*	4.2	8	109 192		
3207	ORGANOMETALLIC COMPOUNDS, or SOLUTIONS, or DISPERSIONS, WATER-REACTIVE, FLAMMABLE, N.O.S.*	4.3	3	109 185 222		
3208	METALLIC SUBSTANCES, WATER- REACTIVE, N.O.S.*	4.3		109 185 222		
3209	METALLIC SUBSTANCES, WATER- REACTIVE, SELF-HEATING, N.O.S.*	4.3	4.2	109 129 222		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*.....	5.1		109	II	M
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*.....	5.1		109	II	M
3212	HYPOCHLORITES, INORGANIC, N.O.S.*	5.1		109	II	
3213	BROMATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*	5.1		109	II	M
3214	PERMANGANATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*	5.1		109 206	II	M
3215	PERSULPHATES, INORGANIC, N.O.S.*	5.1		109	III	
3216	PERSULPHATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*	5.1		109	III	M
3217	PERCARBONATES, INORGANIC, N.O.S.*	5.1		109	III	
3218	NITRATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*	5.1		109 184		M
3219	NITRITES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.*	5.1		103 109 184		M
3220	PENTAFLUOROETHANE	2.2				M
3221	SELF-REACTIVE LIQUID TYPE B*	4.1		181 214	II	OP1A-OP5A
3222	SELF-REACTIVE SOLID TYPE B*	4.1		181 214	II	OP1B-OP5B
3223	SELF-REACTIVE LIQUID TYPE C*	4.1		214	II	OP1A-OP6A
3224	SELF-REACTIVE SOLID TYPE C*	4.1		214	II	OP1B-OP6B
3225	SELF-REACTIVE LIQUID TYPE D*	4.1			II	OP1A-OP7A
3226	SELF-REACTIVE SOLID TYPE D*	4.1			II	OP1B-OP7B
3227	SELF-REACTIVE LIQUID TYPE E*	4.1			II	OP1A-OP8A
3228	SELF-REACTIVE SOLID TYPE E*	4.1			II	OP1B-OP8B
3229	SELF-REACTIVE LIQUID TYPE F*	4.1			II	OP1A-OP8A
3230	SELF-REACTIVE SOLID TYPE F*	4.1			II	OP1B-OP8B

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED*	4.1		181 194 214	II	OP1A-OP5A
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED*	4.1		181 194 214	II	OP1B-OP5B
3233	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED*	4.1		194 214	II	OP1A-OP6A
3234	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED*	4.1		194 214	II	OP1B-OP6B
3235	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED*	4.1		194	II	OP1A-OP7A
3236	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED*	4.1		194	II	OP1B-OP7B
3237	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED*	4.1		194	II	OP1A-OP8A
3238	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED*	4.1		194	II	OP1B-OP8B
3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED*	4.1		194 213	II	OP1A-OP8A
3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED*	4.1		194 213	II	OP1B-OP8B
3241	2-BROMO-2-NITROPROPANE-1,3-DIOL ..	6.1		26 132	III	
3242	AZODICARBONAMIDE	4.1		215	II	
3243	SOLIDS CONTAINING POISONOUS LIQUID, N.O.S.	6.1		109 217	II	
3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	8		109 218	II	
3245	GENETICALLY MODIFIED MICRO- ORGANISMS	9		219		
3246	METHANESULPHONYL CHLORIDE	6.1	8		I	
3247	SODIUM PEROXOBORATE, ANHYDROUS ...	5.1			II	

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3248	MEDICINES, LIQUID, FLAMMABLE, POISONOUS, N.O.S.	3	6.1	109 192 220 221		
3249	MEDICINES, SOLID, POISONOUS, N.O.S.	6.1		109 184 221		
3250	CHLOROACETIC ACID, MOLTEN	6.1	8		II	M

(g) Amend the existing entries to read as follows (where col. (a2) is blank the name is unchanged):

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4S				E112
0014	CARTRIDGES, FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.4S				E112
0015		1.2G	8	204		E102
0016		1.3G	8	204		E102
0271	CHARGES, PROPELLING	1.1C				E158
0272	CHARGES, PROPELLING	1.3C				E158
0303		1.4G	8	204		E102
0327	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.3C				E112
0328	CARTRIDGES FOR WEAPONS, INERT PROJECTILE	1.2C				E112
0338	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.4C				E112
0339	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4C				E112
0415	CHARGES, PROPELLING	1.2C				E158
0417	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.3C				E112

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1001		2.1				
1002		2.2				
1003		2.2	5.1			M
1005		2.3	8	23		M
1006		2.2				
1008		2.3				
1009		2.2				M
1010		2.1				M
1011		2.1				M
1012		2.1				M
1013		2.2				
1014		2.2				
1015		2.2				
1016		2.3	2.1			
1017		2.3	5.1			M
1018		2.2				M
1020		2.2				M
1021	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE	2.2				M
1022		2.2				
1023		2.3	2.1			
1026		2.3	2.1			
1027		2.1				M
1028		2.2				M
1029		2.2				M
1030		2.1				M
1032		2.1				M

