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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****Forty-second session**

Geneva, 3–11 December 2012

Item 2 (b) of the provisional agenda

**Recommendations made by the Sub-Committee on its  
thirty-ninth, fortieth and forty-first sessions and pending issues:  
listing, classification and packing****Assignment of E codes for transport in excepted quantities****Transmitted by the International Civil Aviation Organization (ICAO)<sup>1</sup>****Background**

1. At the forty-first session of the Sub-Committee, ICAO presented a proposal to align the excepted quantity codes in the Model Regulations with those in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (ST/SG/AC.10/C.3/2012/61) on the basis that a number of substances which are forbidden on passenger aircraft are permitted in excepted quantities in the Model Regulations.

2. ICAO was requested to review the list of differences and to provide justification and revised criteria, if possible (ST/SG/AC.10/C.3/82, paragraphs 58 – 61). Accordingly, this paper will be submitted to the next meeting of the ICAO Dangerous Goods Panel (DGP) Working Group of the Whole (Montreal, 15 to 19 October 2012) for its review; the results of the discussion will be provided in an information paper for the forty-second session.

**Proposal**

4. A list of substances for which differences exist between the Model Regulations and the Technical Instructions is provided in the annex. If any changes to the codes in the

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

Technical Instructions are proposed by the DGP at its October 2012 meeting, they will be provided to the Sub-Committee.

5. The Sub-Committee is invited to align the excepted quantity codes in the Model Regulations with those in the Technical Instructions.

## Annex

[English only]

**List of substances for which differences exist between the Excepted Quantity Codes in the Model Regulations versus the Technical Instructions**

Notes 1, 2 and 3 apply to the tables in this annex.

*Note 1.— The following classes/divisions are not included, as all are assigned an EQ code of “E0” in both the Model Regulations and the Technical Instructions. (No EQ code is assigned in the Technical Instructions when an item of dangerous goods is forbidden on both passenger and cargo aircraft — see Note 2.)*

*Class 1  
Division 2.1  
Division 2.2, with subsidiary risk  
Division 2.3  
Class 3, with subsidiary risk (Parking Group I)  
Division 4.1, Parking Group I  
Division 4.2, Parking Group I  
Division 4.3, Parking Group I  
Division 5.1, Parking Group I  
Division 5.2  
Division 6.2  
Class 7  
Class 8, Packing Group I*

*Note 2.— “NIL” appears in the “ICAO EQ” column when the item of dangerous goods is forbidden on both passenger and cargo aircraft.*

*Note 3.— Text is italicized whenever different EQ codes are assigned to different items of dangerous goods within the same class/division/subsidiary risk/packing group.*

**Class 2.2 without subsidiary risk**

<i>UN number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1043	FERTILIZER AMMONIATING SOLUTION with free ammonia	2.2			E1	E0
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 50% ammonia	2.2			E1	E0

**Class 3 without subsidiary risk**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1089	ACETALDEHYDE	3		I	E3	E0
1308	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	3		I	E3	E0
2363	ETHYL MERCAPTAN	3		I	E3	E0
2749	TETRAMETHYLSILANE	3		I	E3	E0
1261	NITROMETHANE	3		II	E2	E0
1278	1-CHLOROPROPANE	3		II	E2	E0

**Class 3 with subsidiary risk**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	E2	E0
2381	DIMETHYL DISULPHIDE	3	6.1	II	E2	E0
2404	PROPIONITRILE	3	6.1	II	E2	E0
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3	6.1	II	E2	E2
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3	6.1	III	E1	E1

**Class 4.1 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1868	DECABORANE	4.1	6.1	II	E2	E0
3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	5.1	II	E2	NIL
3242	AZODICARBONAMIDE	4.1		II	E2	NIL

**Class 4.1 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1331	MATCHES, 'STRIKE ANYWHERE'	4.1		III	E1	NIL
2254	MATCHES, FUSEE	4.1		III	E1	NIL
2956	5-tert-BUTYL-2,4,6-TRINITRO-m- XYLENE (MUSK XYLENE)	4.1		III	E1	NIL
3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	5.1	III	E1	NIL
3251	ISOSORBIDE-5-MONONITRATE	4.1		III	E1	NIL

**Class 4.2 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1361	CARBON, animal or vegetable origin	4.2		II	E2	NIL
1378	METAL CATALYST, WETTED with a visible excess of liquid	4.2		II	E2	E0
2881	METAL CATALYST, DRY	4.2		II	E2	E0
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	5.1	II	E2	NIL

