Name and description	UN No.	Class	Remarks
Pentyl nitrite, see	1113	3	
PERCHLORATES, INORGANIC, N.O.S.	1481	5.1	
PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3211	5.1	
PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass	1873	5.1	
PERCHLORIC ACID with not more than 50% acid, by mass	1802	8	
Perchlorobenzene, see	2729	6.1	
Perchlorocyclopentadiene, see	2646	6.1	
Perchloroethylene, see	1897	6.1	
PERCHLOROMETHYL MERCAPTAN	1670	6.1	
PERCHLORYL FLUORIDE	3083	2	
Perfluoroacetylchloride, see	3057	2	
PERFLUORO(ETHYL VINYL ETHER)	3154	2	
PERFLUORO(METHYL VINYL ETHER)	3153	2	
Perfluoropropane, see	2424	2	
PERFUMERY PRODUCTS with flammable solvents	1266	3	
PERMANGANATES, INORGANIC, N.O.S.	1482	5.1	
PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3214	5.1	
PEROXIDES, INORGANIC, N.O.S.	1483	5.1	
PERSULPHATES, INORGANIC, N.O.S.	3215	5.1	
PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3216	5.1	
PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C	3021	3	
PESTICIDE, LIQUID, TOXIC, N.O.S.	2902	6.1	
PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C	2903	6.1	
PESTICIDE, SOLID, TOXIC, N.O.S.	2588	6.1	
Pesticide, toxic, under compressed gas, n.o.s, see	1950	2	
PETN, see	0150 0411 3344	1 1 4.1	
PETN/TNT, see	0151	1	
PETROL	1203	3	
Petrol and ethanol mixture, with more than 10% ethanol, see	3475	3	
PETROLEUM CRUDE OIL	1267	3	
PETROLEUM DISTILLATES, N.O.S.	1268	3	
Petroleum ether, see	1268	3	
PETROLEUM GASES, LIQUEFIED	1075	2	
Petroleum naphtha, see	1268	3	
Petroleum oil, see	1268	3	
PETROLEUM PRODUCTS, N.O.S.	1268	3	
Petroleum raffinate, see	1268	3	
PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3494	3	
Petroleum spirit, see	1268	3	
PHENACYL BROMIDE	2645	6.1	
PHENETIDINES	2311	6.1	
PHENOLATES, LIQUID	2904	8	
PHENOLATES, SOLID	2905	8	
PHENOL, MOLTEN	2312	6.1	
PHENOL, SOLID	1671	6.1	
PHENOL SOLUTION	2821	6.1	
PHENOLSULPHONIC ACID, LIQUID	1803	8	
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3346	3	
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	3348	6.1	
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3347	6.1	

Name and description	UN No.	Class	Remarks
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	3345	6.1	
PHENYLACETONITRILE, LIQUID	2470	6.1	
PHENYLACETYL CHLORIDE	2577	8	
Phenylamine, see	1547	6.1	
1-Phenylbutane, see	2709	3	
2-Phenylbutane, see	2709	3	
PHENYLCARBYLAMINE CHLORIDE	1672	6.1	
PHENYL CHLOROFORMATE	2746	6.1	
Phenyl cyanide, see	2224	6.1	
PHENYLENEDIAMINES (o-, m-, p-)	1673	6.1	
Phenylethylene, see	2055	3	
PHENYLHYDRAZINE	2572	6.1	
PHENYL ISOCYANATE	2487	6.1	
Phenylisocyanodichloride, see	1672	6.1	
PHENYL MERCAPTAN	2337	6.1	
PHENYLMERCURIC ACETATE	1674	6.1	
PHENYLMERCURIC COMPOUND, N.O.S.	2026	6.1	
PHENYLMERCURIC HYDROXIDE	1894	6.1	
PHENYLMERCURIC NITRATE	1895	6.1	
PHENYLPHOSPHORUS DICHLORIDE	2798	8	
PHENYLPHOSPHORUS THIODICHLORIDE	2799	8	
2-Phenylpropene, see	2303	3	
PHENYLTRICHLOROSILANE	1804	8	
PHOSGENE	1076	2	
9-PHOSPHABICYCLONONANES	2940	4.2	
PHOSPHINE	2199	2	
PHOSPHINE, ADSORBED	3525	2	
Phosphoretted hydrogen, see	2199	2	
PHOSPHORIC ACID, SOLUTION	1805	8	
PHOSPHORIC ACID, SOLID	3453	8	
Phosphoric acid, anhydrous, see	1807	8	
PHOSPHOROUS ACID	2834	8	
PHOSPHORUS, AMORPHOUS	1338	4.1	
Phosphorus bromide, see	1808	8	
Phosphorus chloride, see	1809	6.1	
PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus	1339	4.1	
PHOSPHORUS OXYBROMIDE	1939	8	
PHOSPHORUS OXYBROMIDE, MOLTEN	2576	8	
PHOSPHORUS OXYCHLORIDE	1810	6.1	
PHOSPHORUS PENTABROMIDE	2691	8	
PHOSPHORUS PENTACHLORIDE	1806	8	
PHOSPHORUS PENTAFLUORIDE	2198	2	
PHOSPHORUS PENTAFLUORIDE, ADSORBED	3524	2	
PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus	1340	4.3	
PHOSPHORUS PENTOXIDE	1807	8	
PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus	1341	4.1	
Phosphorus (V) sulphide, free from yellow and white phosphorus, see	1340	4.3	
Phosphorus sulphochloride, see	1837	8	
PHOSPHORUS TRIBROMIDE	1808	8	
PHOSPHORUS TRICHLORIDE	1809	6.1	
PHOSPHORUS TRIOXIDE	2578	8	
PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus	1343	4.1	
PHOSPHORUS, WHITE, DRY	1381	4.2	
PHOSPHORUS, WHITE IN SOLUTION	1381	4.2	
PHOSPHORUS, WHITE, MOLTEN	2447	4.2	
PHOSPHORUS, WHITE, UNDER WATER	1381	4.2	
PHOSPHORUS, YELLOW, DRY	1381	4.2	

Name and description	UN No.	Class	Remarks
PHOSPHORUS, YELLOW, IN SOLUTION	1381	4.2	
PHOSPHORUS, YELLOW, UNDER WATER	1381	4.2	
Phosphoryl chloride, see	1810	6.1	
PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride	2214	8	
PICOLINES	2313	3	
PICRAMIDE, see	0153	1	
PICRIC ACID WETTED, see	1344 3364	4.1 4.1	
PICRITE, see	0282	1	
PICRITE, WETTED, see	1336	4.1	
Picrotoxin, see	3172 3462	6.1 6.1	
PICRYL CHLORIDE, see	0155	1	
PICRYL CHLORIDE, WETTED, see	3365	4.1	
alpha-PINENE	2368	3	
PINE OIL	1272	3	
PIPERAZINE	2579	8	
PIPERIDINE	2401	8	
Pivaloyl chloride, see	2438	6.1	
Plastic explosives , see	0084	1	
PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour	3314	9	
PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.	2006	4.2	
Polish, see	1263 3066 3469 3470	3 8 3 8	
POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	2733	3	
POLYAMINES, LIQUID, CORROSIVE, N.O.S.	2735	8	
POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	2734	8	
POLYAMINES, SOLID, CORROSIVE, N.O.S.	3259	8	
POLYCHLORINATED BIPHENYLS, LIQUID	2315	9	
POLYCHLORINATED BIPHENYLS, SOLID	3432	9	
POLYESTER RESIN KIT, liquid base material	3269	3	
POLYESTER RESIN KIT, solid base material	3527	4.1	
POLYHALOGENATED BIPHENYLS, LIQUID	3151	9	
POLYHALOGENATED BIPHENYLS, SOLID	3152	9	
POLYHALOGENATED TERPHENYLS, LIQUID	3151	9	
POLYHALOGENATED TERPHENYLS, SOLID	3152	9	
POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	2211	9	
POLYMERIZING SUBSTANCE, LIQUID, STABILIZED, N.O.S.	3532	4.1	
POLYMERIZING SUBSTANCE, LIQUID, TEMPERATURE CONTROLLED, N.O.S.	3534	4.1	
POLYMERIZING SUBSTANCE, SOLID, STABILIZED, N.O.S.	3531	4.1	
POLYMERIZING SUBSTANCE, SOLID, TEMPERATURE CONTROLLED, N.O.S.	3533	4.1	
Polystyrene beads, expandable, see	2211	9	
POTASSIUM	2257	4.3	
POTASSIUM ARSENATE	1677	6.1	
POTASSIUM ARSENITE	1678	6.1	
Potassium bifluoride, see	1811	8	
Potassium bisulphate, see	2509	8	
Potassium bisulphite solution, see	2693	8	
POTASSIUM BOROHYDRIDE	1870	4.3	
POTASSIUM BROMATE	1484	5.1	
POTASSIUM CHLORATE	1485	5.1	
POTASSIUM CHLORATE, AQUEOUS SOLUTION	2427	5.1	
Potassium chlorate mixed with mineral oil, see	0083	1	
POTASSIUM CUPROCYANIDE	1679	6.1	

Name and description	UN No.	Class	Remarks
POTASSIUM CYANIDE, SOLID	1680	6.1	
POTASSIUM CYANIDE, SOLUTION	3413	6.1	
Potassium dicyanocuprate (I), see	1679	6.1	
POTASSIUM DITHIONITE	1929	4.2	
POTASSIUM FLUORIDE, SOLID	1812	6.1	
POTASSIUM FLUORIDE, SOLUTION	3422	6.1	
POTASSIUM FLUOROACETATE	2628	6.1	
POTASSIUM FLUOROSILICATE	2655	6.1	
Potassium hexafluorosilicate, see	2655	6.1	
Potassium hydrate, see	1814	8	
POTASSIUM HYDROGENDIFLUORIDE, SOLID	1811	8	
POTASSIUM HYDROGENDIFLUORIDE, SOLUTION	3421	8	
POTASSIUM HYDROGEN SULPHATE	2509	8	
POTASSIUM HYDROSULPHITE, see	1929	4.2	
Potassium hydroxide, liquid, see	1814	8	
POTASSIUM HYDROXIDE, SOLID	1813	8	
POTASSIUM HYDROXIDE SOLUTION	1814	8	
POTASSIUM METAL ALLOYS, LIQUID	1420	4.3	
POTASSIUM METAL ALLOYS, SOLID	3403	4.3	
POTASSIUM METAVANADATE	2864	6.1	
POTASSIUM MONOXIDE	2033	8	
POTASSIUM NITRATE	1486	5.1	
Potassium nitrate and sodium nitrate mixture, see	1499	5.1	
POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	1487	5.1	
POTASSIUM NITRITE	1488	5.1	
POTASSIUM PERCHLORATE	1489	5.1	
POTASSIUM PERMANGANATE	1490	5.1	
POTASSIUM PEROXIDE	1491	5.1	
POTASSIUM PERSULPHATE	1492	5.1	
POTASSIUM PHOSPHIDE	2012	4.3	
Potassium selenate, see	2630	6.1	
Potassium selenite, see	2630	6.1	
Potassium silicofluoride, see	2655	6.1	
POTASSIUM SODIUM ALLOYS, LIQUID	1422	4.3	
POTASSIUM SODIUM ALLOYS, SOLID	3404	4.3	
POTASSIUM SULPHIDE with less than 30% water of crystallization	1382	4.2	
POTASSIUM SULPHIDE, ANHYDROUS	1382	4.2	
POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization	1847	8	
POTASSIUM SUPEROXIDE	2466	5.1	
Potassium tetracyano-mercurate (II), see	1626	6.1	
POWDER CAKE, WETTED with not less than 17% alcohol, by mass	0433	1	
POWDER CAKE, WETTED with not less than 25% water, by mass	0159	1	
POWDER PASTE, see	0159	1	
	0433	1	
POWDER, SMOKELESS	0160	1	
	0161	1	
	0509	1	
Power devices, explosive, see	0275	1	
	0276	1	
	0323	1	
	0381	1	
PRIMERS, CAP TYPE	0044	1	
	0377	1	
	0378	1	
Primers, small arms, see	0044	1	
PRIMERS, TUBULAR	0319	1	
	0320	1	
	0376	1	
PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	1210	3	

Name and description	UN No.	Class	Remarks
Projectiles, illuminating, see	0171	1	
	0254	1	
	0297	1	
PROJECTILES, inert with tracer	0345	1	
	0424	1	
	0425	1	
PROJECTILES with burster or expelling charge	0346	1	
	0347	1	
	0426	1	
	0427	1	
	0434	1	
	0435	1	
PROJECTILES with bursting charge	0167	1	
	0168	1	
	0169	1	
	0324	1	
	0344	1	
PROPADIENE, STABILIZED	2200	2	
Propadiene and methyl acetylene mixture, stabilized, see	1060	2	
PROPANE	1978	2	
PROPANETHIOLS	2402	3	
n-PROPANOL	1274	3	
PROPELLANT, LIQUID	0495	1	
	0497	1	
PROPELLANT, SOLID	0498	1	
	0499	1	
	0501	1	
Propellant with a single base, Propellant with a double base, Propellant with a triple base, see	0160	1	
	0161	1	
Propene, see	1077	2	
PROPIONALDEHYDE	1275	3	
PROPIONIC ACID with not less than 10% and less than 90% acid by mass	1848	8	
PROPIONIC ACID with not less than 90% acid by mass	3463	8	
PROPIONIC ANHYDRIDE	2496	8	
PROPIONITRILE	2404	3	
PROPIONYL CHLORIDE	1815	3	
n-PROPYL ACETATE	1276	3	
PROPYL ALCOHOL, NORMAL, see	1274	3	
PROPYLAMINE	1277	3	

Name and description	UN No.	Class	Remarks
n-PROPYLBENZENE	2364	3	
Propyl chloride, see	1278	3	
n-PROPYL CHLOROFORMATE	2740	6.1	
PROPYLENE	1077	2	
PROPYLENE CHLOROHYDRIN	2611	6.1	
1,2-PROPYLENEDIAMINE	2258	8	
Propylene dichloride, see	1279	3	
PROPYLENEIMINE, STABILIZED	1921	3	
PROPYLENE OXIDE	1280	3	
PROPYLENE TETRAMER	2850	3	
Propylene trimer, see	2057	3	
PROPYL FORMATES	1281	3	
n-PROPYL ISOCYANATE	2482	6.1	
Propyl mercaptan, see	2402	3	
n-PROPYL NITRATE	1865	3	
PROPYLTRICHLOROSILANE	1816	8	
Pyrazine hexahydride, see	2579	8	
PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3350	3	
PYRETHROID PESTICIDE, LIQUID, TOXIC	3352	6.1	
PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3351	6.1	
PYRETHROID PESTICIDE, SOLID, TOXIC	3349	6.1	
PYRIDINE	1282	3	
Pyrophoric organometallic compound, water-reactive, n.o.s., liquid, see	3394	4.2	
Pyrophoric organometallic compound, water-reactive, n.o.s., solid, see	3393	4.2	
PYROPHORIC ALLOY, N.O.S.	1383	4.2	
PYROPHORIC LIQUID, INORGANIC, N.O.S.	3194	4.2	
PYROPHORIC LIQUID, ORGANIC, N.O.S.	2845	4.2	
PYROPHORIC METAL, N.O.S.	1383	4.2	

Name and description	UN No.	Class	Remarks
PYROPHORIC SOLID, INORGANIC, N.O.S.	3200	4.2	
PYROPHORIC SOLID, ORGANIC, N.O.S.	2846	4.2	
PYROSULPHURYL CHLORIDE	1817	8	
Pyroxylin solution, see	2059	3	
PYRROLIDINE	1922	3	
QUINOLINE	2656	6.1	
Quinone, see	2587	6.1	
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM	2909	7	
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING	2908	7	
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES	2911	7	
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL	2910	7	
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted	2912	7	
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE	3324	7	
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted	3321	7	
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), FISSILE	3325	7	
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted	3322	7	
RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE	3326	7	
RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I, SCO-II or SCO-III), non fissile or fissile-excepted	2913	7	
RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE	3331	7	
RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted	2919	7	
RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form	3327	7	
RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted	2915	7	
RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE	3333	7	
RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted	3332	7	
RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE	3329	7	
RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted	2917	7	
RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE	3328	7	
RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted	2916	7	
RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE	3330	7	
RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted	3323	7	
RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	2977	7	
RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted	2978	7	
Rags, oily	1856	4.2	Not subject to ADN

Name and description	UN No.	Class	Remarks
RDX, see	0072	1	
	0391	1	
	0483	1	
RECEPTACLES, SMALL, CONTAINING GAS without a release device, non-refillable	2037	2	
Red phosphorus, see	1338	4.1	
REFRIGERANT GAS, N.O.S., such as mixture F1, mixture F2 or mixture P2	1078	2	
REFRIGERANT GAS R 12, see	1028	2	
REFRIGERANT GAS R 12B1, see	1974	2	
REFRIGERANT GAS R 13, see	1022	2	
REFRIGERANT GAS R 13B1, see	1009	2	
REFRIGERANT GAS R 14, see	1982	2	
REFRIGERANT GAS R 21, see	1029	2	
REFRIGERANT GAS R 22, see	1018	2	
REFRIGERANT GAS R 23, see	1984	2	
REFRIGERANT GAS R 32, see	3252	2	
REFRIGERANT GAS R 40, see	1063	2	
REFRIGERANT GAS R 41, see	2454	2	
REFRIGERANT GAS R 114, see	1958	2	
REFRIGERANT GAS R 115, see	1020	2	
REFRIGERANT GAS R 116, see	2193	2	
REFRIGERANT GAS R 124, see	1021	2	
REFRIGERANT GAS R 125, see	3220	2	
REFRIGERANT GAS R 133a, see	1983	2	
REFRIGERANT GAS R 134a, see	3159	2	
REFRIGERANT GAS R 142b, see	2517	2	
REFRIGERANT GAS R 143a, see	2035	2	
REFRIGERANT GASR 152a, see	1030	2	
REFRIGERANT GAS R 161, see	2453	2	
REFRIGERANT GAS R 218, see	2424	2	
REFRIGERANT GAS R 227, see	3296	2	
REFRIGERANT GAS R 404A	3337	2	
REFRIGERANT GAS R 407A	3338	2	
REFRIGERANT GAS R 407B	3339	2	
REFRIGERANT GAS R 407C	3340	2	
REFRIGERANT GAS R 500, see	2602	2	
REFRIGERANT GAS R 502, see	1973	2	
REFRIGERANT GAS R 503, see	2599	2	
REFRIGERANT GAS R 1132a, see	1959	2	
REFRIGERANT GAS R 1216, see	1858	2	
REFRIGERANT GAS R 1318, see	2422	2	
REFRIGERANT GAS RC 318, see	1976	2	
REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas	3358	2	
REFRIGERATING MACHINES containing non-flammable, non-toxic, gases or ammonia solutions (UN 2672)	2857	2	
REGULATED MEDICAL WASTE, N.O.S.	3291	6.2	
RELEASE DEVICES, EXPLOSIVE	0173	1	
RESIN SOLUTION, flammable	1866	3	
Resorcin, see	2876	6.1	
RESORCINOL	2876	6.1	
RIVETS, EXPLOSIVE	0174	1	
Road oil, with a flash-point not greater than 60 °C, see	1999	3	
Road oil, with a flash-point above 60 °C, at or above its flash-point, see	3256	3	
Road oil, at or above 100 °C and below its flash-point, see	3257	9	
ROCKET MOTORS	0186	1	
	0280	1	
	0281	1	
	0510	1	
ROCKET MOTORS, LIQUID FUELLED	0395	1	
	0396	1	
ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	0250	1	
	0322	1	
ROCKETS with bursting charge	0180	1	
	0181	1	
	0182	1	
	0295	1	
ROCKETS with expelling charge	0436	1	
	0437	1	
	0438	1	