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1033		2.1				M
1035		2.1				
1036		2.1				M
1037		2.1				M
1038		2.1				M
1039		2.1				
1040		2.3	2.1			M
1041		2.3	2.1			M
1043		2.2				
1044		2.2				
1045		2.3	5.1			
1046		2.2				
1048		2.3	8			
1049		2.1				
1050		2.3	8			
1053		2.3	2.1			
1055		2.1				M
1056		2.2				
1057		2.1		201		
1058		2.2				
1060		2.1				
1061		2.1				M
1062		2.3				M
1063		2.1				M
1064		2.3	2.1			M
1065		2.2				

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1066		2.2				
1067		2.3	5.1			M
1069		2.3	8			
1070		2.2	5.1			
1071		2.1				
1072		2.2	5.1			
1073		2.2	5.1			M
1075		2.1				M
1076		2.3	8			
1077		2.1				M
1078		2.2		109		
1079		2.3				M
1080		2.2				
1081		2.1				
1082		2.1				M
1083		2.1				M
1085		2.1				M
1086		2.1				M
1087		2.1				M
1198	FORMALDEHYDE SOLUTIONS, FLAMMABLE	3	8	202	III	M
1210	PRINTING INK, flammable	3		102 163 187		M
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.*	4.1		109 184		M
1353	FIBRES or FABRICS IMPREGANTED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.	4.1		109	III	

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1361		4.2		184 223		
1362		4.2		223	III	
1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S, with oil	4.2		109	III	
1376		4.2		223	III	
1378	METAL CATALYST, WETTED with a visible excess of liquid	4.2		200	II	
1396		4.3		184		
1398		4.3		37 223	III	
1408		4.3	6.1	39 40 202	III	
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.*	4.3		109 212 222		
1418		4.3	4.2	129		
1420		4.3			I	
1428		4.3			I	M
1454		5.1		208	III	M
1455		5.1			II	
1458		5.1		184		
1459		5.1		184		M
1462		5.1		109	II	
1474		5.1			III	
1475		5.1			II	
1477		5.1		109 184		
1481		5.1		109 184		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1		109 184 206		
1483		5.1		109 184		
1489		5.1			II	
1502		5.1			II	
1506		5.1			II	
1508		5.1			II	
1511		5.1	8		III	
1566		6.1		109 184		
1581		2.3				M
1582		2.3				M
1589		2.3				
1599		6.1		184		M
1612		2.3				
1660		2.3				
1703		2.3				
1705		2.3				
1731		8		184		M
1740		8		109 184		
1741		2.3	8			
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURES, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1			II	
1749		2.3	5.1 8			
1750	CHLOROACETIC ACID, SOLUTION	6.1	8		II	M

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1751		6.1	8		II	
1755		8		184		M
1757		8		184		M
1761		8	6.1	192		M
1783		8		184		M
1787		8		184		M
1788		8		184		M
1789		8		184		M
1791		8		50 51 223		M
1814		8		184		M
1819		8		184		M
1824		8		184		M
1840		8		223	III	M
1858		2.2				M
1859		2.3	8			
1860		2.1				
1911		2.3	2.1			
1912		2.2				M
1913		2.2				M
1932		4.2		223	III	
1951		2.2				M
1952		2.2				
1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.*	2.3	2.1	109		
1954	COMPRESSED GAS, FLAMMABLE, N.O.S.*	2.1		109		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1955	COMPRESSED GAS, TOXIC, N.O.S.*	2.3		109		
1956	COMPRESSED GAS, N.O.S.*	2.2		109		
1957		2.1				
1958		2.2				M
1959		2.1				
1960		2.1				
1961		2.1				M
1962		2.1				
1963		2.2				M
1964		2.1		109		
1965		2.1		109		
1966		2.1				M
1967		2.3		109		
1968		2.2		109		
1969		2.1				M
1970		2.2				M
1971		2.1				
1972		2.1				M
1973		2.2				M
1974		2.2				M
1975		2.3				
1976		2.2				M
1977		2.2				M
1978	PROPANE or PROPANE MIXTURES	2.1				M
1979		2.2				
1980		2.2				

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
1981		2.2				
1982		2.2				
1983	1-CHLORO-2,2,2-TRIFLUOROETHANE	2.2				M
1984		2.2				
1986		3	6.1	109 129		
1988		3	6.1	109 129		
1992		3	6.1	109 129		M
2000		4.1		223	III	
2002		4.2		223	III	
2003	METAL ALKYLs, N.O.S.* or METAL ARYLS, N.O.S.*	4.2		109	I	M
2006	PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.*	4.2		76 109	III	
2009		4.2		223	III	
2020		6.1		205	III	
2034		2.1				
2035		2.1				
2036		2.2				
2044		2.1				
2073		2.2				
2186		2.3	8			
2187		2.2				M
2188		2.3	2.1			
2189		2.3	2.1			
2190		2.3	5.1			