**Class 4.2 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1361	CARBON, animal or vegetable origin	4.2		III	E1	NIL
1363	COPRA	4.2		III	E1	NIL
1364	COTTON WASTE, OILY	4.2		III	E1	NIL
1365	COTTON, WET	4.2		III	E1	NIL
1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil	4.2		III	E1	NIL
1376	IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification	4.2		III	E1	NIL
1379	PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)	4.2		III	E1	NIL
1386	SEED CAKE with more than 1.5% oil and not more than 11% moisture	4.2		III	E1	NIL
1932	ZIRCONIUM SCRAP	4.2		III	E1	NIL
2002	CELLULOID, SCRAP	4.2		III	E1	NIL
2006	PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.	4.2		III	E1	NIL
2217	SEED CAKE with not more than 1.5% oil and not more than 11% moisture	4.2		III	E1	NIL
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	5.1	III	E1	NIL

**Class 4.3 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
2835	SODIUM ALUMINIUM HYDRIDE	4.3		II	E2	E0
3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	4.3	5.1	II	E2	NIL

**Class 4.3 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub-sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	4.3	5.1	III	E1	NIL

**Class 5.1 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub-sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
2014	<i>HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than <u>40%</u> hydrogen peroxide (stabilized as necessary)<sup>1</sup></i>	5.1	8	II	E2	E2
<u>2014</u>	<u>HYDROGEN PEROXIDE, aqueous solution with more than 40% but not more than 60% hydrogen peroxide (stabilized as necessary)<sup>1</sup></u>	<u>5.1</u>	<u>8</u>	<u>II</u>	-	<u>NIL</u>
2626	CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid	5.1		II	E2	NIL
3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.	5.1	4.2	II	E2	NIL
3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.	5.1	4.3	II	E2	NIL
3487	<i>CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water</i>	5.1	8	II	E2	E2

1 The underlined text appears in the Technical Instructions but not in the Model Regulations.

UN 2014 is forbidden on passenger and cargo aircraft (EQ=NIL) except when not less than 20% but not more than 40%

Hydrogen peroxide (stabilized as necessary) (EQ=E2) (PG II).

**Class 5.1 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub-sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1471	LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE	5.1		III	E1	E1
3487	CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water	5.1	8	III	E1	E1

**Class 6.1 Packing Group I**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub-sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1051	HYDROGEN CYANIDE, STABILIZED containing less than 3% water	6.1	3	I	E5	NIL
1259	NICKEL CARBONYL	6.1	3	I	E5	NIL
1560	ARSENIC TRICHLORIDE	6.1		I	E5	NIL
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1		I	E5	NIL
1613	HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide	6.1		I	E5	NIL
1614	HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material	6.1		I	E5	NIL
1649	MOTOR FUEL ANTI-KNOCK MIXTURE	6.1		I	E5	E0
1672	PHENYLCARBYLAMINE CHLORIDE	6.1		I	E5	NIL
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1		I	E5	NIL
1694	BROMOBENZYL CYANIDES, LIQUID	6.1		I	E5	E0
1698	DIPHENYLAMINE CHLOROARSINE	6.1		I	E5	NIL



<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1699	DIPHENYLCHLOROARSINE, LIQUID	6.1		I	E5	NIL
1722	ALLYL CHLOROFORMATE	6.1	3 / 8	I	E5	NIL
1889	CYANOGEN BROMIDE	6.1	8	I	E5	NIL
2249	DICHLORODIMETHYL ETHER, SYMMETRICAL	6.1	3	I	E5	NIL
2295	METHYL CHLOROACETATE	6.1	3	I	E5	NIL
2438	TRIMETHYLACETYL CHLORIDE	6.1	3 / 8	I	E5	NIL
2558	EPIBROMOHYDRIN	6.1	3	I	E5	NIL
2740	n-PROPYL CHLOROFORMATE	6.1	3 / 8	I	E5	NIL
3048	ALUMINIUM PHOSPHIDE PESTICIDE	6.1		I	E5	E0
3122	TOXIC LIQUID, OXIDIZING, N.O.S.	6.1	5.1	I	E5	E0
3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	6.1	4.3	I	E5	E0
3294	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide	6.1	3	I	E5	NIL
3315	CHEMICAL SAMPLE, TOXIC	6.1		I	E5	NIL
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1		I	E5	E0
3450	DIPHENYLCHLOROARSINE, SOLID	6.1		I	E5	E0

### **Class 6.1 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1545	ALLYL ISOTHIOCYANATE, STABILIZED	6.1	3	II	E4	E0
1569	BROMOACETONE	6.1	3	II	E4	NIL
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1		II	E4	NIL
1602	<i>DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.</i>	6.1		<i>II</i>	<i>E4</i>	<i>E4</i>
1603	ETHYL BROMOACETATE	6.1	3	II	E4	NIL