Name and description	UN No.	Class	Remarks
ROCKETS with inert head	0183 0502	1 1	
ROCKETS, LINE-THROWING	0238 0240 0453	1 1 1	
ROCKETS, LIQUID FUELLED with bursting charge	0397 0398	1 1	
ROSIN OIL	1286	3	
RUBBER SCRAP, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45 %	1345	4.1	
RUBBER SHODDY, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45 %	1345	4.1	
RUBBER SOLUTION	1287	3	
RUBIDIUM	1423	4.3	
RUBIDIUM HYDROXIDE	2678	8	
RUBIDIUM HYDROXIDE SOLUTION	2677	8	
Rubidium nitrate, see	1477	5.1	
SAFETY DEVICES, electrically initiated	3268	9	
SAFETY DEVICES, PYROTECHNIC	0503	1	
Saltpetre, see	1486	5.1	
SAMPLES, EXPLOSIVE, other than initiating explosive	0190	1	
Sand acid, see	1778	8	
Seat-belt pretensioners, see	0503 3268	1 9	
SEED CAKE with more than 1.5% oil and not more than 11% moisture	1386	4.2	
SEED CAKE with not more than 1.5% oil and not more than 11% moisture	2217	4.2	
Seed expellers, see	1386 2217	4.2 4.2	
SELENATES	2630	6.1	
SELENIC ACID	1905	8	
SELENITES	2630	6.1	
SELENIUM COMPOUND, LIQUID, N.O.S.	3440	6.1	
SELENIUM COMPOUND, SOLID, N.O.S.	3283	6.1	
SELENIUM DISULPHIDE	2657	6.1	
SELENIUM HEXAFLUORIDE	2194	2	
SELENIUM OXYCHLORIDE	2879	8	
SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	3188	4.2	
SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	3185	4.2	
SELF-HEATING LIQUID, INORGANIC, N.O.S.	3186	4.2	
SELF-HEATING LIQUID, ORGANIC, N.O.S.	3183	4.2	
SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	3187	4.2	
SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	3184	4.2	
SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	3192	4.2	
SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	3126	4.2	
SELF-HEATING SOLID, INORGANIC, N.O.S.	3190	4.2	
SELF-HEATING SOLID, ORGANIC, N.O.S.	3088	4.2	
SELF-HEATING SOLID, OXIDIZING, N.O.S	3127	4.2	Carriage prohi-bited
SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	3191	4.2	
SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	3128	4.2	
SELF-REACTIVE LIQUID TYPE B	3221	4.1	
SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	3231	4.1	
SELF-REACTIVE LIQUID TYPE C	3223	4.1	
SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED	3233	4.1	
SELF-REACTIVE LIQUID TYPE D	3225	4.1	
SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED	3235	4.1	

Name and description	UN No.	Class	Remarks
SELF-REACTIVE LIQUID TYPE E	3227	4.1	
SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED	3237	4.1	
SELF-REACTIVE LIQUID TYPE F	3229	4.1	
SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED	3239	4.1	
SELF-REACTIVE SOLID TYPE B	3222	4.1	
SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	3232	4.1	
SELF-REACTIVE SOLID TYPE C	3224	4.1	
SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED	3234	4.1	
SELF-REACTIVE SOLID TYPE D	3226	4.1	
SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED	3236	4.1	
SELF-REACTIVE SOLID TYPE E	3228	4.1	
SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED	3238	4.1	
SELF-REACTIVE SOLID TYPE F	3230	4.1	
SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED	3240	4.1	
SHALE OIL	1288	3	
Shaped charges, see	0059	1	
	0439	1	
	0440	1	
	0441	1	
Shellac, see	1263	3	
	3066	8	
	3469	3	
	3470	8	
SIGNAL DEVICES, HAND	0191	1	
	0373	1	
SIGNALS, DISTRESS, ship	0194	1	
	0195	1	
	0505	1	
	0506	1	
Signals, distress, ship, water-activated, see	0249	1	
SIGNALS, RAILWAY TRACK, EXPLOSIVE	0192	1	
	0193	1	
	0492	1	
	0493	1	
SIGNALS, SMOKE	0196	1	
	0197	1	
	0313	1	
	0487	1	
	0507	1	
SILANE	2203	2	
Silicofluoric acid, see	1778	8	
Silicofluorides, n.o.s., see	2856	6.1	
Silicon chloride, see	1818	8	
SILICON POWDER, AMORPHOUS	1346	4.1	
SILICON TETRACHLORIDE	1818	8	
SILICON TETRAFLUORIDE	1859	2	
SILICON TETRAFLUORIDE, ADSORBED	3521	2	
SILVER ARSENITE	1683	6.1	
SILVER CYANIDE	1684	6.1	
SILVER NITRATE	1493	5.1	
SILVER PICRATE, WETTED with not less than 30% water, by mass	1347	4.1	
SLUDGE ACID	1906	8	
SODA LIME with more than 4% sodium hydroxide	1907	8	
SODIUM	1428	4.3	
Sodium aluminate, solid	2812	8	Not subject to ADN
SODIUM ALUMINATE SOLUTION	1819	8	
SODIUM ALUMINIUM HYDRIDE	2835	4.3	
SODIUM AMMONIUM VANADATE	2863	6.1	
SODIUM ARSANILATE	2473	6.1	
SODIUM ARSENATE	1685	6.1	
SODIUM ARSENITE, AQUEOUS SOLUTION	1686	6.1	

Name and description	UN No.	Class	Remarks
SODIUM ARSENITE, SOLID	2027	6.1	
SODIUM AZIDE	1687	6.1	
Sodium bifluoride, see	2439	8	
Sodium binoxide, see	1504	5.1	
Sodium bisulphite solution, see	2693	8	
SODIUM BOROHYDRIDE	1426	4.3	
SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass	3320	8	
SODIUM BROMATE	1494	5.1	
SODIUM CACODYLATE	1688	6.1	
SODIUM CARBONATE PEROXYHYDRATE	3378	5.1	
SODIUM CHLORATE	1495	5.1	
SODIUM CHLORATE, AQUEOUS SOLUTION	2428	5.1	
Sodium chlorate mixed with dinitrotoluene, see	0083	1	
SODIUM CHLORITE	1496	5.1	
SODIUM CHLOROACETATE	2659	6.1	
SODIUM CUPROCYANIDE, SOLID	2316	6.1	
SODIUM CUPROCYANIDE SOLUTION	2317	6.1	
SODIUM CYANIDE, SOLID	1689	6.1	
SODIUM CYANIDE, SOLUTION	3414	6.1	
Sodium dicyanocuprate (I), solid, see	2316	6.1	
Sodium dicyanocuprate (I) solution, see	2317	6.1	
Sodium dimethylarsenate, see	1688	6.1	
SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass	0234	1	
SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 10% water, by mass	3369	4.1	
SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass	1348	4.1	
Sodium dioxide, see	1504	5.1	
SODIUM DITHIONITE	1384	4.2	
SODIUM FLUORIDE, SOLID	1690	6.1	
SODIUM FLUORIDE, SOLUTION	3415	6.1	
SODIUM FLUOROACETATE	2629	6.1	
SODIUM FLUOROSILICATE	2674	6.1	
Sodium hexafluorosilicate, see	2674	6.1	
Sodium hydrate, see	1824	8	
SODIUM HYDRIDE	1427	4.3	
Sodium hydrogen 4-amino-phenylarsenate, see	2473	6.1	
SODIUM HYDROGENDIFLUORIDE	2439	8	
SODIUM HYDROSULPHIDE with less than 25% water of crystallization	2318	4.2	
SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization	2949	8	
SODIUM HYDROSULPHITE, see	1384	4.2	
SODIUM HYDROXIDE, SOLID	1823	8	
SODIUM HYDROXIDE SOLUTION	1824	8	
SODIUM ION BATTERIES CONTAINED IN EQUIPMENT, with organic electrolyte	3552	9	
SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte	3552	9	
SODIUM ION BATTERIES with organic electrolyte	3551	9	
Sodium metasilicate pentahydrate, see	3253	8	
SODIUM METHYLATE	1431	4.2	
SODIUM METHYLATE SOLUTION in alcohol	1289	3	
SODIUM MONOXIDE	1825	8	
SODIUM NITRATE	1498	5.1	
SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	1499	5.1	
SODIUM NITRITE	1500	5.1	

Name and description	UN No.	Class	Remarks
Sodium nitrite and potassium nitrate mixture, see	1487	5.1	
SODIUM PENTACHLOROPHENATE	2567	6.1	
SODIUM PERBORATE MONOHYDRATE	3377	5.1	
SODIUM PERCHLORATE	1502	5.1	
SODIUM PERMANGANATE	1503	5.1	
SODIUM PEROXIDE	1504	5.1	
SODIUM PEROXOBORATE, ANHYDROUS	3247	5.1	
SODIUM PERSULPHATE	1505	5.1	
SODIUM PHOSPHIDE	1432	4.3	
SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	0235	1	
SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	1349	4.1	
Sodium potassium alloys, liquid, see	1422	4.3	
Sodium selenate, see	2630	6.1	
Sodium selenite, see	2630	6.1	
Sodium silicofluoride, see	2674	6.1	
SODIUM SULPHIDE, ANHYDROUS	1385	4.2	
SODIUM SULPHIDE with less than 30% water of crystallization	1385	4.2	
SODIUM SULPHIDE, HYDRATED with not less than 30% water	1849	8	
SODIUM SUPEROXIDE	2547	5.1	
SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	3244	8	
SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60°C	3175	4.1	
SOLIDS CONTAINING TOXIC LIQUID, N.O.S.	3243	6.1	
Solvents, flammable, n.o.s., see	1993	3	
Solvents, flammable, toxic, n.o.s., see	1992	3	
SOUNDING DEVICES, EXPLOSIVE	0204	1	
	0296	1	
	0374	1	
	0375	1	
Squibs, see	0325	1	
	0454	1	
Stain, see	1263	3	
	3066	8	
	3469	3	
	3470	8	
STANNIC CHLORIDE, ANHYDROUS	1827	8	
STANNIC CHLORIDE PENTAHYDRATE	2440	8	
STANNIC PHOSPHIDES	1433	4.3	
Steel swarf, see	2793	4.2	
STIBINE	2676	2	
Straw	1327	4.1	Not subject to ADN
Strontium alloys, pyrophoric, see	1383	4.2	
STRONTIUM ARSENITE	1691	6.1	
STRONTIUM CHLORATE	1506	5.1	
Strontium dioxide, see	1509	5.1	
STRONTIUM NITRATE	1507	5.1	
STRONTIUM PERCHLORATE	1508	5.1	
STRONTIUM PEROXIDE	1509	5.1	
STRONTIUM PHOSPHIDE	2013	4.3	
STRYCHNINE	1692	6.1	
STRYCHNINE SALTS	1692	6.1	
STYPHNIC ACID, see	0219	1	
	0394	1	
STYRENE MONOMER, STABILIZED	2055	3	
SUBSTANCES, EVI, N.O.S., see	0482	1	

Name and description	UN No.	Class	Remarks
SUBSTANCES, EXPLOSIVE, N.O.S.	0357	1	
	0358	1	
	0359	1	
	0473	1	
	0474	1	
	0475	1	
	0476	1	
	0477	1	
	0478	1	
	0479	1	
	0480	1	
	0481	1	
	0485	1	
SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE, N.O.S.	0482	1	
Substances liable to spontaneous combustion, n.o.s., see	2845	4.2	
	2846	4.2	
	3194	4.2	
	3200	4.2	
SUBSTANCES WITH A FLASH-POINT ABOVE 60 °C which are carried heated within a limiting range of 15K below their flash-point	9001	3	Dangerous in tank vessels only
SUBSTANCES WITH A FLASH-POINT ABOVE 60 °C AND NOT MORE THAN 100 °C, which do not belong to another Class	9003	9	Dangerous in tank vessels only
SUBSTANCES WITH AN AUTO-IGNITION TEMPERATURE OF 200 °C AND BELOW, n.o.s.	9002	3	Dangerous in tank vessels only
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2780	3	
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	3014	6.1	
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3013	6.1	
SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	2779	6.1	
SULPHAMIC ACID	2967	8	
SULPHUR	1350	4.1	
SULPHUR CHLORIDES	1828	8	
Sulphur dichloride, see	1828	8	
SULPHUR DIOXIDE	1079	2	
Sulphuretted hydrogen, see	1053	2	
SULPHUR HEXAFLUORIDE	1080	2	
SULPHURIC ACID with more than 51% acid	1830	8	
SULPHURIC ACID with not more than 51% acid	2796	8	
SULPHURIC ACID, FUMING	1831	8	
SULPHURIC ACID, SPENT	1832	8	
Sulphuric and hydrofluoric acid mixture, see	1786	8	
SULPHUR, MOLTEN	2448	4.1	
Sulphur monochloride, see	1828	8	
SULPHUROUS ACID	1833	8	
SULPHUR TETRAFLUORIDE	2418	2	
SULPHUR TRIOXIDE, STABILIZED	1829	8	
SULPHURYL CHLORIDE	1834	6.1	
SULPHURYL FLUORIDE	2191	2	
Table Tennis Balls, see	2000	4.1	
Talcum with tremolite and/or actinolite, see	2212	9	
TARS, LIQUID, including road oils and cutback bitumens, with a flash-point not greater than 60 °C	1999	3	
Tars, liquid, with a flash-point above 60 °C, at or above its flash-point, see	3256	3	
Tars, liquid, at or above 100 °C and below its flash-point, see	3257	9	
Tartar emetic, see	1551	6.1	
TEAR GAS CANDLES	1700	6.1	
TEAR GAS SUBSTANCE, LIQUID, N.O.S.	1693	6.1	
TEAR GAS SUBSTANCE, SOLID, N.O.S.	3448	6.1	
TELLURIUM COMPOUND, N.O.S.	3284	6.1	
TELLURIUM HEXAFLUORIDE	2195	2	
TERPENE HYDROCARBONS, N.O.S.	2319	3	
TERPINOLENE	2541	3	
TETRABROMOETHANE	2504	6.1	

Name and description	UN No.	Class	Remarks
1,1,2,2-TETRACHLOROETHANE	1702	6.1	
TETRACHLOROETHYLENE	1897	6.1	
TETRAETHYL DITHIO-PYROPHOSPHATE	1704	6.1	
TETRAETHYLENEPENTAMINE	2320	8	
Tetraethyl lead, see	1649	6.1	
TETRAETHYL SILICATE	1292	3	
Tetraethyoxysilane, see	1292	3	
Tetrafluorodichloroethane, see	1958	2	
1,1,1,2-TETRAFLUOROETHANE	3159	2	
TETRAFLUOROETHYLENE, STABILIZED	1081	2	
TETRAFLUOROMETHANE	1982	2	
1,2,3,6-TETRAHYDRO-BENZALDEHYDE	2498	3	
TETRAHYDROFURAN	2056	3	
TETRAHYDRO-FURFURYLAMINE	2943	3	
Tetrahydro-1,4-oxazine, see	2054	3	
TETRAHYDROPHTHALIC ANHYDRIDES with more than 0.05% of maleic anhydride	2698	8	
1,2,3,6-TETRAHYDROPYRIDINE	2410	3	
TETRAHYDROTHIOPHENE	2412	3	
Tetramethoxysilane, see	2606	6.1	
TETRAMETHYLAMMONIUM HYDROXIDE, SOLID	3423	6.1	
TETRAMETHYLAMMONIUM HYDROXIDE, AQUEOUS SOLUTION	3560 1835	6.1 8	
Tetramethylene, see	2601	2	
Tetramethylene cyanide, see	2205	6.1	
Tetramethyl lead, see	1649	6.1	
TETRAMETHYLSILANE	2749	3	
TETRANITROANILINE	0207	1	
TETRANITROMETHANE	1510	6.1	
TETRAPROPYL ORTHOTITANATE	2413	3	
TETRAZENE, WETTED with not less than 30% water, or mixture of alcohol and water, by mass, see	0114	1	
TETRAZOL-1-ACETIC ACID	0407	1	
1H-TETRAZOLE	0504	1	
TETRYL, see	0208	1	
Textile waste, wet	1857	4.2	Not subject to ADN
THALLIUM CHLORATE	2573	5.1	
Thallium (I) chlorate, see	2573	5.1	
THALLIUM COMPOUND, N.O.S.	1707	6.1	
THALLIUM NITRATE	2727	6.1	
Thallium (I) nitrate, see	2727	6.1	
Thallous chlorate, see	2573	5.1	
4-THIAPENTANAL	2785	6.1	
Thia-4-pentanal, see	2785	6.1	
THIOACETIC ACID	2436	3	
THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2772	3	
THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	3006	6.1	
THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3005	6.1	
THIOCARBAMATE PESTICIDE, SOLID, TOXIC	2771	6.1	
THIOGLYCOL	2966	6.1	
THIOGLYCOLIC ACID	1940	8	
THIOLACTIC ACID	2936	6.1	
THIONYL CHLORIDE	1836	8	
THIOPHENE	2414	3	
Thiophenol, see	2337	6.1	
THIOPHOSGENE	2474	6.1	
THIOPHOSPHORYL CHLORIDE	1837	8	
THIOUREA DIOXIDE	3341	4.2	
Tin (IV) chloride, anhydrous, see	1827	8	
Tin (IV) chloride pentahydrate, see	2440	8	

Name and description	UN No.	Class	Remarks
TINCTURES, MEDICINAL	1293	3	
Tin tetrachloride, see	1827	8	
TITANIUM DISULPHIDE	3174	4.2	
TITANIUM HYDRIDE	1871	4.1	
TITANIUM POWDER, DRY	2546	4.2	
TITANIUM POWDER, WETTED with not less than 25% water	1352	4.1	
TITANIUM SPONGE GRANULES	2878	4.1	
TITANIUM SPONGE POWDERS	2878	4.1	
TITANIUM TETRACHLORIDE	1838	6.1	
TITANIUM TRICHLORIDE MIXTURE	2869	8	
TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC	2441	4.2	
TITANIUM TRICHLORIDE, PYROPHORIC	2441	4.2	
TNT, see	0209 0388 0389	1 1 1	
TNT mixed with aluminium, see	0390	1	
TNT, WETTED with not less than 30% water, by mass, see	1356	4.1	
TNT, WETTED with not less than 10% water, by mass, see	3366	4.1	
Toe puffs, nitrocellulose base, see	1353	4.1	
TOLUENE	1294	3	
TOLUENE DIISOCYANATE	2078	6.1	
TOLUIDINES, LIQUID	1708	6.1	
TOLUIDINES, SOLID	3451	6.1	
Toluol, see	1294	3	
2,4-TOLUYLENEDIAMINE, SOLID	1709	6.1	
2,4-TOLUYLENEDIAMINE, SOLUTION	3418	6.1	
Toluylene diisocyanate, see	2078	6.1	
Tolylene diisocyanate, see	2078	6.1	
Tolylethylene, inhibited, see	2618	3	
TORPEDOES with bursting charge	0329 0330 0451	1 1 1	
TORPEDOES, LIQUID FUELLED with inert head	0450	1	
TORPEDOES, LIQUID FUELLED with or without bursting charge	0449	1	
TOXIC BY INHALATION LIQUID, N.O.S. with an LC_{50} lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	3381	6.1	
TOXIC BY INHALATION LIQUID, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	3382	6.1	
TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC_{50} lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	3389	6.1	
TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	3390	6.1	
TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC_{50} lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	3383	6.1	
TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	3384	6.1	
TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC_{50} lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	3488	6.1	
TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	3489	6.1	
TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC_{50} lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	3387	6.1	
TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	3387	6.1	