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
2191		2.3				
2192		2.3	2.1			
2193		2.2				
2194		2.3				
2195		2.3				
2196		2.3				
2197		2.3	8			
2198		2.3				
2199		2.3	2.1			
2200		2.1				
2201		2.2				
2202		2.3	2.1			
2203		2.1				
2204		2.3	2.1			
2207		6.1		109	III	M
2209	FORMALDEHYDE SOLUTIONS, with not less than 25% formaldehyde	8			III	M
2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	9		207	III	
2257		4.3			I	M
2417		2.3				
2418		2.3				
2419		2.1				
2420		2.3				
2421		2.3	5.1	76		
2422		2.2				
2424		2.2				

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
2426	AMMONIUM NITRATE, LIQUID (hot concentrated solution)	5.1				M
2427	POTASSIUM CHLORATE, AQUEOUS SOLUTION	5.1			II	M
2428	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1			II	M
2429	CALCIUM CHLORATE, AQUEOUS SOLUTION	5.1			II	M
2451		2.3	5.1			
2452		2.1				
2453		2.1				
2454		2.1				
2455		2.2		76		
2478		3	6.1	109	II	M
2491		8		223	III	M
2495		5.1	6.1 8		I	M
2501		6.1		184		M
2517		2.1				M
2534		2.3	2.1 8			
2548		2.3	5.1 8			
2564		8		184		M
2580		8		223	III	M
2581		8		223	III	M
2582		8		223	III	M
2591		2.2				M
2599		2.2				
2600		2.3	2.1			

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
2601		2.1				
2602		2.2				M
2626	CHLORIC ACID, AQUEOUS SOLUTION, with not more than 10% chloric acid	5.1			II	M
2676		2.3	2.1			
2677		8		184		M
2679		8		184		M
2681		8		184		M
2741		5.1	6.1		II	
2813	WATER-REACTIVE SOLID, N.O.S.*	4.3		109 185 222		
2817		8	6.1	192		M
2818		8	6.1	192		M
2821		6.1		184		M
2837		8		184		M
2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.*	4.2		109 110	I	
2846	PYROPHORIC SOLID, ORGANIC, N.O.S.*	4.2		109 110	I	
2857		2.2		119		
2869		8		184		
2878		4.1		223	III	
2881		4.2		185 200		
2901		2.3	5.1 8			
2925	FLAMMABLE SOLID, ORGANIC, CORROSIVE, N.O.S.*	4.1	8	109 192		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
2926	FLAMMABLE SOLID, ORGANIC, POISONOUS, N.O.S.*	4.1	6.1	109 192		
2965		4.3	3 8		I	M
3049	METAL ALKYL HALIDES, N.O.S.* or METAL ARYL HALIDES, N.O.S.*	4.2		109	I	M
3050	METAL ALKYL HYDRIDES, N.O.S.* or METAL ARYL HYDRIDES, N.O.S.*	4.2		109	I	M
3057		2.3	8			
3070		2.3				
3083		2.3	5.1			
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.*	5.1	8	109 129		
3087	OXIDIZING SOLID, POISONOUS, N.O.S.*	5.1	6.1	109 129		
3088	SELF-HEATING SOLID, ORGANIC N.O.S.*	4.2		109 184		
3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.*	8	4.3	109 130 222		
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.*	8	4.3	109 130 222		
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.*	5.1	8	109 129		
3099	OXIDIZING LIQUID, POISONOUS, N.O.S.*	5.1	6.1	109 129		
3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.*	5.1	4.2	76 109 130		
3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.*	5.1	4.3	76 109 130 222		

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3123	POISONOUS LIQUID, WATER-REACTIVE, N.O.S.*	6.1	4.3	109 130 222		
3125	POISONOUS SOLID, WATER-REACTIVE, N.O.S.*	6.1	4.3	109 130 222		
3126	SELF-HEATING SOLID, ORGANIC, CORROSIVE, N.O.S.*	4.2	8	109 192		
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.*	4.2	5.1	76 109 192		
3128	SELF-HEATING SOLID, ORGANIC, POISONOUS, N.O.S.*	4.2	6.1	109 192		
3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.*	4.3	8	109 129 222		
3130	WATER-REACTIVE LIQUID, POISONOUS, N.O.S.*	4.3	6.1	109 129 222		
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.*	4.3	8	109 129 222		
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.*	4.3	4.1	109 129 222		
3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.*	4.3	5.1	76 109 192 222		
3134	WATER-REACTIVE SOLID, POISONOUS, N.O.S.*	4.3	6.1	109 129 222		
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.*	4.3	4.2	109 129 222		
3136		2.2				

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3137	OXIDIZING SOLID, FLAMMABLE, N.O.S.*	5.1	4.1	76 109	I	
3138		2.1				M
3139	OXIDIZING LIQUID, N.O.S.*	5.1		109 184		
3148	WATER-REACTIVE LIQUID, N.O.S.*	4.3		109 185 222		
3150		2.1				
3153		2.1				
3154		2.1				