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1		II	E4	E0
1697	CHLOROACETOPHENONE, SOLID	6.1		II	E4	E0
1701	XYLYL BROMIDE, LIQUID	6.1		II	E4	E0
2743	n-BUTYL CHLOROFORMATE	6.1	3 / 8	II	E4	NIL
3416	CHLOROACETOPHENONE, LIQUID	6.1		II	E4	E0
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1		II	E4	E0

### Class 6.1 Packing Group III

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1		III	E1	NIL
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1		III	E1	E1

### Class 8 Packing Group II

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1732	ANTIMONY PENTAFLUORIDE	8	6.1	II	E2	E0
<u>1788</u>	<u>HYDROBROMIC ACID, more than 49% strength<sup>2</sup></u>	<u>8</u>	-	<u>II</u>		<u>NIL</u>
<u>1788</u>	<u>HYDROBROMIC ACID, not more than 49% strength<sup>2</sup></u>	<u>8</u>	-	<u>II</u>	E2	E2
1792	IODINE MONOCHLORIDE, SOLID	8		II	E2	E0
1796	NITRATING ACID MIXTURE with not more than 50% nitric acid	8		II	E2	E0
1802	PERCHLORIC ACID with not more than 50% acid, by mass	8	5.1	II	E2	E0
1806	PHOSPHORUS PENTACHLORIDE	8		II	E2	E0
1808	PHOSPHORUS TRIBROMIDE	8		II	E2	E0

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
1826	NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid	8		II	E2	E0
1832	SULPHURIC ACID, SPENT	8		II	E2	E0
1837	THIOPHOSPHORYL CHLORIDE	8		II	E2	E0
1906	SLUDGE ACID	8		II	E2	E0
1939	PHOSPHORUS OXYBROMIDE	8		II	E2	E0
2030	HYDRAZINE AQUEOUS SOLUTION with more than 37% hydrazine, by mass	8	6.1	II	E2	E0
2031	NITRIC ACID, other than red fuming, with at least 65% but not more than 70% nitric acid	8	5.1	II	E2	E0
2031	NITRIC ACID, other than red fuming, with <u>more than 20% and</u> less than 65% nitric acid <sup>3</sup>	8		II	E2	E0
<u>2031</u>	<u>NITRIC ACID, other than red fuming, with not more than 20% nitric acid<sup>3</sup></u>	<u>8</u>	-	<u>II</u>	-	<u>E2</u>
2442	TRICHLOROACETYL CHLORIDE	8		II	E2	NIL
2443	VANADIUM OXYTRICHLORIDE	8		II	E2	E0
2691	PHOSPHORUS PENTABROMIDE	8		II	E2	E0
2798	PHENYLPHOSPHORUS DICHLORIDE	8		II	E2	E0
2799	PHENYLPHOSPHORUS THIODICHLORIDE	8		II	E2	E0
2826	ETHYL CHLOROTHIOFORMATE	8	3	II	E2	NIL
3498	IODINE MONOCHLORIDE, LIQUID	8		II	E2	E0

<sup>2</sup> The underlined text appears in the Technical Instructions but not in the Model Regulations.

UN 1788 is forbidden on passenger and cargo aircraft (EQ = NIL) except when not more than 49% strength (EQ = E2)

(PG II).

<sup>3</sup> The underlined text appears in the Technical Instructions but not in the Model Regulations.

UN 2031 is forbidden on passenger aircraft (EQ = E0) except when the concentration of nitric acid is 20% or less

(EQ = E2) (PG II).

**Class 8 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
<u>1788</u>	HYDROBROMIC ACID, <u>not more than 49% strength</u> <sup>4</sup>	<u>8</u>	-	<u>III</u>	E1	E1
2215	MALEIC ANHYDRIDE, MOLTEN	8		III	E0	NIL
2215	MALEIC ANHYDRIDE	8		III	E1	E1
3495	IODINE	8	6.1	III	E1	E1

4 The underlined text appears in the Technical Instructions but not in the Model Regulations.

UN 1788 is forbidden on passenger and cargo aircraft (EQ = NIL) except when not more than 49% strength (EQ = E1).

**Class 9 Packing Group II**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
2212	BLUE ASBESTOS (crocidolite) or BROWN ASBESTOS (amosite, mysorite)	9		II	E2	NIL

**Class 9 Packing Group III**

<i>UN Number</i>	<i>Name</i>	<i>Class or division</i>	<i>Sub- sidiary risk</i>	<i>UN PG</i>	<i>UN EQ</i>	<i>ICAO EQ</i>
2071	AMMONIUM NITRATE BASED FERTILIZER	9		III	E1	E1