Name and description	UN No.	Class	Remarks
TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m³ and saturated vapour concentration greater than or equal to 10 LC_{50}	3388	6.1	
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC_{50} lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 LC_{50}	3385	6.1	
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m³ and saturated vapour concentration greater than or equal to 10 LC_{50}	3386	6.1	
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC_{50} lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 LC_{50}	3490	6.1	
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC_{50} lower than or equal to 1000 ml/m³ and saturated vapour concentration greater than or equal to 10 LC_{50}	3491	6.1	
TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	3289	6.1	
TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	2927	6.1	
TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	2929	6.1	
TOXIC LIQUID, INORGANIC, N.O.S.	3287	6.1	
TOXIC LIQUID, ORGANIC, N.O.S.	2810	6.1	
TOXIC LIQUID, OXIDIZING, N.O.S.	3122	6.1	
TOXIC LIQUID, WATER-REACTIVE, N.O.S.	3123	6.1	
TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	3290	6.1	
TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	2928	6.1	
TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.	3535	6.1	
TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	2930	6.1	
TOXIC SOLID, INORGANIC, N.O.S.	3288	6.1	
TOXIC SOLID, ORGANIC, N.O.S.	2811	6.1	
TOXIC SOLID, OXIDIZING, N.O.S.	3086	6.1	
TOXIC SOLID, SELF-HEATING, N.O.S.	3124	6.1	
TOXIC SOLID, WATER-REACTIVE, N.O.S.	3125	6.1	
TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	3172	6.1	
TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	3462	6.1	
TRACERS FOR AMMUNITION	0212 0306	1 1	
Tremolite, see	2212	9	
TRIALLYLAMINE	2610	3	
TRIALLYL BORATE	2609	6.1	
TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2764	3	
TRIAZINE PESTICIDE, LIQUID, TOXIC	2998	6.1	
TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	2997	6.1	
TRIAZINE PESTICIDE, SOLID, TOXIC	2763	6.1	
Tribromoborane, see	2692	8	
TRIBUTYLAMINE	2542	6.1	
TRIBUTYLPHOSPHANE	3254	4.2	
Trichloroacetaldehyde, see	2075	6.1	
TRICHLOROACETIC ACID	1839	8	
TRICHLOROACETIC ACID SOLUTION	2564	8	
Trichlororaceticaldehyde, see	2075	6.1	
TRICHLOROACETYL CHLORIDE	2442	8	
TRICHLOROBENZENES, LIQUID	2321	6.1	
TRICHLOROBUTENE	2322	6.1	
1,1,1-TRICHLOROETHANE	2831	6.1	

Name and description	UN No.	Class	Remarks
TRICHLOROETHYLENE	1710	6.1	
TRICHLOROISOCYANURIC ACID, DRY	2468	5.1	
Trichloronitromethane, see	1580	6.1	
TRICHLOROSILANE	1295	4.3	
1,3,5-Trichloro-s-triazine-2,4,6-trione, see	2468	5.1	
2,4,6-Trichloro-1,3,5- triazine, see	2670	8	
TRICRESYL PHOSPHATE with more than 3% ortho isomer	2574	6.1	
TRIETHYLAMINE	1296	3	
Triethyl borate, see	1176	3	
TRIETHYLENETETRAMINE	2259	8	
Triethyl orthoformate, see	2524	3	
TRIETHYL PHOSPHITE	2323	3	
TRIFLUOROACETIC ACID	2699	8	
TRIFLUOROACETYL CHLORIDE	3057	2	
Trifluorobromomethane, see	1009	2	
Trifluorochloroethane, see	1983	2	
TRIFLUOROCHLOROETHYLENE, STABILIZED, REFRIGERANT GAS R 1113	1082	2	
Trifluorochloromethane, see	1022	2	
1,1,1-TRIFLUOROETHANE	2035	2	
TRIFLUOROMETHANE	1984	2	
TRIFLUOROMETHANE, REFRIGERATED LIQUID	3136	2	
2-TRIFLUOROMETHYLANILINE	2942	6.1	
3-TRIFLUOROMETHYLANILINE	2948	6.1	
TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68 % acetone, by mass	3555	3	
TRIISOBUTYLENE	2324	3	
TRIISOPROPYL BORATE	2616	3	
TRIMETHYLACETYL CHLORIDE	2438	6.1	
TRIMETHYLAMINE, ANHYDROUS	1083	2	
TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	1297	3	
1,3,5-TRIMETHYLBENZENE	2325	3	
TRIMETHYL BORATE	2416	3	
TRIMETHYLCHLOROSILANE	1298	3	
TRIMETHYLCYCLOHEXYLAMINE	2326	8	
Trimethylene chlorobromide, see	2688	6.1	
TRIMETHYLHEXAMETHYLENEDIAMINES	2327	8	
TRIMETHYLHEXAMETHYLENE DIISOCYANATE	2328	6.1	
2,4,4-Trimethylpentene-1, see	2050	3	
2,4,4-Trimethylpentene-2, see	2050	3	
TRIMETHYL PHOSPHITE	2329	3	
TRINITROANILINE	0153	1	
TRINITROANISOLE	0213	1	
TRINITROBENZENE, dry or wetted with less than 30% water, by mass	0214	1	
TRINITROBENZENE, WETTED with not less than 10% water, by mass	3367	4.1	
TRINITROBENZENE, WETTED with not less than 30% water, by mass	1354	4.1	
TRINITROBENZENE-SULPHONIC ACID	0386	1	
TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	0215	1	
TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass	3368	4.1	
TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	1355	4.1	
TRINITROCHLOROBENZENE	0155	1	
TRINITROCHLOROBENZENE, WETTED with not less than 10% water, by mass	3365	4.1	
TRINITRO-m-CRESOL	0216	1	
TRINITROFLUORENONE	0387	1	

Name and description	UN No.	Class	Remarks
TRINITRONAPHTHALENE	0217	1	
TRINITROPHENETOLE	0218	1	
TRINITROPHENOL, dry or wetted with less than 30% water, by mass	0154	1	
TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass	1344	4.1	
TRINITROPHENOL, WETTED with not less than 10% water, by mass	3364	4.1	
TRINITROPHENYL-METHYLNITRAMINE	0208	1	
TRINITRORESORCINOL, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	0219	1	
TRINITRORESORCINOL, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0394	1	
TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass	0209	1	
TRINITROTOLUENE AND HEXANITROSTILBENE MIXTURE	0388	1	
TRINITROTOLUENE MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	0389	1	
TRINITROTOLUENE AND TRINITROBENZENE MIXTURE	0388	1	
TRINITROTOLUENE, WETTED with not less than 10% water, by mass	3366	4.1	
TRINITROTOLUENE, WETTED with not less than 30% water, by mass	1356	4.1	
TRIPROPYLAMINE	2260	3	
TRIPROPYLENE	2057	3	
TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	2501	6.1	
TRITONAL	0390	1	
Tropilidene, see	2603	3	
TUNGSTEN HEXAFLUORIDE	2196	2	
TURPENTINE	1299	3	
TURPENTINE SUBSTITUTE	1300	3	
UNDECANE	2330	3	
URANIUM HEXAFLUORIDE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE, less than 0.1 kg per package, non-fissile or fissile-excepted	3507	6.1	
UREA HYDROGEN PEROXIDE	1511	5.1	
UREA NITRATE, dry or wetted with less than 20% water, by mass	0220	1	
UREA NITRATE, WETTED with not less than 10% water, by mass	3370	4.1	
UREA NITRATE, WETTED with not less than 20% water, by mass	1357	4.1	
Valeral, see	2058	3	
VALERALDEHYDE	2058	3	
n-Valeraldehyde, see	2058	3	
Valeric aldehyde, see	2058	3	
VALERYL CHLORIDE	2502	8	
VANADIUM COMPOUND, N.O.S.	3285	6.1	
Vanadium (IV) oxide sulphate, see	2931	6.1	
Vanadium oxysulphate, see	2931	6.1	
VANADIUM OXYTRICHLORIDE	2443	8	
VANADIUM PENTOXIDE, non-fused form	2862	6.1	
VANADIUM TETRACHLORIDE	2444	8	
VANADIUM TRICHLORIDE	2475	8	
VANADYL SULPHATE	2931	6.1	
Varnish, see	1263 3066 3469 3470	3 8 3 8	
VEHICLE, FLAMMABLE GAS POWERED	3166	9	
VEHICLE, FLAMMABLE LIQUID POWERED	3166	9	
VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED	3166	9	
VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED	3166	9	

Name and description	UN No.	Class	Remarks
VEHICLE, LITHIUM ION BATTERY POWERED	3556	9	
VEHICLE, LITHIUM METAL BATTERY POWERED	3557	9	
VEHICLE, SODIUM ION BATTERY POWERED	3558	9	
Villiaumite, see	1690	6.1	
VINYL ACETATE, STABILIZED	1301	3	
Vinylbenzene, see	2055	3	
VINYL BROMIDE, STABILIZED	1085	2	
VINYL BUTYRATE, STABILIZED	2838	3	
VINYL CHLORIDE, STABILIZED	1086	2	
VINYL CHLOROACETATE	2589	6.1	
VINYL ETHYL ETHER, STABILIZED	1302	3	
VINYL FLUORIDE, STABILIZED	1860	2	
VINYLIDENE CHLORIDE, STABILIZED	1303	3	
VINYL ISOBUTYL ETHER, STABILIZED	1304	3	
VINYL METHYL ETHER, STABILIZED	1087	2	
VINYLPYRIDINES, STABILIZED	3073	6.1	
VINYLTOLUENES, STABILIZED	2618	3	
VINYLTRICHLOROSILANE	1305	3	
Warheads for guided missiles, see	0286 0287 0369 0370 0371	1 1 1 1 1	
WARHEADS, ROCKET with burster or expelling charge	0370 0371	1 1	
WARHEADS, ROCKET with bursting charge	0286 0287 0369	1 1 1	
WARHEADS, TORPEDO with bursting charge	0221	1	
WATER-REACTIVE LIQUID, N.O.S.	3148	4.3	
WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	3129	4.3	
WATER-REACTIVE LIQUID, TOXIC, N.O.S.	3130	4.3	
WATER-REACTIVE SOLID, N.O.S.	2813	4.3	
WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	3131	4.3	
WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	3132	4.3	
WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	3133	4.3	Carriage prohibited
WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	3135	4.3	
WATER-REACTIVE SOLID, TOXIC, N.O.S.	3134	4.3	
White arsenic, see	1561	6.1	
White spirit, see	1300	3	
WOOD PRESERVATIVES, LIQUID	1306	3	
Wool waste, wet	1387	4.2	Not subject to ADN
XANTHATES	3342	4.2	
XENON	2036	2	
XENON, REFRIGERATED LIQUID	2591	2	
XYLENES	1307	3	
XYLENOLS, LIQUID	3430	6.1	
XYLENOLS, SOLID	2261	6.1	
XYLIDINES, LIQUID	1711	6.1	
XYLIDINES, SOLID	3452	6.1	
Xylols, see	1307	3	
XYLYL BROMIDE, LIQUID	1701	6.1	
XYLYL BROMIDE, SOLID	3417	6.1	
ZINC AMMONIUM NITRITE	1512	5.1	
ZINC ARSENATE	1712	6.1	
ZINC ARSENATE AND ZINC ARSENITE MIXTURE	1712	6.1	
ZINC ARSENITE	1712	6.1	
ZINC ASHES	1435	4.3	

Name and description	UN No.	Class	Remarks
Zinc bisulphite solution, see	2693	8	
ZINC BROMATE	2469	5.1	
ZINC CHLORATE	1513	5.1	
ZINC CHLORIDE, ANHYDROUS	2331	8	
ZINC CHLORIDE SOLUTION	1840	8	
ZINC CYANIDE	1713	6.1	
ZINC DITHIONITE	1931	9	
ZINC DUST	1436	4.3	
ZINC FLUOROSILICATE	2855	6.1	
Zinc hexafluorosilicate, see	2855	6.1	
ZINC HYDROSULPHITE, see	1931	9	
ZINC NITRATE	1514	5.1	
ZINC PERMANGANATE	1515	5.1	
ZINC PEROXIDE	1516	5.1	
ZINC PHOSPHIDE	1714	4.3	
ZINC POWDER	1436	4.3	
ZINC RESINATE	2714	4.1	
Zinc selenate, see	2630	4.1	
Zinc selenite, see	2630	4.1	
Zinc silicofluoride, see	2855	6.1	
ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)	2858	4.1	
ZIRCONIUM, DRY, finished sheets, strip or coiled wire	2009	4.2	
ZIRCONIUM HYDRIDE	1437	4.1	
ZIRCONIUM NITRATE	2728	5.1	
ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	0236	1	
ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	1517	4.1	
ZIRCONIUM POWDER, DRY	2008	4.2	
ZIRCONIUM POWDER, WETTED with not less than 25% water	1358	4.1	
ZIRCONIUM SCRAP	1932	4.2	
ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	1308	3	
ZIRCONIUM TETRACHLORIDE	2503	8	

3.2.3 (See Volume I)

3.2.4 (See Volume I)

CHAPTER 3.3

SPECIAL PROVISIONS APPLICABLE TO CERTAIN ARTICLES OR SUBSTANCES

3.3.1 When Column (6) of Table A of Chapter 3.2 indicates that a special provision is relevant to a substance or article, the meaning and requirements of that special provision are as set forth below. Where a special provision includes a requirement for package marking, the provisions of 5.2.1.2 (a) and (b) shall be met. If the required mark is in the form of specific wording indicated in quotation marks, such as "LITHIUM BATTERIES FOR DISPOSAL", the size of the mark shall be at least 12 mm, unless otherwise indicated in the special provision or elsewhere in ADN.

16 Samples of new or existing explosive substances or articles may be carried as directed by the competent authorities (see 2.2.1.1.3) for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitised shall be limited to 10 kg in small packages as specified by the competent authorities. Explosive samples which are wetted or desensitised shall be limited to 25 kg.

23 Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas.

28 This substance may be carried under the provisions of Class 3 or Class 4.1 only if it is so packed that the percentage of diluent will not fall below that stated, at any time during carriage (see 2.2.3.1.1 and 2.2.41.1.18). In cases where the diluent is not stated, the substance shall be packed so that the amount of explosive substance does not exceed the stated value.

32 This substance is not subject to the requirements of ADN when in any other form.

37 This substance is not subject to the requirements of ADN when coated.

38 This substance is not subject to the requirements of ADN when it contains not more than 0.1% calcium carbide.

39 This substance is not subject to the requirements of ADN when it contains less than 30% or not less than 90% silicon.

43 When offered for carriage as pesticides, these substances shall be carried under the relevant pesticide entry and in accordance with the relevant pesticide provisions (see 2.2.61.1.10 to 2.2.61.1.11.2).

45 Antimony sulphides and oxides which contain not more than 0.5% of arsenic calculated on the total mass are not subject to the requirements of ADN.

47 Ferricyanides and ferrocyanides are not subject to the requirements of ADN.

48 The carriage of this substance, when it contains more than 20% hydrocyanic acid, is prohibited.

59 These substances are not subject to the requirements of ADN when they contain not more than 50% magnesium.

60 If the concentration is more than 72%, the carriage of this substance is prohibited.

61 The technical name which shall supplement the proper shipping name shall be the ISO common name (see also ISO 1750:1981 "*Pesticides and other agrochemicals - common names*", as amended), other names listed in the WHO "*Recommended Classification of Pesticides by Hazard and Guidelines to Classification*" or the name of the active substance (see also 3.1.2.8.1 and 3.1.2.8.1.1).

62 This substance is not subject to the requirements of ADN when it contains not more than 4% sodium hydroxide.

65 Hydrogen peroxide aqueous solutions with less than 8% hydrogen peroxide are not subject to the requirements of ADN.

66 Cinnabar is not subject to the requirements of ADN.

103 The carriage of ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt is prohibited.

105 Nitrocellulose meeting the descriptions of UN No. 2556 or UN No. 2557 may be classified in Class 4.1.

113 The carriage of chemically unstable mixtures is prohibited.

119 Refrigerating machines include machines or other appliances which have been designed for the specific purpose of keeping food or other items at a low temperature in an internal compartment, and air conditioning units. Refrigerating machines and refrigerating machine components are not subject to the provisions of ADN if they contain less than 12 kg of gas in Class 2, group A or O according to 2.2.2.1.3, or if they contain less than 12 litres ammonia solution (UN No. 2672).

NOTE: *For the purposes of carriage, heat pumps may be considered as refrigerating machines.*

122 The subsidiary hazards, control and emergency temperatures if any, and the UN number (generic entry) for each of the currently assigned organic peroxide formulations are given in 2.2.52.4, 4.1.4.2 packing instruction IBC520 and 4.2.5.2.6 portable tank instruction T23 of ADR.

123 *(Reserved)*

127 Other inert material or inert material mixture may be used, provided this inert material has identical phlegmatizing properties.

131 The phlegmatized substance shall be significantly less sensitive than dry PETN.

135 The dihydrated sodium salt of dichloroisocyanuric acid does not meet the criteria for inclusion in Class 5.1 and is not subject to ADN unless meeting the criteria for inclusion in another Class.

138 p-Bromobenzyl cyanide is not subject to the requirements of ADN.

141 Products which have undergone sufficient heat treatment so that they present no hazard during carriage are not subject to the requirements of ADN.

142 Solvent extracted soya bean meal containing not more than 1.5% oil and 11% moisture, which is substantially free of flammable solvent, is not subject to the requirements of ADN.

144 An aqueous solution containing not more than 24% alcohol by volume is not subject to the requirements of ADN.

145 Alcoholic beverages of packing group III, when carried in receptacles of 250 litres or less, are not subject to the requirements of ADN.

152 The classification of this substance will vary with particle size and packaging, but borderlines have not been experimentally determined. Appropriate classifications shall be made in accordance with 2.2.1.

153 This entry applies only if it is demonstrated, on the basis of tests, that the substances when in contact with water are not combustible nor show a tendency to auto-ignition and that the mixture of gases evolved is not flammable.

163 A substance mentioned by name in Table A of Chapter 3.2 shall not be carried under this entry. Substances carried under this entry may contain 20% or less nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).

168 Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage is not subject to the requirements of ADN. Manufactured articles containing asbestos and not meeting this provision are nevertheless not subject to the requirements of ADN when packed so that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage.

169 Phthalic anhydride in the solid state and tetrahydrophthalic anhydrides, with not more than 0.05% maleic anhydride, are not subject to the requirements of ADN. Phthalic anhydride molten at a temperature above its flash-point, with not more than 0.05% maleic anhydride, shall be classified under UN No. 3256.

172 Where a radioactive material has (a) subsidiary hazard(s):

(a) The substance shall be allocated to packing group I, II or III, if appropriate, by application of the packing group criteria provided in Part 2 corresponding to the nature of the predominant subsidiary hazard;

(b) Packages shall be labelled with subsidiary risk labels corresponding to each subsidiary hazard exhibited by the material; corresponding placards shall be affixed to cargo transport units in accordance with the relevant provisions of 5.3.1;

(c) For the purposes of documentation and package marking, the proper shipping name shall be supplemented with the name of the constituents which most predominantly contribute to this (these) subsidiary hazard(s) and which shall be enclosed in parenthesis;

(d) The dangerous goods transport document shall indicate the label model number(s) corresponding to each subsidiary hazard in parenthesis after the Class number "7" and, where assigned the packing group as required by 5.4.1.1.1 (d).

For packing, see also 4.1.9.1.5 of ADR.

177 Barium sulphate is not subject to the requirements of ADN.

178 This designation shall be used only when no other appropriate designation exists in Table A of Chapter 3.2, and only with the approval of the competent authority of the country of origin (see 2.2.1.1.3).

181 Packages containing this type of substance shall bear a label conforming to model No. 1 (see 5.2.2.2.2) unless the competent authority of the country of origin has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour (see 5.2.2.1.9).

182 The group of alkali metals includes lithium, sodium, potassium, rubidium and caesium.

183 The group of alkaline earth metals includes magnesium, calcium, strontium and barium.

186 *(Deleted)*

188 Cells and batteries offered for carriage are not subject to other provisions of ADN if they meet the following:

(a) For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and for a lithium-ion or sodium ion cell, the Watt-hour rating is not more than 20 Wh;

NOTE: *When lithium batteries in conformity with 2.2.9.1.7.1 (f) are carried in accordance with this special provision, the total lithium content of all lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh (see special provision 387).*

(b) For a lithium metal or lithium alloy battery the aggregate lithium content is not more than 2 g, and for a lithium-ion or sodium ion battery, the Watt-hour rating is not more than 100 Wh. Lithium ion and sodium ion batteries subject to this provision shall be marked with the Watt-hour rating on the outside case except lithium ion batteries manufactured before 1 January 2009;

NOTE: *When lithium batteries in conformity with 2.2.9.1.7.1 (f) are carried in accordance with this special provision, the total lithium content of all lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh (see special provision 387).*

(c) Each lithium cell or battery meets the provisions of 2.2.9.1.7.1 (a), (e), (f) if applicable, and (g) or for sodium ion cells or batteries, the provisions of 2.2.9.1.7.2 (a), (e) and (f) shall apply;

(d) Cells and batteries, except when installed in equipment, shall be packed in inner packagings that completely enclose the cell or battery. Cells and batteries shall be protected so as to prevent short circuits. This includes protection against contact with electrically conductive material within the same packaging that could lead to a short circuit. The inner packagings shall be packed in strong outer packagings which conform to the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 of ADR;

(e) Cells and batteries when installed in equipment shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation. This requirement does not apply to devices which are intentionally active in carriage (radio frequency identification (RFID) transmitters, watches, sensors, etc.) and which are not capable of generating a dangerous evolution of heat. When batteries are installed in equipment, the equipment shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;

(f) Each package shall be marked with the appropriate battery mark, as illustrated in 5.2.1.9;

This requirement does not apply to:

(i) packages containing only button cell batteries installed in equipment (including circuit boards); and

(ii) packages containing no more than four cells or two batteries installed in equipment, where there are not more than two packages in the consignment.

When packages are placed in an overpack, the battery mark shall either be clearly visible or be reproduced on the outside of the overpack and the overpack shall be marked with the word "OVERPACK". The lettering of the "OVERPACK" mark shall be at least 12 mm high.

NOTE: *Packages containing lithium batteries packed in conformity with the provisions of Part 4, Chapter 11, packing instructions 965 or 968 Section IB of the ICAO Technical Instructions that bear the mark as shown in 5.2.1.9 (battery mark) and the label shown in 5.2.2.2.2, model No. 9A shall be deemed to meet the provisions of this special provision.*

(g) Except when cells or batteries are installed in equipment, each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents; and

(h) Except when cells or batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass.

As used above and elsewhere in ADN, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell. As used in this special provision "equipment" means apparatus for which the cells or batteries will provide electrical power for its operation.

Separate entries exist for lithium metal batteries and lithium ion batteries to facilitate the carriage of these batteries for specific modes of carriage and to enable the application of different emergency response actions.

A single cell battery as defined in Part III, sub-section 38.3.2.3 of the *Manual of Tests and Criteria* is considered a "cell" and shall be carried according to the requirements for "cells" for the purpose of this special provision.

190 Aerosol dispensers shall be provided with protection against inadvertent discharge. Aerosols with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the requirements of ADN.

191 Receptacles, small, with a capacity not exceeding 50 ml, containing only non-toxic constituents are not subject to the requirements of ADN.

193 This entry may only be used for ammonium nitrate based compound fertilizers. They shall be classified in accordance with the procedure as set out in the *Manual of Tests and Criteria*, Part III, Section 39. Fertilizers meeting the criteria for this UN number are subject to the requirements of ADN only when carried in bulk.

194 The control and emergency temperatures, if any, and the UN number (generic entry) for each of the currently assigned self-reactive substances are given in 2.2.41.4.

196 Formulations which in laboratory testing neither detonate in the cavitated state nor deflagrate, which show no effect when heated under confinement and which exhibit no explosive power may be carried under this entry. The formulation must also be thermally stable (i.e. the SADT is 60 °C or higher for a 50 kg package). Formulations not meeting these criteria shall be carried under the provisions of Class 5.2, (see 2.2.52.4).

198 Nitrocellulose solutions containing not more than 20% nitrocellulose may be carried as paint, perfumery products or printing ink, as applicable (see UN Nos. 1210, 1263, 1266, 3066, 3469 and 3470).

199 Lead compounds which, when mixed in a ratio of 1:1000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23 °C ± 2 °C, exhibit a solubility of 5% or less (see ISO 3711:1990 *"Lead chromate pigments and lead chromate-molybdate pigments – Specifications and methods of test"*) are considered insoluble and are not subject to the requirements of ADN unless they meet the criteria for inclusion in another class.

201 Lighters and lighter refills shall comply with the provisions of the country in which they were filled. They shall be provided with protection against inadvertent discharge. The liquid portion of the gas shall not exceed 85% of the capacity of the receptacle at 15 °C. The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at 55 °C. The valve mechanisms and ignition devices shall be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during carriage. Lighters shall not contain more than 10 g of liquefied petroleum gas. Lighter refills shall not contain more than 65 g of liquefied petroleum gas.

NOTE: *For waste lighters collected separately see Chapter 3.3, special provision 654.*

203 This entry shall not be used for polychlorinated biphenyls, liquid, UN No. 2315 and polychlorinated biphenyls, solid, UN No. 3432.

204 *(Deleted)*

205 This entry shall not be used for UN No. 3155 PENTACHLOROPHENOL.

207 Plastics moulding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.

208 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the requirements of ADN.

210 Toxins from plant, animal or bacterial sources which contain infectious substances, or toxins that are contained in infectious substances, shall be classified in Class 6.2.

215 This entry only applies to the technically pure substance or to formulations derived from it having an SADT higher than 75 °C and therefore does not apply to formulations which are self-reactive substances (for self-reactive substances, see 2.2.41.4). Homogeneous mixtures containing not more than 35% by mass of azodicarbonamide and at least 65% of inert substance are not subject to the requirements of ADN unless criteria of other classes are met.

216 Mixtures of solids which are not subject to the requirements of ADN and flammable liquids may be carried under this entry without first applying the classification criteria of Class 4.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Sealed packets and articles containing less than 10 ml of a packing group II or III flammable liquid absorbed into a solid material are not subject to ADN provided there is no free liquid in the packet or article.

217 Mixtures of solids which are not subject to the requirements of ADN and toxic liquids may be carried under this entry without first applying the classification criteria of Class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. This entry shall not be used for solids containing a packing group I liquid.

218 Mixtures of solids which are not subject to the requirements of ADN and corrosive liquids may be carried under this entry without first applying the classification criteria of Class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed.

219 Genetically modified microorganisms (GMMOs) and genetically modified organisms (GMOs) packed and marked in accordance with packing instruction P904 of 4.1.4.1 of ADR are not subject to any other requirements of ADN.

If GMMOs or GMOs meet the criteria for inclusion in Class 6.1 or 6.2 (see 2.2.61.1 and 2.2.62.1) the requirements in ADN for the carriage of toxic substances or infectious substances apply.

220 Only the technical name of the flammable liquid component of this solution or mixture shall be shown in parentheses immediately following the proper shipping name.

221 Substances included under this entry shall not be of packing group I.

224 Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance shall remain liquid during normal transport conditions. It shall not freeze at temperatures above -15 °C.

225 Fire extinguishers under this entry may include installed actuating cartridges (cartridges, power device of classification code 1.4C or 1.4S), without changing the classification of Class 2, group A or O according to 2.2.2.1.3 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per extinguishing unit.

Fire extinguishers shall be manufactured, tested, approved and labelled according to the provisions applied in the country of manufacture.

NOTE: *Provisions applied in the country of manufacture" means the provisions applicable in the country of manufacture or those applicable in the country of use.*

Fire extinguishers under this entry include:

(a) portable fire extinguishers for manual handling and operation;

NOTE: *This entry applies to portable fire extinguishers, even if some components that are necessary for their proper functioning (e.g. hoses and nozzles) are temporarily detached, as long as the safety of the pressurized extinguishing agent containers is not compromised and the fire extinguishers continue to be identified as a portable fire extinguisher.*

(b) fire extinguishers for installation in aircraft;

(c) fire extinguishers mounted on wheels for manual handling;

(d) fire extinguishing equipment or machinery mounted on wheels or wheeled platforms or units carried similar to (small) trailers, and

(e) fire extinguishers composed of a non-rollable pressure drum and equipment, and handled e.g. by fork lift or crane when loaded or unloaded.

NOTE: *Pressure receptacles which contain gases for use in the above-mentioned fire extinguishers or for use in stationary fire-fighting installations shall meet the requirements of Chapter 6.2 of ADR and all requirements applicable to the relevant dangerous goods when these pressure receptacles are carried separately.*

226 Formulations of this substance containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to the requirements of ADN.

227 When phlegmatized with water and inorganic inert material the content of urea nitrate may not exceed 75% by mass and the mixture shall not be capable of being detonated by the Series 1, type (a), test in the *Manual of Tests and Criteria*, Part 1.

228 Mixtures not meeting the criteria for flammable gases (see 2.2.2.1.5) shall be carried under UN No. 3163.

230 Lithium cells and batteries may be carried under this entry if they meet the provisions of 2.2.9.1.7.1. Sodium ion cells and batteries may be carried under this entry if they meet the provisions of 2.2.9.1.7.2.

235 This entry applies to articles which contain Class 1 explosive substances and which may also contain dangerous goods of other classes. These articles are used to enhance safety in vehicles, vessels or aircraft – e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices.

236 Polyester resin kits consist of two components: a base material (either Class 3 or Class 4.1, packing group II or III) and an activator (organic peroxide). The organic peroxide shall be type D, E, or F, not requiring temperature control. The packing group shall be II or III, according to the criteria of either Class 3 or Class 4.1, as appropriate, applied to the base material. The quantity limit shown in column (7a) of Table A of Chapter 3.2 applies to the base material.

237 The membrane filters, including paper separators, coating or backing materials, etc., that are present in carriage, shall not be liable to propagate a detonation as tested by one of the tests described in the *Manual of Tests and Criteria*, Part I, Test series 1 (a).

In addition, the competent authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the *Manual of Tests and Criteria*, Part III, sub-section 33.2, that nitrocellulose membrane filters in the form in which they are to be carried are not subject to the requirements applicable to flammable solids in Class 4.1.

238 (a) Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.

Vibration test: The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies and return is traversed in 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

Pressure differential test: Following the vibration test, the battery is stored for six hours at 24 °C ± 4 °C while subjected to a pressure differential of at least 88 kPa. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

(b) Non-spillable batteries are not subject to the requirements of ADN if, at a temperature of 55 °C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, as packaged for carriage, the terminals are protected from short circuit.

239 Batteries or cells shall not contain dangerous substances other than sodium, sulphur or sodium compounds (e.g. sodium polysulphides and sodium tetrachloroaluminate). Batteries or cells shall not be offered for carriage at a temperature such that liquid elemental sodium is present in the battery or cell unless approved and under the conditions established by the competent authority of the country of origin. If the country of origin is not a Contracting Party to ADN, the approval and conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADN reached by the consignment.

Cells shall consist of hermetically sealed metal casings which fully enclose the dangerous substances and which are so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

Batteries shall consist of cells secured within and fully enclosed by a metal casing so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

240 *(Deleted)*

241 The formulation shall be prepared so that it remains homogeneous and does not separate during carriage. Formulations with low nitrocellulose contents and not showing dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by tests of Test series 1 (a), 2 (b) and 2 (c) respectively in the *Manual of Tests and Criteria*, Part I and not being a flammable solid when tested in accordance with Test N.1 in the *Manual of Tests and Criteria*, Part III, sub-section 33.2.4 (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to the requirements of ADN.

242 Sulphur is not subject to the requirements of ADN when it has been formed to a specific shape (e.g. prills, granules, pellets, pastilles or flakes).

243 Gasoline, motor spirit and petrol for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.

244 This entry includes e.g. aluminium dross, aluminium skimmings, spent cathodes, spent potliner, and aluminium salt slags.

247 Alcoholic beverages containing more than 24% alcohol but not more than 70% by volume, when carried as part of the manufacturing process, may be carried in wooden barrels with a capacity of more than 250 litres and not more than 500 litres meeting the general requirements of 4.1.1 of ADR, as appropriate, on the following conditions:

(a) The wooden barrels shall be checked and tightened before filling;

(b) Sufficient ullage (not less than 3%) shall be left to allow for the expansion of the liquid;

(c) The wooden barrels shall be carried with the bungholes pointing upwards;

(d) The wooden barrels shall be carried in containers meeting the requirements of the CSC. Each wooden barrel shall be secured in custom-made cradles and be wedged by appropriate means to prevent it from being displaced in any way during carriage.

249 Ferrocerium, stabilized against corrosion, with a minimum iron content of 10% is not subject to the requirements of ADN.

250 This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. The carriage of substances under this entry shall be in accordance with the chain of custody and security procedures specified by the Organisation for the Prohibition of Chemical Weapons.

The chemical sample may only be carried providing prior approval has been granted by the competent authority or the Director General of the Organisation for the Prohibition of Chemical Weapons and providing the sample complies with the following provisions:

(a) It shall be packed according to packing instruction 623 in the ICAO Technical Instructions; and

(b) During carriage, a copy of the document of approval for transport, showing the quantity limitations and the packing provisions shall be attached to the transport document.

251 The entry CHEMICAL KIT or FIRST AID KIT is intended to apply to boxes, cases etc. containing small quantities of various dangerous goods which are used for example for medical, analytical or testing or repair purposes.

Such kits shall only contain dangerous goods that are permitted as:

(a) Excepted quantities not exceeding the quantity indicated by the code in column (7b) of Table A of Chapter 3.2, provided that the net quantity per inner packaging and net quantity per package are as prescribed in 3.5.1.2 and 3.5.1.3; or;

(b) Limited quantities as indicated in column (7a) of Table A of Chapter 3.2, provided that the net quantity per inner packaging does not exceed 250 ml or 250 g.

Components shall not react dangerously (see "dangerous reaction" in 1.2.1). The total quantity of dangerous goods in any one kit shall not exceed either 1 *l* or 1 kg.

For the purposes of completion of the transport document as set out in 5.4.1.1.1, the packing group shown on the document shall be the most stringent packing group assigned to any individual substance in the kit. Where the kit contains only dangerous goods to which no packing group is assigned, no packing group need be indicated on the dangerous goods transport document.

Kits which are carried on board vessels for first-aid or operating purposes are not subject to the requirements of ADN.

Chemical kits and first aid kits containing dangerous goods in inner packagings which do not exceed the quantity limits for limited quantities applicable to individual substances as specified in Column (7a) of Table A of Chapter 3.2 may be carried in accordance with Chapter 3.4.

252 (1) Ammonium nitrate hot concentrated solutions can be carried under this entry provided:

(a) The solution contains not more than 93% ammonium nitrate;

(b) The solution contains at least 7% water;

(c) The solution contains not more than 0.2% combustible material;

(d) The solution contains no chlorine compounds in quantities such that the chloride ion level exceeds 0.02%;

(e) The pH of an aqueous solution of 10% of the substance is between 5 and 7, measured at 25 °C; and

(f) The maximum allowable carriage temperature of the solution is 140 °C.

(2) Additionally, ammonium nitrate hot concentrate solutions are not subject to ADN provided:

(a) The solution contains not more than 80% ammonium nitrate;

(b) The solution contains not more than 0.2% combustible material;

(c) The ammonium nitrate remains in solution under all conditions of carriage; and

(d) The solution does not meet the criteria of any other class.

266 This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be carried unless specifically authorized by the competent authority (see 2.2.1.1).

267 Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.

270 Aqueous solutions of Class 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of Class 5.1 if the concentration of the substances in solution at the minimum temperature encountered during carriage is not greater than 80% of the saturation limit.

271 Lactose or glucose or similar materials may be used as a phlegmatizer provided that the substance contains not less than 90%, by mass, of phlegmatizer. The competent authority may authorize these mixtures to be classified in Class 4.1 on the basis of a test Series 6 (c) of Section 16 of Part I of the *Manual of Tests and Criteria* on at least three packages as prepared for carriage. Mixtures containing at least 98%, by mass, of phlegmatizer are not subject to the requirements of ADN. Packages containing mixtures with not less than 90%, by mass, of phlegmatizer need not bear a label conforming to model No. 6.1.

272 This substance shall not be carried under the provisions of Class 4.1 unless specifically authorized by the competent authority (see UN No. 0143 or UN No. 0150 as appropriate).

273 Maneb and maneb preparations stabilized against self-heating need not be classified in Class 4.2 when it can be demonstrated by testing that a cubic volume of 1 m^3 of substance does not self-ignite and that the temperature at the centre of the sample does not exceed 200 °C, when the sample is maintained at a temperature of not less than 75 °C ± 2 °C for a period of 24 hours.

274 The provisions of 3.1.2.8 apply.

278 These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6(c) test of Part I of the *Manual of Tests and Criteria* on packages as prepared for carriage (see 2.2.1.1). The competent authority shall assign the packing group on the basis of 2.2.3 criteria and the package type used for the Series 6(c) test.

279 The substance is assigned to this classification or packing group based on human experience rather than the strict application of classification criteria set out in ADN.

280 This entry applies to safety devices for vehicles, vessels or aircraft, e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices, which contain dangerous goods of Class 1 or of other classes, when carried as component parts and if these articles as presented for carriage have been tested in accordance with Test Series 6(c) of Part 1 of the *Manual of Tests and Criteria*, with no explosion of the device, no fragmentation of device casing or pressure receptacle, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or emergency response efforts in the immediate vicinity. This entry does not apply to life saving appliances described in special provision 296 (UN Nos. 2990 and 3072) or to fire suppressant dispersing devices described in special provision 407 (UN Nos. 0514 and 3559).

283 Articles containing gas, intended to function as shock absorbers, including impact energy-absorbing devices, or pneumatic springs are not subject to the requirements of ADN provided:

(a) Each article has a gas space capacity not exceeding 1.6 litres and a charge pressure not exceeding 280 bar where the product of the capacity (litres) and charge pressure (bars) does not exceed 80 (i.e. 0.5 litres gas space and 160 bar charge pressure, 1 litre gas space and 80 bar charge pressure, 1.6 litres gas space and 50 bar charge pressure, 0.28 litres gas space and 280 bar charge pressure);

(b) Each article has a minimum burst pressure of 4 times the charge pressure at 20 °C for products not exceeding 0.5 litres gas space capacity and 5 times charge pressure for products greater than 0.5 litres gas space capacity;

(c) Each article is manufactured from material which will not fragment upon rupture;

(d) Each article is manufactured in accordance with a quality assurance standard acceptable to the competent authority; and

(e) The design type has been subjected to a fire test demonstrating that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket.

See also 1.1.3.2 (d) of ADR for equipment used for the operation of the vehicle.

284 An oxygen generator, chemical, containing oxidizing substances shall meet the following conditions:

(a) The generator when containing an explosive actuating device shall only be carried under this entry when excluded from Class 1 in accordance with the NOTE under paragraph 2.2.1.1.1 (b);

(b) The generator, without its packaging, shall be capable of withstanding a 1.8 m drop test onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, without loss of its contents and without actuation;

(c) When a generator is equipped with an actuating device, it shall have at least two positive means of preventing unintentional actuation.

286 Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the requirements of ADN when contained individually in an article or a sealed packet.

288 These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6 (c) test of Part I of the *Manual of Tests and Criteria* on packages as prepared for carriage (see 2.2.1.1).

289 Safety devices, electrically initiated and safety devices, pyrotechnic installed in vehicles, wagons, vessels or aircraft or in completed components such as steering columns, door panels, seats, etc. are not subject to ADN.

290 When this radioactive material meets the definitions and criteria of other classes as defined in Part 2, it shall be classified in accordance with the following:

(a) Where the substance meets the criteria for dangerous goods in excepted quantities as set out in Chapter 3.5, the packagings shall be in accordance with 3.5.2 and meet the testing requirements of 3.5.3. All other requirements applicable to radioactive material, excepted packages as set out in 1.7.1.5 shall apply without reference to the other class;

(b) Where the quantity exceeds the limits specified in 3.5.1.2 the substance shall be classified in accordance with the predominant subsidiary hazard. The transport document shall describe the substance with the UN number and proper shipping name applicable to the other class supplemented with the name applicable to the radioactive excepted package according to Column (2) of Table A of Chapter 3.2, and the substance shall be carried in accordance with the provisions applicable to that UN number. An example of the information shown on the transport document is:

"UN 1993, Flammable liquid, N.O.S. (ethanol and toluene mixture), Radioactive material, excepted package – limited quantity of material, 3, PG II".

In addition, the requirements of 2.2.7.2.4.1 shall apply;

(c) The provisions of Chapter 3.4 for the carriage of dangerous goods packed in limited quantities shall not apply to substances classified in accordance with sub-paragraph (b);

(d) When the substance meets a special provision that exempts this substance from all dangerous goods provisions of the other classes it shall be classified in accordance with the applicable UN number of Class 7 and all requirements specified in 1.7.1.5 shall apply.

291 Flammable liquefied gases shall be contained within refrigerating machine components. These components shall be designed and tested to at least three times the working pressure of the machinery. The refrigerating machines shall be designed and constructed to contain the liquefied gas and preclude the risk of bursting or cracking of the pressure retaining components during normal conditions of carriage. Refrigerating machines and refrigerating-machine components are not subject to the requirements of ADN if they contain less than 12 kg of gas.

NOTE: *For the purposes of carriage, heat pumps may be considered as refrigerating machines.*

292 *(Deleted)*

293 The following definitions apply to matches:

(a) Fusee matches are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat;

(b) Safety matches are matches that are combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;

(c) Strike anywhere matches are matches that can be ignited by friction on a solid surface;

(d) Wax Vesta matches are matches that can be ignited by friction either on a prepared surface or on a solid surface.

295 Batteries need not be individually marked and labelled if the pallet bears the appropriate mark and label.

296 These entries apply for life-saving appliances such as life rafts, personal flotation devices and self-inflating slides. UN No. 2990 applies to self-inflating appliances and UN No. 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain:

(a) Signal devices (Class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated;

(b) For UN No. 2990 only, cartridges, power devices of Division 1.4, compatibility group S, may be contained for purposes of the self-inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2 g;

(c) Class 2 compressed or liquefied gases, group A or O, according to 2.2.2.1.3;

(d) Electric storage batteries (Class 8) and lithium batteries or sodium ion batteries (Class 9);

(e) First aid kits or repair kits containing small quantities of dangerous goods (e.g.: substances of Class 3, 4.1, 5.2, 8 or 9); or

(f) "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated.

Life-saving appliances packed in strong rigid outer packagings with a total maximum gross mass of 40 kg, containing no dangerous goods other than compressed or liquefied gases of Class 2, group A or group O, in receptacles with a capacity not exceeding 120 ml, installed solely for the purpose of the activation of the appliance, are not subject to the requirements of ADN.

300 Fish meal, fish scrap and krill meal shall not be loaded if the temperature at the time of loading exceeds 35 °C or 5 °C above the ambient temperature whichever is higher.

301 This entry only applies to articles such as machinery, apparatus or devices containing dangerous goods as a residue or an integral element of the articles. It shall not be used for articles for which a proper shipping name already exists in Table A of Chapter 3.2. Articles carried under this entry shall only contain dangerous goods which are authorized to be carried in accordance with the provisions of Chapter 3.4 (Limited quantities). The quantity of dangerous goods in articles shall not exceed the quantity specified in Column (7a) of Table A of Chapter 3.2 for each item of dangerous goods contained. If the articles contain more than one item of dangerous goods, the individual dangerous goods shall be enclosed to prevent them reacting dangerously with one another during carriage (see 4.1.1.6 of ADR). When it is required to ensure liquid dangerous goods remain in their intended orientation, orientation arrows shall be displayed on at least two opposite vertical sides with the arrows pointing in the correct direction in accordance with 5.2.1.10.

302 Fumigated cargo transport units containing no other dangerous goods are only subject to the provisions of 5.5.2.

303 Receptacles shall be assigned to the classification code of the gas or mixture of gases contained therein determined in accordance with the provisions of section 2.2.2.

304 This entry may only be used for the transport of non-activated batteries which contain dry potassium hydroxide and which are intended to be activated prior to use by addition of an appropriate amount of water to the individual cells.

305 These substances are not subject to the requirements of ADN when in concentrations of not more than 50 mg/kg.

306 This entry may only be used for substances that are too insensitive for acceptance into Class 1 when tested in accordance with Test Series 2 (see *Manual of Tests and Criteria*, Part I).

307 This entry may only be used for ammonium nitrate based fertilizers. They shall be classified in accordance with the procedure as set out in the *Manual of Tests and Criteria*, Part III, Section 39 subject to the restrictions of 2.2.51.2.2, thirteenth and fourteenth indents. When used in the said Section 39, the term "competent authority" means the competent authority of the country of origin. If the country of origin is not a Contracting Party to ADN, the classification and conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADN reached by the consignment.

309 This entry applies to non-sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use.

The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.

The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.

Substances shall satisfy the criteria for classification as an ammonium nitrate emulsion, suspension or gel, intermediate for blasting explosives (ANE) of Test Series 8 of the *Manual of Tests and Criteria*, Part I, Section 18 and be approved by the competent authority.

310 Cells or batteries from production runs of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, shall meet the provisions of 2.2.9.1.7.1 with the exception of (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g).

NOTE: *"Carried for testing" includes, but is not limited to, testing described in the "Manual of Tests and Criteria", Part III, sub-section 38.3, integration testing and product performance testing.*

These cells and batteries shall be packaged in accordance with packing instruction P910 of 4.1.4.1 of ADR or LP905 of 4.1.4.3 of ADR, as applicable.

Articles (UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 or 3548) may contain such cells or batteries provided that the applicable parts of packing instruction P006 of 4.1.4.1 of ADR or LP03 of 4.1.4.3 of ADR, as applicable, are met.

The transport document shall include the following statement: "Transport in accordance with special provision 310".

Damaged or defective cells, batteries, or cells and batteries contained in equipment shall be carried in accordance with special provision 376.

Cells, batteries or cells and batteries contained in equipment carried for disposal or recycling may be packaged in accordance with special provision 377 and packing instruction P909 of 4.1.4.1 of ADR.

311 Substances shall not be carried under this entry unless approved by the competent authority on the basis of the results of appropriate tests according to Part I of the *Manual of Tests and Criteria*. Packaging shall ensure that the percentage of diluent does not fall below that stated in the competent authority approval, at any time during carriage.

312 *(Deleted)*

313 *(Deleted)*

314 (a) These substances are liable to exothermic decomposition at elevated temperatures. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds);

(b) During the course of carriage, these substances shall be shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas.

315 This entry shall not be used for Class 6.1 substances which meet the inhalation toxicity criteria for packing group I described in 2.2.61.1.8.

316 This entry applies only to calcium hypochlorite, dry, when carried in non-friable tablet form.

317 "Fissile-excepted" applies only to those fissile material and packages containing fissile material which are excepted in accordance with 2.2.7.2.3.5.

318 For the purposes of documentation, the proper shipping name shall be supplemented with the technical name (see 3.1.2.8). When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in category A and assignment to UN No. 2814 or 2900, the words "suspected category A infectious substance" shall be shown, in parentheses, following the proper shipping name on the transport document.

319 Substances packed and packages marked in accordance with packing instruction P650 of ADR are not subject to any other requirements of ADN.

321 These storage systems shall always be considered as containing hydrogen.

322 When carried in non-friable tablet form, these goods are assigned to packing group III.

323 *(Reserved)*

324 This substance needs to be stabilized when in concentrations of not more than 99%.

325 In the case of non-fissile or fissile excepted uranium hexafluoride, the material shall be classified under UN No. 2978.

326 In the case of fissile uranium hexafluoride, the material shall be classified under UN No. 2977.

327 Waste aerosols and waste gas cartridges consigned in accordance with 5.4.1.1.3.1 may be carried under UN Nos. 1950 or 2037, as appropriate, for the purposes of reprocessing or disposal. They need not be protected against movement and inadvertent discharge provided that measures to prevent dangerous build up of pressure and dangerous atmospheres are addressed. Waste aerosols, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P207 of ADR and special provision PP87 of ADR, or packing instruction LP200 of ADR and special packing provision L2 of ADR. Waste gas cartridges, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special packing provisions PP17 and PP96 of ADR, or packing instruction LP200 and special packing provision L2 of ADR. Leaking or severely deformed aerosols and gas cartridges shall be carried in salvage pressure receptacles or salvage packagings provided appropriate measures are taken to ensure there is no dangerous build up of pressure.

NOTE: *For maritime carriage, waste aerosols and waste gas cartridges shall not be carried in closed containers.*

Waste gas cartridges that were filled with non-flammable, non-toxic gases of Class 2, group A or O and have been pierced are not subject to ADN.

328 This entry applies to fuel cell cartridges including when contained in equipment or packed with equipment. Fuel cell cartridges installed in or integral to a fuel cell system are regarded as contained in equipment. Fuel cell cartridge means an article that stores fuel for discharge into the fuel cell through (a) valve(s) that control(s) the discharge of fuel into the fuel cell. Fuel cell cartridges, including when contained in equipment, shall be designed and constructed to prevent fuel leakage under normal conditions of carriage.

Fuel cell cartridge design types using liquids as fuels shall pass an internal pressure test at a pressure of 100 kPa (gauge) without leakage.

Except for fuel cell cartridges containing hydrogen in metal hydride which shall be in compliance with special provision 339, each fuel cell cartridge design type shall be shown to pass a 1.2 meter drop test onto an unyielding surface in the orientation most likely to result in failure of the containment system with no loss of contents.

When lithium metal, lithium ion or sodium ion batteries are contained in the fuel cell system, the consignment shall be consigned under this entry and under the appropriate entries for UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3552 SODIUM ION BATTERIES CONTAINED IN EQUIPMENT.

329 *(Reserved)*

331 *(Reserved)*

332 Magnesium nitrate hexahydrate is not subject to the requirements of ADN.

333 Ethanol and gasoline, motor spirit or petrol mixtures for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.

334 A fuel cell cartridge may contain an activator provided it is fitted with two independent means of preventing unintended mixing with the fuel during carriage.

335 Mixtures of solids which are not subject to the requirements of ADN and environmentally hazardous liquids or solids shall be classified as UN 3077 and may be carried under this entry provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Each cargo transport unit shall be leakproof when used for carriage in bulk. If free liquid is visible at the time the mixture is loaded or at the time the packaging or cargo transport unit is closed, the mixture shall be classified as UN 3082. Sealed packets and articles containing less than 10 ml of an environmentally hazardous liquid, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid, are not subject to the requirements of ADN.

336 A single package of non-combustible solid LSA-II or LSA-III material, if carried by air, shall not contain an activity greater than 3 000 A_2.

337 Type B(U) and Type B(M) packages, if carried by air, shall not contain activities greater than the following:

(a) For low dispersible radioactive material: as authorized for the package design as specified in the certificate of approval;

(b) For special form radioactive material: 3 000 A_1 or 100 000 A_2, whichever is the lower; or

(c) For all other radioactive material: 3 000 A_2.

338 Each fuel cell cartridge carried under this entry and designed to contain a liquefied flammable gas shall:

(a) Be capable of withstanding, without leakage or bursting, a pressure of at least two times the equilibrium pressure of the contents at 55 °C;

(b) Not contain more than 200 ml liquefied flammable gas, the vapour pressure of which shall not exceed 1 000 kPa at 55 °C; and

(c) Pass the hot water bath test prescribed in 6.2.6.3.1 of ADR.

339 Fuel cell cartridges containing hydrogen in a metal hydride carried under this entry shall have a water capacity less than or equal to 120 ml.

The pressure in the fuel cell cartridge shall not exceed 5 MPa at 55 °C. The design type shall withstand, without leaking or bursting, a pressure of twice the design pressure of the cartridge at 55 °C or 200 kPa more than the design pressure of the cartridge at 55 °C, whichever is greater. The pressure at which this test is conducted is referred to in the drop test and the hydrogen cycling test as the "minimum shell burst pressure".

Fuel cell cartridges shall be filled in accordance with procedures provided by the manufacturer. The manufacturer shall provide the following information with each fuel cell cartridge:

(a) Inspection procedures to be carried out before initial filling and before refilling of the fuel cell cartridge;

(b) Safety precautions and potential hazards to be aware of;

(c) Method for determining when the rated capacity has been achieved;

(d) Minimum and maximum pressure range;

(e) Minimum and maximum temperature range; and

(f) Any other requirements to be met for initial filling and refilling including the type of equipment to be used for initial filling and refilling.

The fuel cell cartridges shall be designed and constructed to prevent fuel leakage under normal conditions of carriage. Each cartridge design type, including cartridges integral to a fuel cell, shall be subjected to and shall pass the following tests:

Drop test

A 1.8 metre drop test onto an unyielding surface in four different orientations:

(a) Vertically, on the end containing the shut-off valve assembly;

(b) Vertically, on the end opposite to the shut-off valve assembly;

(c) Horizontally, onto a steel apex with a diameter of 38 mm, with the steel apex in the upward position; and

(d) At a 45° angle on the end containing the shut-off valve assembly.

There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations, when the cartridge is charged to its rated charging pressure. The fuel cell cartridge shall then be hydrostatically pressurized to destruction. The recorded burst pressure shall exceed 85% of the minimum shell burst pressure.

Fire test

A fuel cell cartridge filled to rated capacity with hydrogen shall be subjected to a fire engulfment test. The cartridge design, which may include a vent feature integral to it, is deemed to have passed the fire test if:

(a) The internal pressure vents to zero gauge pressure without rupture of the cartridge; or

(b) The cartridge withstands the fire for a minimum of 20 minutes without rupture.

Hydrogen cycling test

This test is intended to ensure that a fuel cell cartridge design stress limits are not exceeded during use.

The fuel cell cartridge shall be cycled from not more than 5% rated hydrogen capacity to not less than 95% rated hydrogen capacity and back to not more than 5% rated hydrogen capacity. The rated charging pressure shall be used for charging and temperatures shall be held within the operating temperature range. The cycling shall be continued for at least 100 cycles.

Following the cycling test, the fuel cell cartridge shall be charged and the water volume displaced by the cartridge shall be measured. The cartridge design is deemed to have passed the hydrogen cycling test if the water volume displaced by the cycled cartridge does not exceed the water volume displaced by an uncycled cartridge charged to 95% rated capacity and pressurized to 75% of its minimum shell burst pressure.

Production leak test

Each fuel cell cartridge shall be tested for leaks at 15 °C ± 5 °C, while pressurized to its rated charging pressure. There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations.

Each fuel cell cartridge shall be permanently marked with the following information:

(a) The rated charging pressure in MPa;

(b) The manufacturer's serial number of the fuel cell cartridges or unique identification number; and

(c) The date of expiry based on the maximum service life (year in four digits; month in two digits).

340 Chemical kits, first aid kits and polyester resin kits containing dangerous substances in inner packagings which do not exceed the quantity limits for excepted quantities applicable to individual substances as specified in column (7b) of Table A of Chapter 3.2, may be carried in accordance with Chapter 3.5. Class 5.2 substances, although not individually authorized as excepted quantities in column (7b) of Table A of Chapter 3.2, are authorized in such kits and are assigned Code E2 (see 3.5.1.2).

341 *(Reserved)*

342 Glass inner receptacles (such as ampoules or capsules) intended only for use in sterilization devices, when containing less than 30 ml of ethylene oxide per inner packaging with not more than 300 ml per outer packaging, may be carried in accordance with the provisions in Chapter 3.5, irrespective of the indication of "E0" in column (7b) of Table A of Chapter 3.2 provided that:

(a) After filling, each glass inner receptacle has been determined to be leak-tight by placing the glass inner receptacle in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55 °C is achieved. Any glass inner receptacle showing evidence of leakage, distortion or other defect under this test shall not be carried under the terms of this special provision;

(b) In addition to the packaging required by 3.5.2, each glass inner receptacle is placed in a sealed plastics bag compatible with ethylene oxide and capable of containing the contents in the event of breakage or leakage of the glass inner receptacle; and

(c) Each glass inner receptacle is protected by a means of preventing puncture of the plastics bag (e.g. sleeves or cushioning) in the event of damage to the packaging (e.g. by crushing).

343 This entry applies to crude oil containing hydrogen sulphide in sufficient concentration that vapours evolved from the crude oil can present an inhalation hazard. The packing group assigned shall be determined by the flammability hazard and inhalation hazard, in accordance with the degree of danger presented.

344 The provisions of 6.2.6 of ADR shall be met.

345 This gas contained in open cryogenic receptacles with a maximum capacity of 1 litre constructed with glass double walls having the space between the inner and outer wall evacuated (vacuum insulated) is not subject to ADN provided each receptacle is carried in an outer packaging with suitable cushioning or absorbent materials to protect it from impact damage.

346 Open cryogenic receptacles conforming to the requirements of packing instruction P203 of 4.1.4.1 of ADR and containing no dangerous goods except for UN No. 1977 nitrogen, refrigerated liquid, which is fully absorbed in a porous material, are not subject to any other requirements of ADN.

347 This entry shall only be used if the results of Test series 6 (d) of Part I of the *Manual of Tests and Criteria* have demonstrated that any hazardous effects arising from functioning are confined within the package.

348 Lithium batteries manufactured after 31 December 2011 and sodium ion batteries manufactured after 31 December 2025 shall be marked with the Watt-hour rating on the outside case.

349 Mixtures of a hypochlorite with an ammonium salt are not to be accepted for carriage. UN No. 1791 hypochlorite solution is a substance of Class 8.

350 Ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt are not to be accepted for carriage.

351 Ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt are not to be accepted for carriage.

352 Ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt are not to be accepted for carriage.

353 Ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt are not to be accepted for carriage.

354 This substance is toxic by inhalation.

355 Oxygen cylinders for emergency use carried under this entry may include installed actuating cartridges (cartridges, power device of Division 1.4, Compatibility Group C or S), without changing the classification in Class 2 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per oxygen cylinder. The cylinders with the installed actuating cartridges as prepared for carriage shall have an effective means of preventing inadvertent activation.

356 Metal hydride storage systems intended to be installed in vehicles, wagons, vessels, machinery, engines or aircraft shall be approved by the competent authority of the country of manufacture[1] before acceptance for carriage. The transport document shall include an indication that the package was approved by the competent authority of the country of manufacture[1] or a copy of the competent authority of the country of manufacture[1] approval shall accompany each consignment.

357 Petroleum crude oil containing hydrogen sulphide in sufficient concentration that vapours evolved from the crude oil can present an inhalation hazard shall be consigned under the entry UN 3494 PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC.

358 Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin may be classified in Class 3 and assigned to UN No. 3064 provided all the requirements of packing instruction P300 of 4.1.4.1 of ADR are complied with.

359 Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin shall be classified in Class 1 and assigned to UN No. 0144 if not all the requirements of packing instruction P300 of 4.1.4.1 of ADR are complied with.

---

1 *If the country of manufacture is not a Contracting Party to ADN, the approval shall be recognized by the competent authority of a Contracting Party to ADN.*

360 Vehicles only powered by lithium metal, lithium ion or sodium ion batteries shall be assigned to the entries UN 3556 VEHICLE, LITHIUM ION BATTERY POWERED or UN 3557 VEHICLE, LITHIUM METAL BATTERY POWERED or UN 3558 VEHICLE, SODIUM ION BATTERY POWERED, as applicable. Lithium batteries installed in cargo transport units, designed only to provide power external to the transport unit shall be assigned to entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries.

361 This entry applies to electric double layer capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to ADN. Energy storage capacity means the energy held by a capacitor, as calculated using the nominal voltage and capacitance. All capacitors to which this entry applies, including capacitors containing an electrolyte that does not meet the classification criteria of any class of dangerous goods, shall meet the following conditions:

(a) Capacitors not installed in equipment shall be carried in an uncharged state. Capacitors installed in equipment shall be carried either in an uncharged state or protected against short circuit;

(b) Each capacitor shall be protected against a potential short circuit hazard in carriage as follows:

(i) When a capacitor's energy storage capacity is less than or equal to 10Wh or when the energy storage capacity of each capacitor in a module is less than or equal to 10 Wh, the capacitor or module shall be protected against short circuit or be fitted with a metal strap connecting the terminals; and

(ii) When the energy storage capacity of a capacitor or a capacitor in a module is more than 10 Wh, the capacitor or module shall be fitted with a metal strap connecting the terminals;

(c) Capacitors containing dangerous goods shall be designed to withstand a 95 kPa pressure differential;

(d) Capacitors shall be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting shall be contained by the packaging or by the equipment in which a capacitor is installed; and

(e) Capacitors shall be marked with the energy storage capacity in Wh.

Capacitors containing an electrolyte not meeting the classification criteria of any class of dangerous goods, including when installed in equipment, are not subject to other provisions of ADN.

Capacitors containing an electrolyte meeting the classification criteria of any class of dangerous goods, with an energy storage capacity of 10 Wh or less are not subject to other provisions of ADN when they are capable of withstanding a 1.2 metre drop test unpackaged on an unyielding surface without loss of contents.

Capacitors containing an electrolyte meeting the classification criteria of any class of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 10 Wh are subject to ADN.

Capacitors installed in equipment and containing an electrolyte meeting the classification criteria of any class of dangerous goods are not subject to other provisions of ADN provided the equipment is packaged in a strong outer packaging constructed of suitable material and of adequate strength and design, in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during carriage. Large robust equipment containing capacitors may be offered for carriage unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.

NOTE: *Capacitors which by design maintain a terminal voltage (e.g. asymmetrical capacitors) do not belong to this entry.*

362 *(Reserved).*

363 This entry may only be used when the conditions of this special provision are met. No other requirements of ADN apply.

(a) This entry applies to engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems or fuel cells (e.g. combustion engines, generators, compressors, turbines, heating units, etc.), except vehicle equipment assigned to UN No. 3166 referred to in special provision 666;

NOTE: *This entry does not apply to equipment referred to in 1.1.3.2 (a), (d) and (e), 1.1.3.3 and 1.1.3.7.*

(b) Engines or machinery which are empty of liquid or gaseous fuels and which do not contain other dangerous goods, are not subject to ADN.

NOTE 1: *An engine or machinery is considered to be empty of liquid fuel when the liquid fuel tank has been drained and the engine or machinery cannot be operated due to a lack of fuel. Engine or machinery components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty of liquid fuels. In addition, the liquid fuel tank does not need to be cleaned or purged.*

NOTE 2: *An engine or machinery is considered to be empty of gaseous fuels when the gaseous fuel tanks are empty of liquid (for liquefied gases), the pressure in the tanks does not exceed 2 bar and the fuel shut-off or isolation valve is closed and secured.*

(c) Engines and machinery containing fuels meeting the classification criteria of Class 3, shall be assigned to the entries UN No. 3528 ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN No. 3528 ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or UN No. 3528 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN No. 3528 MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.

(d) Engines and machinery containing fuels meeting the classification criteria of flammable gases of Class 2, shall be assigned to the entries UN No. 3529 ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN No. 3529 ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or UN No. 3529 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN No. 3529 MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED, as appropriate.

Engines and machinery powered by both a flammable gas and a flammable liquid shall be assigned to the appropriate UN No. 3529 entry.

(e) Engines and machinery containing liquid fuels meeting the classification criteria of 2.2.9.1.10 for environmentally hazardous substances and not meeting the classification criteria of any other class shall be assigned to the entries UN No. 3530 ENGINE, INTERNAL COMBUSTION or UN No. 3530 MACHINERY, INTERNAL COMBUSTION, as appropriate.

(f) Engines or machinery may contain other dangerous goods than fuels (e.g. batteries, fire extinguishers, compressed gas accumulators or safety devices) required for their functioning or safe operation without being subject to any additional requirements for these other dangerous goods, unless otherwise specified in ADN. However, lithium batteries shall meet the provisions of 2.2.9.1.7.1, except that (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in machinery or engines. Furthermore, sodium ion batteries shall meet the provisions of 2.2.9.1.7.2, except that (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in machinery or engines.

(g) The engine or machinery, including the means of containment containing dangerous goods, shall be in compliance with the construction requirements specified by the competent authority of the country of manufacture[2];

(h) Any valves or openings (e.g. venting devices) shall be closed during carriage;

(i) The engines or machinery shall be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the engines or machinery to prevent any movement during carriage which would change the orientation or cause them to be damaged;

(j) For UN No. 3528 and UN No. 3530:

Where the engine or machinery contains more than 60 l of liquid fuel and has a capacity of more than 450 l but not more than 3 000 l, it shall be labelled on two opposite sides in accordance with 5.2.2.

Where the engine or machinery contains more than 60 l of liquid fuel and has a capacity of more than 3 000 l, it shall be placarded on two opposite sides. Placards shall correspond to the labels required in Column (5) of Table A of Chapter 3.2 and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

NOTE: *On engines and machinery with a capacity of more than 450 l but containing 60 l of liquid fuel or less, labelling and placarding compliant with the above requirements are permitted.*

(k) For UN No. 3529:

Where the fuel tank of the engine or machinery has a water capacity of more than 450 l but not more than 1 000 l, it shall be labelled on two opposite sides in accordance with 5.2.2.

---

2 *For example, compliance with the relevant provisions of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (Official Journal of the European Union No. L 157 of 9 June 2006, pp. 0024-0086).*

Where the fuel tank of the engine or machinery has a water capacity of more than 1 000 l, it shall be placarded on two opposite sides. Placards shall correspond to the labels required in Column (5) of Table A of Chapter 3.2 and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

(l) When the engine or machinery contains more than 1 000 *l* of liquid fuels, for UN No. 3528 and UN No. 3530, or the fuel tank has a water capacity of more than 1 000 *l*, for UN No. 3529:

– A transport document in accordance with 5.4.1 is required. This transport document shall contain the following additional statement "Transport in accordance with special provision 363".

(m) The requirements specified in packing instruction P005 of 4.1.4.1 of ADR shall be met.

364 This article may only be carried under the provisions of Chapter 3.4 if, as presented for carriage, the package is capable of passing the test in accordance with Test Series 6(d) of Part I of the *Manual of Tests and Criteria* as determined by the competent authority.

365 For manufactured instruments and articles containing mercury or gallium, see UN Nos. 3506 or 3554, as appropriate.

366 Manufactured instruments and articles containing not more than 1 kg of mercury or gallium are not subject to ADN.

367 For the purposes of documentation:

The proper shipping name "Paint related material" may be used for consignments of packages containing "Paint" and "Paint related material" in the same package;

The proper shipping name "Paint related material, corrosive, flammable" may be used for consignments of packages containing "Paint, corrosive, flammable" and "Paint related material, corrosive, flammable" in the same package;

The proper shipping name "Paint related material, flammable, corrosive" may be used for consignments of packages containing "Paint, flammable, corrosive" and "Paint related material, flammable, corrosive" in the same package; and

The proper shipping name "Printing ink related material" may be used for consignments of packages containing "Printing ink" and "Printing ink related material" in the same package.

368 In the case of non-fissile or fissile-excepted uranium hexafluoride, the material shall be classified under UN No. 3507 or UN No. 2978.

369 In accordance with 2.1.3.5.3 (a), this radioactive material in an excepted package possessing toxic and corrosive properties is classified in Class 6.1 with radioactivity and corrosivity subsidiary hazards.

Uranium hexafluoride may be classified under this entry only if the conditions of 2.2.7.2.4.1.2, 2.2.7.2.4.1.5, 2.2.7.2.4.5.2 and, for fissile-excepted material, of 2.2.7.2.3.5 are met.

In addition to the provisions applicable to the carriage of Class 6.1 substances with a corrosivity subsidiary hazard, the provisions of 5.1.3.2, 5.1.5.2.2, 5.1.5.4.1 (b), 7.5.11 CV33 (3.1), (5.1) to (5.4) and (6) of ADR shall apply.

No Class 7 label is required to be displayed.

370 This entry only applies to ammonium nitrate that meets one of the following criteria:

(a) ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance; or

(b) ammonium nitrate with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance, that gives a positive result when tested in accordance with Test Series 2 (see *Manual of Tests and Criteria*, Part I). See also UN No. 1942.

This entry shall not be used for ammonium nitrate for which a proper shipping name already exists in Table A of Chapter 3.2 including ammonium nitrate mixed with fuel oil (ANFO) or any of the commercial grades of ammonium nitrate.

371 (1) This entry also applies to articles, containing a small pressure receptacle with a release device. Such articles shall comply with the following requirements:

(a) The water capacity of the pressure receptacle shall not exceed 0.5 litres and the working pressure shall not exceed 25 bar at 15 °C;

(b) The minimum burst pressure of the pressure receptacle shall be at least four times the pressure of the gas at 15 °C;

(c) Each article shall be manufactured in such a way that unintentional firing or release is avoided under normal conditions of handling, packing, carriage and use. This may be fulfilled by an additional locking device linked to the activator;

(d) Each article shall be manufactured in such a way as to prevent hazardous projections of the pressure receptacle or parts of the pressure receptacle;

(e) Each pressure receptacle shall be manufactured from material which will not fragment upon rupture;

(f) The design type of the article shall be subjected to a fire test. For this test, the provisions of paragraphs 16.6.1.2 except letter g, 16.6.1.3.1 to 16.6.1.3.4, 16.6.1.3.6, 16.6.1.3.7 (b) and 16.6.1.3.8 of the *Manual of Tests and Criteria* shall be applied. It shall be demonstrated that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, in such a way that the pressure receptacle will not fragment and that the article or fragments of the article do not rocket more than 10 metres;

(g) The design type of the article shall be subjected to the following test. A stimulating mechanism shall be used to initiate one article in the middle of the packaging. There shall be no hazardous effects outside the package such as disruption of the package, metal fragments or a receptacle which passes through the packaging.

(2) The manufacturer shall produce technical documentation of the design type, manufacture as well as the tests and their results. The manufacturer shall apply procedures to ensure that articles produced in series are made of good quality, conform to the design type and are able to meet the requirements in (1). The manufacturer shall provide such information to the competent authority on request.

372 This entry applies to asymmetric capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to ADN.

Energy storage capacity means the energy stored in a capacitor, as calculated according to the following equation,

$Wh = 1/2C_N(U_R^2-U_L^2) \times (1/3600)$,

using the nominal capacitance (C_N), rated voltage (U_R) and rated lower limit voltage (U_L).

All asymmetric capacitors to which this entry applies shall meet the following conditions:

(a) Capacitors or modules shall be protected against short circuit;

(b) Capacitors shall be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting shall be contained by packaging or by equipment in which a capacitor is installed;

(c) Capacitors shall be marked with the energy storage capacity in Wh; and

(d) Capacitors containing an electrolyte meeting the classification criteria of any class of dangerous goods shall be designed to withstand a 95 kPa pressure differential;

Capacitors containing an electrolyte not meeting the classification criteria of any class of dangerous goods, including when configured in a module or when installed in equipment are not subject to other provisions of ADN.

Capacitors containing an electrolyte meeting the classification criteria of any class of dangerous goods, with an energy storage capacity of 20 Wh or less, including when configured in a module, are not subject to other provisions of ADN when the capacitors are capable of withstanding a 1.2 metre drop test unpackaged on an unyielding surface without loss of contents.

Capacitors containing an electrolyte meeting the classification criteria of any class of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 20 Wh are subject to ADN.

Capacitors installed in equipment and containing an electrolyte meeting the classification criteria of any class of dangerous goods, are not subject to other provisions of ADN provided that the equipment is packaged in a strong outer packaging constructed of suitable material, and of adequate strength and design, in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during carriage. Large robust equipment containing capacitors may be offered for carriage unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.

NOTE: *Notwithstanding the provisions of this special provision, nickel-carbon asymmetric capacitors containing Class 8 alkaline electrolytes shall be carried as UN 2795 BATTERIES, WET, FILLED WITH ALKALI, electric storage.*

373 Neutron radiation detectors containing non-pressurized boron trifluoride gas may be carried under this entry provided that the following conditions are met:

(a) Each radiation detector shall meet the following conditions.

(i) The pressure in each detector shall not exceed 105 kPa absolute at 20 °C;

(ii) The amount of gas shall not exceed 13 g per detector;

(iii) Each detector shall be manufactured under a registered quality assurance programme;

NOTE: *ISO 9001 may be used for this purpose.*

(iv) Each neutron radiation detector shall be of welded metal construction with brazed metal to ceramic feed through assemblies. These detectors shall have a minimum burst pressure of 1800 kPa as demonstrated by design type qualification testing; and

(v) Each detector shall be tested to a 1 x 10^{-10} cm^3/s leaktightness standard before filling.

(b) Radiation detectors carried as individual components shall be carried as follows:

(i) Detectors shall be packed in a sealed intermediate plastics liner with sufficient absorbent or adsorbent material to absorb or adsorb the entire gas contents;

(ii) They shall be packed in strong outer packaging. The completed package shall be capable of withstanding a 1.8 m drop test without leakage of gas contents from detectors;

(iii) The total amount of gas from all detectors per outer packaging shall not exceed 52 g.

(c) Completed neutron radiation detection systems containing detectors meeting the conditions of paragraph (a) shall be carried as follows:

(i) The detectors shall be contained in a strong sealed outer casing;

(ii) The casing shall contain sufficient absorbent or adsorbent material to absorb or adsorb the entire gas contents;

(iii) The completed systems shall be packed in strong outer packagings capable of withstanding a 1.8 m drop test without leakage unless a system's outer casing affords equivalent protection.

Packing instruction P200 of 4.1.4.1 of ADR is not applicable.

The transport document shall include the following statement "Transport in accordance with special provision 373".

Neutron radiation detectors containing not more than 1 g of boron trifluoride, including those with solder glass joints, are not subject to ADN provided they meet the requirements in paragraph (a) and are packed in accordance with paragraph (b). Radiation detection systems containing such detectors are not subject to ADN provided they are packed in accordance with paragraph (c).

374 *(Reserved)*

375 These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADN provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 of ADR.

376 Lithium metal, lithium ion or sodium ion cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the *Manual of Tests and Criteria* shall comply with the requirements of this special provision.

For the purposes of this special provision, these may include, but are not limited to:

– Cells or batteries identified as being defective for safety reasons;

– Cells or batteries that have leaked or vented;

– Cells or batteries that cannot be diagnosed prior to carriage; or

– Cells or batteries that have sustained physical or mechanical damage.

NOTE: *In assessing a cell or battery as damaged or defective, an assessment or evaluation shall be performed based on safety criteria from the cell, battery or product manufacturer or by a technical expert with knowledge of the cell's or battery's safety features. An assessment or evaluation may include, but is not limited to, the following criteria:*

(a) Acute hazard, such as gas, fire, or electrolyte leaking;

(b) The use or misuse of the cell or battery;

(c) Signs of physical damage, such as deformation to cell or battery casing, or colours on the casing;

(d) External and internal short circuit protection, such as voltage or isolation measures;

(e) The condition of the cell or battery safety features; or

(f) Damage to any internal safety components, such as the battery management system.

Cells and batteries shall be carried according to the provisions applicable to UN Nos. 3090, 3091, 3480, 3481, 3551 and 3552, as appropriate, except special provision 230 and as otherwise stated in this special provision.

Cells and batteries shall be packed in accordance with packing instructions P908 of 4.1.4.1 of ADR or LP904 of 4.1.4.3 of ADR, as applicable.

Cells and batteries identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of carriage shall be packed and carried in accordance with packing instruction P911 of 4.1.4.1 of ADR or LP906 of 4.1.4.3 of ADR, as applicable. Alternative packing and/or carriage conditions may be authorized by the competent authority of any ADN Contracting Party who may also recognize an approval granted by the competent authority of a country which is not an ADN Contracting Party provided that this approval has been granted in accordance with the procedures applicable according to RID, ADR, ADN, the IMDG Code or the ICAO Technical Instructions.

Packages shall be marked "DAMAGED/DEFECTIVE LITHIUM ION BATTERIES", "DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES" or "DAMAGED/DEFECTIVE SODIUM ION BATTERIES", as applicable.

The transport document shall include the following statement "Transport in accordance with special provision 376".

If applicable, a copy of the competent authority approval shall accompany the carriage.

377 Lithium metal, lithium ion and sodium ion cells and batteries and equipment containing such cells and batteries carried for disposal or recycling, either packed together with or packed without non-lithium or non-sodium ion batteries, may be packaged in accordance with packing instruction P909 of 4.1.4.1 of ADR.

These cells and batteries are not subject to the provisions of 2.2.9.1.7.1 (a) to (g) or 2.2.9.1.7.2 (a) to (f) as appropriate.

Packages shall be marked "LITHIUM BATTERIES FOR DISPOSAL", "SODIUM ION BATTERIES FOR DISPOSAL", "LITHIUM BATTERIES FOR RECYCLING" or "SODIUM ION BATTERIES FOR RECYCLING", as appropriate.

Identified damaged or defective batteries shall be carried in accordance with special provision 376.

378 Radiation detectors containing this gas in non-refillable pressure receptacles not meeting the requirements of Chapter 6.2 and packing instruction P200 of 4.1.4.1 of ADR may be carried under this entry provided:

(a) The working pressure in each receptacle does not exceed 50 bar;

(b) The receptacle capacity does not exceed 12 litres;

(c) Each receptacle has a minimum burst pressure of at least 3 times the working pressure when a relief device is fitted and at least 4 times the working pressure when no relief device is fitted;

(d) Each receptacle is manufactured from material which will not fragment upon rupture;

(e) Each detector is manufactured under a registered quality assurance programme;

NOTE: *ISO 9001 may be used for this purpose.*

(f) Detectors are carried in strong outer packagings. The complete package shall be capable of withstanding a 1.2 metre drop test without breakage of the detector or rupture of the outer packaging. Equipment that includes a detector shall be packed in a strong outer packaging unless the detector is afforded equivalent protection by the equipment in which it is contained; and

(g) The transport document includes the following statement "Transport in accordance with special provision 378".

Radiation detectors, including detectors in radiation detection systems, are not subject to any other requirements of ADN if the detectors meet the requirements in (a) to (f) above and the capacity of detector receptacles does not exceed 50 ml.

379 Anhydrous ammonia adsorbed or absorbed on a solid contained in ammonia dispensing systems or receptacles intended to form part of such systems are not subject to the other provisions of ADN if the following conditions are observed:

(a) The adsorption or absorption presents the following properties:

(i) The pressure at a temperature of 20 °C in the receptacle is less than 0.6 bar;

(ii) The pressure at a temperature of 35 °C in the receptacle is less than 1 bar;

(iii) The pressure at a temperature of 85 °C in the receptacle is less than 12 bar.

(b) The adsorbent or absorbent material shall not have dangerous properties listed in classes 1 to 8;

(c) The maximum contents of a receptacle shall be 10 kg; and

(d) Receptacles containing adsorbed or absorbed ammonia shall meet the following conditions:

(i) Receptacles shall be made of a material compatible with ammonia as specified in ISO 11114-1:2020;

(ii) Receptacles and their means of closure shall be hermetically sealed and able to contain the generated ammonia;

(iii) Each receptacle shall be able to withstand the pressure generated at 85 °C with a volumetric expansion no greater than 0.1%;

(iv) Each receptacle shall be fitted with a device that allows for gas evacuation once pressure exceeds 15 bar without violent rupture, explosion or projection; and

(v) Each receptacle shall be able to withstand a pressure of 20 bar without leakage when the pressure relief device is deactivated.

When carried in an ammonia dispenser, the receptacles shall be connected to the dispenser in such a way that the assembly is guaranteed to have the same strength as a single receptacle.

The properties of mechanical strength mentioned in this special provision shall be tested using a prototype of a receptacle and/or dispenser filled to nominal capacity, by increasing the temperature until the specified pressures are reached.

The test results shall be documented, shall be traceable and shall be communicated to the relevant authorities upon request.

380 *(Reserved)*

381 *(Reserved)*

382 Polymeric beads may be made from polystyrene, poly (methyl methacrylate) or other polymeric material. When it can be demonstrated that no flammable vapour, resulting in a flammable atmosphere, is evolved according to test U1 (Test method for substances liable to evolve flammable vapours) of Part III, sub-section 38.4.4 of the *Manual of Tests and Criteria*, polymeric beads, expandable need not be classified under this UN number. This test should only be performed when de-classification of a substance is considered.

383 Table tennis balls manufactured from celluloid are not subject to ADN where the net mass of each table tennis ball does not exceed 3.0 g and the total net mass of table tennis balls does not exceed 500 g per package.

384 *(Reserved)*

385 *(Deleted)*

386 When substances are stabilized by temperature control, the provisions of 2.2.41.1.21, 7.1.7, special provision V8 of Chapter 7.2 of ADR, special provision S4 of Chapter 8.5 of ADR and the requirements of Chapter 9.6 of ADR apply. When chemical stabilization is employed, the person offering the packaging, IBC or tank for carriage shall ensure that the level of stabilization is sufficient to prevent the substance in the packaging, IBC or tank from dangerous polymerization at a bulk mean loading temperature of 50 °C, or, in the case of a portable tank, 45 °C. Where chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of carriage, temperature control is required. In making this determination factors to be taken into consideration include, but are not limited to, the capacity and geometry of the packaging, IBC or tank and the effect of any insulation present, the temperature of the substance when offered for carriage, the duration of the journey and the ambient temperature conditions typically encountered in the journey (considering also the season of year), the effectiveness and other properties of the stabilizer employed, applicable operational controls imposed by regulation (e.g. requirements to protect from sources of heat, including other cargo carried at a temperature above ambient) and any other relevant factors.

387 Lithium batteries in conformity with 2.2.9.1.7.1 (f) containing both primary lithium metal cells and rechargeable lithium ion cells shall be assigned to UN Nos. 3090 or 3091 as appropriate. When such batteries are carried in accordance with special provision 188, the total lithium content of all lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh.

388 UN No. 3166 entries apply to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.

Vehicles powered by a fuel cell engine shall be assigned to the entries UN No. 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN No. 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, carried with the battery(ies) installed.

Other vehicles which contain an internal combustion engine shall be assigned to the entries UN No. 3166 VEHICLE, FLAMMABLE GAS POWERED or UN No. 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, carried with the battery(ies) installed.

If a vehicle is powered by a flammable liquid and a flammable gas internal combustion engine, it shall be assigned to UN No. 3166 VEHICLE, FLAMMABLE GAS POWERED.

Entry UN 3171 only applies to vehicles and equipment powered by wet batteries, metallic sodium batteries or sodium alloy batteries, carried with these batteries installed.

UN 3556 VEHICLE, LITHIUM ION BATTERY POWERED, UN 3557 VEHICLE, LITHIUM METAL BATTERY POWERED and UN 3558 VEHICLE, SODIUM ION BATTERY POWERED, as applicable, apply to vehicles powered by lithium ion, lithium metal or sodium ion batteries carried with the batteries installed.

For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with a motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheelchairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. When vehicles are carried in a packaging, some parts of the vehicle, other than the battery, may be detached from its frame to fit into the packaging.

Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries shall be assigned to the entries UN No. 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN No. 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT or UN No. 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN No. 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, as appropriate. Lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit shall be assigned to the entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries.

Dangerous goods, such as batteries, airbags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator or passengers, shall be securely installed in the vehicle and are not otherwise subject to ADN. However, lithium batteries shall meet the provisions of 2.2.9.1.7.1, except that (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in vehicles. Furthermore, sodium ion batteries shall meet the provisions of 2.2.9.1.7.2, except that (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in vehicles.

Where a lithium battery installed in a vehicle is damaged or defective, the vehicle shall be carried in accordance with the conditions defined in special provision 667 (c).

389 This entry only applies to lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit. The lithium batteries shall meet the provisions of 2.2.9.1.7.1 (a) to (g) and contain the necessary systems to prevent overcharge and over discharge between the batteries.

The batteries shall be securely attached to the interior structure of the cargo transport unit (e.g., by means of placement in racks, cabinets, etc.) in such a manner as to prevent short circuits, accidental operation, and significant movement relative to the cargo transport unit under the shocks, loadings and vibrations normally incident to carriage. Dangerous goods necessary for the safe and proper operation of the cargo transport unit (e.g., fire extinguishing systems and air conditioning systems), shall be properly secured to or installed in the cargo transport unit and are not otherwise subject to ADN. Dangerous goods not necessary for the safe and proper operation of the cargo transport unit shall not be carried within the cargo transport unit.

The batteries inside the cargo transport unit are not subject to marking or labelling requirements. Except as provided in 1.1.3.6 of RID or ADR, the cargo transport unit shall bear orange-coloured plates in accordance with 5.3.2.2 and placards in accordance with 5.3.1.1 on two opposing sides.

390 When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply for the purposes of package marking and documentation:

(a) the package shall be marked "UN 3091" or "UN 3481", as appropriate. If a package contains both lithium ion batteries and lithium metal batteries packed with and contained in equipment, the package shall be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered;

(b) the transport document shall indicate "UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT" or "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT", as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the transport document shall indicate both "UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT" and "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT".

391 *(Reserved)*

392 For the carriage of fuel gas containment systems designed and approved to be fitted in motor vehicles containing this gas the provisions of 4.1.4.1 and Chapter 6.2 of ADR need not be applied when carried for disposal, recycling, repair, inspection, maintenance or from where they are manufactured to a vehicle assembly plant, provided the following conditions are met:

(a) The fuel gas containment systems shall meet the requirements of the standards or regulations for fuel tanks for vehicles, as applicable. Examples of applicable standards and regulations are:

LPG tanks	
UN Regulation No. 67 Revision 2	Uniform provisions concerning: I. Approval of specific equipment of vehicles of category M and N using liquefied petroleum gases in their propulsion system; II. Approval of vehicles of category M and N fitted with specific equipment for the use of liquefied petroleum gases in their propulsion system with regard to the installation of such equipment
UN Regulation No. 115	Uniform provisions concerning the approval of: I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system
CNG and LNG tanks	
UN Regulation No. 110	Uniform provisions concerning the approval of: I. Specific components of motor vehicles using compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system II. Vehicles with regard to the installation of specific components of an approved type for the use of compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system
UN Regulation No. 115	Uniform provisions concerning the approval of: I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system
ISO 11439:2013	Gas cylinders — High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles
ISO 15500-Series	Road vehicles -- Compressed natural gas (CNG) fuel system components – several parts as applicable
ANSI NGV 2	Compressed natural gas vehicle fuel containers
CSA B51 Part 2:2014	Boiler, pressure vessel, and pressure piping code Part 2 Requirements for high-pressure cylinders for on-board storage of fuels for automotive vehicles

Hydrogen pressure tanks	
Global Technical Regulation (GTR) No. 13	Global technical regulation on hydrogen and fuel cell vehicles (ECE/TRANS/180/Add.13).
ISO/TS 15869:2009	Gaseous hydrogen and hydrogen blends - Land vehicle fuel tanks
Regulation (EC) No.79/2009	Regulation (EC) No. 79/2009 of the European Parliament and of the Council of 14 January 2009 on type approval of hydrogen-powered motor vehicles, and amending Directive 2007/46/EC
Regulation (EU) No. 406/2010	Commission Regulation (EU) No 406/2010 of 26 April 2010 implementing Regulation (EC) No 79/2009 of the European Parliament and of the Council on type-approval of hydrogen-powered motor vehicles
UN Regulation No. 134	Uniform provisions concerning the approval of motor vehicles and their components with regard to the safety-related performance of hydrogen-fuelled vehicles (HFCV)
CSA B51 Part 2: 2014	Boiler, pressure vessel, and pressure piping code – Part 2: Requirements for high-pressure cylinders for on-board storage of fuels for automotive vehicles

Gas tanks designed and constructed in accordance with previous versions of relevant standards or regulations for gas tanks for motor vehicles, which were applicable at the time of the certification of the vehicles for which the gas tanks were designed and constructed may continue to be carried;

(b) The fuel gas containment systems shall be leakproof and shall not exhibit any signs of external damage which may affect their safety;

NOTE 1: *Criteria may be found in standard ISO 11623:2015 Gas cylinders – Composite construction – Periodic inspection and testing (or ISO 19078:2013 Gas cylinders – Inspection of the cylinder installation, and requalification of high pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles).*

NOTE 2: *If the fuel gas containment systems are not leakproof or are overfilled or if they exhibit damage that could affect their safety (e.g. in case of a safety related recall), they shall only be carried in salvage pressure receptacles in conformity with ADN.*

(c) If a fuel gas containment system is equipped with two valves or more integrated in line, the two valves shall be closed as to be gastight under normal conditions of carriage. If only one valve exists or only one valve works, all openings with the exception of the opening of the pressure relief device shall be closed as to be gastight under normal conditions of carriage;

(d) Fuel gas containment systems shall be carried in such a way as to prevent obstruction of the pressure relief device or any damage to the valves and any other pressurised part of the fuel gas containment systems and unintentional release of the gas under normal conditions of carriage. The fuel gas containment system shall be secured in order to prevent slipping, rolling or vertical movement;

(e) Valves shall be protected by one of the methods described in 4.1.6.8 (a) to (e) of ADR;

(f) Except for the case of fuel gas containment systems removed for disposal, recycling, repair, inspection or maintenance, they shall be filled with not more than 20% of their nominal filling ratio or nominal working pressure, as applicable;

(g) Notwithstanding the provisions of Chapter 5.2, when fuel gas containment systems are consigned in a handling device, marks and labels may be affixed to the handling device; and

(h) Notwithstanding the provisions of 5.4.1.1.1 (f) the information on the total quantity of dangerous goods may be replaced by the following information:

(i) The number of fuel gas containment systems; and

(ii) In the case of liquefied gases the total net mass (kg) of gas of each fuel gas containment system and, in the case of compressed gases, the total water capacity (l) of each fuel gas containment system followed by the nominal working pressure.

Examples for information in the transport document:

Example 1: "UN 1971 natural gas, compressed, 2.1, 1 fuel gas containment system of 50 *l* in total, 200 bar".

Example 2: "UN 1965 hydrocarbon gas mixture, liquefied, n.o.s., 2.1, 3 fuel gas containment systems, each of 15 kg net mass of gas"

393 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the *Manual of Tests and Criteria* Appendix 10. Tests of type 3 (c) need not be applied.

394 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the *Manual of Tests and Criteria* Appendix 10.

395 This entry shall only be used for solid medical waste of Category A carried for disposal.

396 Large and robust articles may be carried with connected gas cylinders with the valves open regardless of 4.1.6.5 of ADR provided:

(a) The gas cylinders contain nitrogen of UN No. 1066 or compressed gas of UN No. 1956 or compressed air of UN No. 1002;

(b) The gas cylinders are connected with the article through pressure regulators and fixed piping in such a way that the pressure of the gas (gauge pressure) in the article does not exceed 35 kPa (0.35 bar);

(c) The gas cylinders are properly secured so that they cannot move in relation to the article and are fitted with strong and pressure resistant hoses and pipes;

(d) The gas cylinders, pressure regulators, piping and other components are protected from damage and impacts during carriage by wooden crates or other suitable means;

(e) The transport document includes the following statement "TRANSPORT IN ACCORDANCE WITH SPECIAL PROVISION 396";

(f) Cargo transport units containing articles carried with cylinders with open valves containing a gas presenting a risk of asphyxiation are well ventilated and marked in accordance with 5.5.3.6.

397 Mixtures of nitrogen and oxygen containing not less than 19.5% and not more than 23.5% oxygen by volume may be carried under this entry when no other oxidizing gases are present. A Class 5.1 subsidiary hazard label (model No. 5.1, see 5.2.2.2.2) is not required for any concentrations within this limit.

398 This entry applies to mixtures of butylenes, 1-butylene, cis-2-butylene and trans-2-butylene. For isobutylene, see UN No. 1055.

NOTE: *For additional information to be added in the transport document, see 5.4.1.2.2 (e).*

399 (*Reserved*)

400 Sodium ion cells and batteries and sodium ion cells and batteries contained in or packed with equipment, prepared and offered for carriage, are not subject to other provisions of ADN if they meet the following:

(a) The cell or battery is short-circuited, in a way that the cell or battery does not contain electrical energy. The short-circuiting of the cell or battery is easily verifiable (e.g., busbar between terminals);

(b) Each cell or battery meets the provisions of 2.2.9.1.7.2 (a), (b), (d), (e) and (f);

(c) Each package is marked according to 5.2.1.9;

(d) Except when cells or batteries are installed in equipment, each package is capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents;

(e) Cells and batteries, when installed in equipment are protected from damage. When batteries are installed in equipment, the equipment is packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;

(f) Each cell, including when it is a component of a battery, only contains dangerous goods that are authorized to be carried in accordance with the provisions of Chapter 3.4 and in a quantity not exceeding the quantity specified in column (7a) of Table A of Chapter 3.2.

401 Sodium ion cells and batteries with organic electrolyte shall be carried as UN No. 3551 or 3552 as appropriate. Sodium ion cells and batteries with aqueous alkali electrolyte shall be carried as UN No. 2795. Batteries containing metallic sodium or sodium alloy shall be carried as UN No. 3292.

402 Substances carried under this entry shall have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l.

403 Nitrocellulose membrane filters covered by this entry with nitrocellulose content not exceeding 53 g/m² and a nitrocellulose net mass not exceeding 300 g per inner packaging, are not subject to the requirements of ADN if they meet the following conditions:

(a) They are packed with paper separators of minimum 80 g/m² placed between each layer of nitrocellulose membrane filters;

(b) They are packed to maintain the alignment of the nitrocellulose membrane filters and the paper separators in any of the following configurations:

(i) Rolls tightly wound and packed in plastic foil of minimum 80 g/m² or aluminium pouches with an oxygen permeability of equal or less than 0.1 % in accordance with standard ISO 15105-1:2007;

(ii) Sheets packed in cardboard of minimum 250 g/m² or aluminium pouches with an oxygen permeability of equal or less than 0.1 % in accordance with standard ISO 15105-1:2007;

(iii) Round filters packed in disc holders or cardboard packaging of minimum 250 g/m² or single packed in pouches of paper and plastic material of total minimum 100 g/m².

404 Vehicles powered by sodium ion batteries, containing no other dangerous goods, are not subject to other provisions of ADN, if the battery is short-circuited in a way that the battery does not contain electrical energy. The short-circuiting of the battery shall be easily verifiable (e.g. busbar between terminals).

405 (*Reserved*)

406 Substances under this entry may be carried in accordance with the limited quantity provisions of Chapter 3.4 when carried in pressure receptacles containing not more than 1 000 ml. The pressure receptacles shall meet the requirements of packing instruction P200 of 4.1.4.1 of ADR and have a test pressure capacity product not exceeding 15.2 MPa·l (152 bar·l). The pressure receptacles shall not be packed together with other dangerous goods.

407 Fire suppressant dispersing devices are articles which contain a pyrotechnic substance, which are intended to disperse a fire extinguishing agent (or aerosol) when activated, and which do not contain any other dangerous goods. These articles, as packaged for carriage, shall fulfil the criteria for Division 1.4, Compatibility Group S, when tested in accordance with test series 6 (c) of Section 16 of Part I of the *Manual of Tests and Criteria*. The device shall be carried with either the means of activation removed or equipped with at least two independent means to prevent accidental activation.

Fire suppressant dispersing devices shall only be assigned to Class 9, UN No. 3559 if the following additional conditions are met:

(a) The device meets the exclusion criteria in 2.2.1.1.8.2 (b), (c) and (d);

(b) The suppressant is deemed safe for normally occupied spaces in compliance with international or regional standards (e.g. the United States of America National Fire Protection Association standard for fixed aerosol fire-extinguishing systems NFPA 2010);

(c) The article is packaged in a manner such that when activated, temperatures of the outside of the package do not exceed 200 °C;

(d) This entry is used only with the approval of the competent authority of the country of manufacture[3].

This entry does not apply to "SAFETY DEVICES, electrically initiated" described in special provision 280 (UN No. 3268).

408 This entry applies only to aqueous solutions comprised of water, tetramethylammonium hydroxide (TMAH), and no more than 1 % of other constituents. Other formulations containing tetramethylammonium hydroxide shall be assigned to an appropriate generic or N.O.S. entry (e.g., UN No. 2927, TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.), except as follows:

(a) Other formulations containing a surfactant in a concentration > 1 % and with not less than 8.75 % tetramethylammonium hydroxide shall be assigned to UN No. 2927, TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., PG I; and

(b) Other formulations containing a surfactant in a concentration > 1 % and with more than 2.38 % but less than 8.75 % tetramethylammonium hydroxide shall be assigned to UN No. 2927, TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., PG II.

409-499 *(Reserved)*

500 *(Deleted)*

501 For naphthalene, molten, see UN No. 2304.

502 UN No. 2006 plastics, nitrocellulose-based, self-heating, n.o.s., and UN No. 2002 celluloid scrap are substances of Class 4.2.

503 For phosphorus, white, molten, see UN No. 2447.

504 UN No. 1847 potassium sulphide, hydrated with not less than 30% water of crystallization, UN No. 1849 sodium sulphide, hydrated with not less than 30% water of crystallization and UN No. 2949 sodium hydrosulphide, hydrated with not less than 25% water of crystallization are substances of Class 8.

505 UN No. 2004 magnesium diamide is a substance of Class 4.2.

506 Alkaline earth metals and alkaline earth metal alloys in pyrophoric form are substances of Class 4.2.

UN No. 1869 magnesium or magnesium alloys containing more than 50% magnesium as pellets, turnings or ribbons, are substances of Class 4.1.

507 UN No. 3048 aluminium phosphide pesticides, with additives inhibiting the emission of toxic flammable gases are substances of Class 6.1.

508 UN No. 1871 titanium hydride and UN No. 1437 zirconium hydride are substances of Class 4.1. UN No. 2870 aluminium borohydride is a substance of Class 4.2.

[3] *If the country of manufacture is not a Contracting Party to ADN, the approval shall be recognized by the competent authority of a Contracting Party to ADN.*

509 UN No. 1908 chlorite solution is a substance of Class 8.

510 UN No. 1755 chromic acid solution is a substance of Class 8.

511 UN No. 1625 mercuric nitrate, UN No. 1627 mercurous nitrate and UN No. 2727 thallium nitrate are substances of Class 6.1. Thorium nitrate, solid, uranyl nitrate hexahydrate solution and uranyl nitrate, solid are substances of Class 7.

512 UN No. 1730 antimony pentachloride, liquid, UN No. 1731 antimony pentachloride solution, UN No. 1732 antimony pentafluoride and UN No. 1733 antimony trichloride are substances of Class 8.

513 UN No. 0224 barium azide, dry or wetted with less than 50% water, by mass, is a substance of Class 1. UN No. 1571 barium azide, wetted with not less than 50% water, by mass, is a substance of Class 4.1. UN No. 1854 barium alloys, pyrophoric, are substances of Class 4.2. UN No. 1445 barium chlorate, solid, UN No. 1446 barium nitrate, UN No. 1447 barium perchlorate, solid, UN No. 1448 barium permanganate, UN No. 1449 barium peroxide, UN No. 2719 barium bromate, UN No. 2741 barium hypochlorite with more than 22% available chlorine, UN No. 3405 barium chlorate, solution and UN No. 3406 barium perchlorate, solution, are substances of Class 5.1. UN No. 1565 barium cyanide and UN No. 1884 barium oxide are substances of Class 6.1.

514 UN No. 2464 beryllium nitrate is a substance of Class 5.1.

515 UN No. 1581 chloropicrin and methyl bromide mixture and UN No. 1582 chloropicrin and methyl chloride mixture are substances of Class 2.

516 UN No. 1912 methyl chloride and methylene chloride mixture is a substance of Class 2.

517 UN No. 1690 sodium fluoride, solid, UN No. 1812 potassium fluoride, solid, UN No. 2505 ammonium fluoride, UN No. 2674 sodium fluorosilicate, UN No. 2856 fluorosilicates, n.o.s., UN No. 3415 sodium fluoride, solution and UN No. 3422 potassium fluoride, solution, are substances of Class 6.1.

518 UN No. 1463 chromium trioxide, anhydrous (chromic acid, solid) is a substance of Class 5.1.

519 UN No. 1048 hydrogen bromide, anhydrous, is a substance of Class 2.

520 UN No. 1050 hydrogen chloride, anhydrous, is a substance of Class 2.

521 Solid chlorites and hypochlorites are substances of Class 5.1.

522 UN No. 1873 perchloric acid aqueous solution with more than 50% but not more than 72% pure acid, by mass are substances of Class 5.1. Perchloric acid solutions containing more than 72% pure acid, by mass, or mixtures of perchloric acid with any liquid other than water, are not to be accepted for carriage.

523 UN No. 1382 anhydrous potassium sulphide and UN No. 1385 anhydrous sodium sulphide and their hydrates with less than 30% water of crystallization, and UN No. 2318 sodium hydrosulphide with less than 25% water of crystallization are substances of Class 4.2.

524 UN No. 2858 finished zirconium products of a thickness of 18 μm or more are substances of Class 4.1.

525 Solutions of inorganic cyanides with a total cyanide ion content of more than 30% shall be classified in packing group I, solutions with a total cyanide ion content of more than 3% and not more than 30% in packing group II and solutions with a cyanide ion content of more than 0.3% and not more than 3% in packing group III.

526 UN No. 2000 celluloid is assigned to Class 4.1.

527 *(Reserved)*

528 UN No. 1353 fibres or fabrics impregnated with weakly nitrated cellulose, non-self heating are substances of Class 4.1.

529 UN No. 0135 mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass, is a substance of Class 1. Mercurous chloride (calomel) is a substance of Class 6.1 (UN No. 2025).

530 UN No. 3293 hydrazine, aqueous solution with not more than 37% hydrazine, by mass, is a substance of Class 6.1.

531 Mixtures having a flash-point below 23 °C and containing more than 55% nitrocellulose, whatever its nitrogen content or containing not more than 55% nitrocellulose with a nitrogen content above 12.6% (by dry mass), are substances of Class 1 (see UN Nos. 0340 or 0342) or of Class 4.1 (UN Nos. 2555, 2556 or 2557).

532 *(Deleted)*

533 UN No. 1198 formaldehyde solutions, flammable are substances of Class 3. Formaldehyde solutions, non-flammable, with less than 25% formaldehyde are not subject to the requirements of ADN.

534 While in some climatic conditions, petrol (gasoline) may have a vapour pressure at 50 °C of more than 110 kPa (1.10 bar) but not more than 150 kPa (1.50 bar) it is to continue to be considered as a substance having a vapour pressure at 50 °C of not more than 110 kPa (1.10 bar).

535 UN No. 1469 lead nitrate, UN No. 1470 lead perchlorate, solid and UN No. 3408 lead perchlorate, solution are substances of Class 5.1.

536 For naphthalene, solid, see UN No. 1334.

537 UN No. 2869 titanium trichloride mixture, not pyrophoric, is a substance of Class 8.

538 For sulphur (in the solid state), see UN No. 1350.

539 Solutions of isocyanates having a flash-point of not less than 23 °C are substances of Class 6.1.

540 UN No. 1326 hafnium powder, wetted, UN No. 1352 titanium powder, wetted or UN No. 1358 zirconium powder, wetted, with not less than 25% water, are substances of Class 4.1.

541 Nitrocellulose mixtures with a water content, alcohol content or plasticizer content lower than the stated limits are substances of Class 1.

542 Talc containing tremolite and/or actinolite is covered by this entry.

543 *(Deleted)*

544 UN No. 1032 dimethylamine, anhydrous, UN No. 1036 ethylamine, UN No. 1061 methylamine, anhydrous and UN No. 1083 trimethylamine, anhydrous, are substances of Class 2.

545 UN No. 0401 dipicryl sulphide, wetted with less than 10% water by mass is a substance of Class 1.

546 UN No. 2009 zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of less than 18 μm, is a substance of Class 4.2. Zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of 254 μm or more, is not subject to the requirements of ADN.

547 UN No. 2210 maneb or UN No. 2210 maneb preparations in self-heating form are substances of Class 4.2.

548 Chlorosilanes which, in contact with water, emit flammable gases, are substances of Class 4.3.

549 Chlorosilanes having a flash-point of less than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 3. Chlorosilanes having a flash-point equal to or greater than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 8.

550 UN No. 1333 cerium in slabs, rods or ingots is a substance of Class 4.1.

551 Solutions of these isocyanates having a flash-point below 23 °C are substances of Class 3.

552 Metals and metal alloys in powdered or other flammable form, liable to spontaneous combustion, are substances of Class 4.2. Metals and metal alloys in powdered or other flammable form which, in contact with water, emit flammable gases are substances of Class 4.3.

553 This mixture of hydrogen peroxide and peroxyacetic acid shall, in laboratory testing (see *Manual of Tests and Criteria*, Part II, section 20), neither detonate in the cavitated state nor deflagrate at all and shall show no effect when heated under confinement nor any explosive power. The formulation shall be thermally stable (self-accelerating decomposition temperature 60 °C or higher for a 50 kg package), and a liquid compatible with peroxyacetic acid shall be used for desensitization. Formulations not meeting these criteria are to be regarded as substances of Class 5.2 (see *Manual of Tests and Criteria*, Part II, paragraph 20.4.3 (g)).

554 Metal hydrides which, in contact with water, emit flammable gases are substances of Class 4.3. UN No. 2870 aluminium borohydride or UN No. 2870 aluminium borohydride in devices is a substance of Class 4.2.

555 Dust and powder of metals in non-spontaneously combustible form, non-toxic which nevertheless, in contact with water, emit flammable gases, are substances of Class 4.3.

556 *(Deleted)*

557 Dust and powder of metals in pyrophoric form are substances of Class 4.2.

558 Metals and metal alloys in pyrophoric form are substances of Class 4.2. Metals and metal alloys which, in contact with water, do not emit flammable gases and are not pyrophoric or self-heating, but which are easily ignited, are substances of Class 4.1.

559 *(Deleted)*

560 An elevated temperature liquid, n.o.s. at or above 100 °C (including molten metals and molten salts) or, for a substance having a flash-point, at a temperature below its flash-point, is a substance of Class 9 (UN No. 3257).

561 Chloroformates having predominantly corrosive properties are substances of Class 8.

562 Spontaneously combustible organometallic compounds are substances of Class 4.2. Water-reactive organometallic compounds, flammable, are substances of Class 4.3.

563 UN No. 1905 selenic acid is a substance of Class 8.

564 UN No. 2443 vanadium oxytrichloride, UN No. 2444 vanadium tetrachloride and UN No. 2475 vanadium trichloride are substances of Class 8.

565 Unspecified wastes resulting from medical/veterinary treatment of humans/animals or from biological research, and which are unlikely to contain substances of Class 6.2 shall be assigned to this entry. Decontaminated clinical wastes or wastes resulting from biological research which previously contained infectious substances are not subject to the requirements of Class 6.2.

566 UN No. 2030 hydrazine aqueous solution, with more than 37% hydrazine, by mass, is a substance of Class 8.

567 *(Deleted)*

568 Barium azide with a water content lower than the stated limit is a substance of Class 1, UN No. 0224.

569-579 *(Reserved)*

580 *(Deleted)*

581 This entry covers mixtures of propadiene with 1 to 4% methylacetylene as well as the following mixtures:

Mixture	Content, % by volume			Permitted technical name for purposes of 5.4.1.1
	Methylacetylene and propadiene, not more than	Propane and propylene, not more than	C_4-saturated hydrocarbons, not less than	
P1	63	24	14	"Mixture P1"
P2	48	50	5	"Mixture P2"

582 This entry covers, *inter alia*, mixtures of gases indicated by the letter R ..., with the following properties:

Mixture	Maximum vapour pressure at 70 °C (MPa)	Minimum density at 50 °C (kg/l)	Permitted technical name for purposes of 5.4.1.1
F1	1.3	1.30	"Mixture F1"
F2	1.9	1.21	"Mixture F2"
F3	3.0	1.09	"Mixture F3"

NOTE 1: *Trichlorofluoromethane (refrigerant R 11), 1,1,2-trichloro-1,2,2-trifluoroethane (refrigerant R 113), 1,1,1-trichloro-2,2,2-trifluoroethane (refrigerant R 113a), 1-chloro-1,2,2-trifluoroethane (refrigerant R 133) and 1-chloro-1,1,2-trifluoroethane (refrigerant R 133 b) are not substances of Class 2. They may, however, enter into the composition of mixtures F 1 to F 3.*

NOTE 2: *The reference densities correspond to the densities of dichlorofluoromethane (1.30 kg/l), dichloridifluoromethane (1.21 kg/l) and chlorodifluoromethane (1.09 kg/l).*

583 This entry covers, *inter alia*, mixtures of gases, with the following properties:

Mixture	Maximun vapour pressure at 70 °C (MPa)	Minimun density at 50 °C (kg/l)	Permitted technical name[a] for purposes of 5.4.1.1
A	1.1	0.525	"Mixture A" or "Butane"
A01	1.6	0.516	"Mixture A01" or "Butane"
A02	1.6	0.505	"Mixture A02" or "Butane"
A0	1.6	0.495	"Mixture A0" or "Butane"
A1	2.1	0.485	"Mixture A1"
B1	2.6	0.474	"Mixture B1"
B2	2.6	0.463	"Mixture B2"
B	2.6	0.450	"Mixture B"
C	3.1	0.440	"Mixture C" or "Propane"

[a] *For carriage in tanks, the trade names "Butane" or "Propane" may be used only as a complement.*

584 This gas is not subject to the requirements of ADN when:

- it contains not more than 0.5% air in the gaseous state;
- it is contained in metal capsules (sodors, sparklets) free from defects which may impair their strength;
- the leakproofness of the closure of the capsule is ensured;
- a capsule contains not more than 25 g of this gas;
- a capsule contains not more than 0.75 g of this gas per cm^3 of capacity.

585 *(Deleted)*

586 Hafnium, titanium and zirconium powders shall contain a visible excess of water. Hafnium, titanium and zirconium powders, wetted, mechanically produced, of a particle size of 53 µm and over, or chemically produced, of a particle size of 840 µm and over, are not subject to the requirements of ADN.

587 Barium stearate and barium titanate are not subject to the requirements of ADN.

588 Solid hydrated forms of aluminium bromide and aluminium chloride are not subject to the requirements of ADN.

589 *(Deleted)*

590 Ferric chloride hexahydrate is not subject to the requirements of ADN.

591 Lead sulphate with not more than 3% free acid is not subject to the requirements of Class 8 of ADN.

592 Uncleaned empty packagings (including empty IBCs and large packagings), empty tank-vehicles, empty tank wagons, empty demountable tanks, empty portable tanks, empty tank-containers and empty small containers which have contained this substance are not subject to the requirements of ADN.

593 This gas, when used for cooling goods not fulfilling the criteria of any class, e.g. medical or biological specimens, if contained in double wall receptacles which comply with the provisions of packing instruction P203, paragraph (6) for open cryogenic receptacles of 4.1.4.1 of ADR, is not subject to the requirements of ADN except as specified in 5.5.3.

594 The following articles, manufactured and filled according to the provisions applied in the country of manufacture, are not subject to the requirements of ADN:

(a) UN No. 1044 fire extinguishers provided with protection against inadvertent discharge, when:

– they are packaged in a strong outer packaging; or

– they are large fire extinguishers which meet the requirements of special packing provision PP91 of packing instruction P003 in 4.1.4.1 of ADR;

(b) UN No. 3164 articles, pressurized pneumatic or hydraulic, designed to withstand stresses greater than the internal gas pressure by virtue of transmission of force, intrinsic strength or construction, when they are packaged in a strong outer packaging.

NOTE: *"Provisions applied in the country of manufacture" means the provisions applicable in the country of manufacture or those applicable in the country of use.*

596 Cadmium pigments, such as cadmium sulphides, cadmium sulphoselenides and cadmium salts of higher fatty acids (e.g. cadmium stearate), are not subject to the requirements of ADN.

597 Acetic acid solutions with not more than 10% pure acid by mass are not subject to the requirements of ADN.

598 The following are not subject to the requirements of ADN:

(a) New storage batteries when:

– they are secured in such a way that they cannot slip, fall or be damaged;

– they are provided with carrying devices, unless they are suitably stacked, e.g. on pallets;

– there are no dangerous traces of alkalis or acids on the outside;

– they are protected against short circuits;

(b) Used storage batteries when:

– their cases are undamaged;

– they are secured in such a way that they cannot leak, slip, fall or be damaged, e.g. by stacking on pallets;

– there are no dangerous traces of alkalis or acids on the outside of the articles;

– they are protected against short circuits.

"Used storage batteries" means storage batteries carried for recycling at the end of their normal service life.

599 *(Deleted)*

600 Vanadium pentoxide, fused and solidified, is not subject to the requirements of ADN.

601 Pharmaceutical products (medicines) ready for use, which are substances manufactured and packaged for retail sale or distribution for personal or household consumption are not subject to the requirements of ADN.

602 Phosphorus sulphides which are not free from yellow and white phosphorus are not to be accepted for carriage.

603 Anhydrous hydrogen cyanide not meeting the description for UN No. 1051 or UN No. 1614 is not to be accepted for carriage. Hydrogen cyanide (hydrocyanic acid) containing less than 3% water is stable, if the pH-value is 2.5 ± 0.5 and the liquid is clear and colourless.

604 to 606 *(Deleted)*

607 Mixtures of potassium nitrate and sodium nitrite with an ammonium salt are not to be accepted for carriage.

608 *(Deleted)*

609 Tetranitromethane not free from combustible impurities is not to be accepted for carriage.

610 The carriage of this substance, when it contains more than 45% hydrogen cyanide is prohibited.

611 Ammonium nitrate containing more than 0.2% combustible substances (including any organic substance calculated as carbon) is not to be accepted for carriage unless it is a constituent of a substance or article of Class 1.

612 *(Reserved)*

613 Chloric acid solution containing more than 10% chloric acid and mixtures of chloric acid with any liquid other than water is not to be accepted for carriage.

614 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in concentrations considered highly toxic according to the criteria in 2.2.61.1 is not to be accepted for carriage.

615 *(Reserved)*

616 Substances containing more than 40% liquid nitric esters shall satisfy the exudation test specified in 2.3.1.

617 In addition to the type of explosive, the commercial name of the particular explosive shall be marked on the package.

618 In receptacles containing 1,2-butadiene, the oxygen concentration in the gaseous phase shall not exceed 50 ml/m^3.

619 to 622 *(Reserved)*

623 UN No. 1829 sulphur trioxide shall be inhibited. Sulphur trioxide, 99.95% pure or above, may be carried without inhibitor in tanks provided that its temperature is maintained at or above 32.5 °C. For the carriage of this substance without inhibitor in tanks at a minimum temperature of 32.5 °C, the specification **"Transport under minimum temperature of the product of 32.5 °C"** shall appear in the transport document.

625 Packages containing these articles shall be clearly marked as follows:

"UN 1950 AEROSOLS"

626 to 631 *(Reserved)*

632 Considered to be spontaneously flammable (pyrophoric).

633 Packages and small containers containing this substance shall bear the following mark: **"Keep away from any source of ignition"**. This mark shall be in an official language of the forwarding country, and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

635 Packages containing these articles need not bear a label conforming to model No. 9 unless the article is fully enclosed by packaging, crates or other means that prevent the ready identification of the article.

636 Up to the intermediate processing facility, lithium cells and batteries or sodium ion cells and batteries with a gross mass of not more than 500 g each, lithium ion or sodium ion cells with a Watt-hour rating of not more than 20 Wh, lithium ion or sodium ion batteries with a Watt-hour rating of not more than 100 Wh, lithium metal cells with a lithium content of not more than 1 g and lithium metal batteries with an aggregate lithium content of not more than 2 g, not contained in equipment, collected and handed over for carriage for sorting, disposal or recycling, together with or without other cells or batteries, are not subject to the other provisions of ADN including special provision 376, 2.2.9.1.7.1 and 2.2.9.1.7.2, if the following conditions are met:

(a) The cells and batteries are packed according to packing instruction P909 of 4.1.4.1 of ADR except for the additional requirements 1 and 2;

(b) A quality assurance system is in place to ensure that the total amount of lithium cells and batteries and sodium ion cells and batteries per transport unit does not exceed 333 kg;

NOTE: *The total quantity of lithium cells and batteries and sodium ion cells and batteries in the mix may be assessed by means of a statistical method included in the quality assurance system. A copy of the quality assurance records shall be made available to the competent authority upon request.*

(c) Packages are marked "LITHIUM BATTERIES FOR DISPOSAL", "LITHIUM BATTERIES FOR RECYCLING", "SODIUM ION BATTERIES FOR DISPOSAL" or "SODIUM ION BATTERIES FOR RECYCLING", as appropriate.

637 Genetically modified microorganisms and genetically modified organisms are those which are not dangerous for humans and animals, but which could alter animals, plants, microbiological substances and ecosystems in such a way as cannot occur naturally. Genetically modified microorganisms and genetically modified organisms are not subject to the requirements of ADN when authorized for use by the competent authorities of the countries of origin, transit and destination[4].

Live vertebrate or invertebrate animals shall not be used to carry these substances classified under this UN number unless the substance can be carried in no other way.

For the carriage of easily perishable substances under this UN number appropriate information shall be given, e.g.: "**Cool at +2 °/+4 °C**" or "**Carry in frozen state**" or "**Do not freeze**".

638 Substances related to self-reactive substances (see 2.2.41.1.19).

639 See 2.2.2.3, classification code 2F, UN No. 1965, Note 2.

640 The physical and technical characteristics mentioned in column (2) of Table A of Chapter 3.2 determine different tank codes for the carriage of substances of the same packing group in tanks conforming to Chapter 6.8 of RID or ADR.

In order to identify these physical and technical characteristics of the product carried in the tank, the following shall be added to the particulars required in the transport document only in case of carriage in tanks conforming to Chapter 6.8 of ADR or RID:

"Special provision 640X" where "X" is the applicable capital letter appearing after the reference to special provision 640 in column (6) of Table A of Chapter 3.2.

These particulars may, however, be dispensed with in the case of carriage in the type of tank which, for substances of a specific packing group of a specific UN number, meets at least the most stringent requirements.

641 *(Reserved)*

642 Except as authorized under 1.1.4.2, this entry of the UN Model Regulations shall not be used for the carriage of fertilizer ammoniating solutions with free ammonia. Otherwise, for carriage of ammonia solution, see UN Nos. 2073, 2672 and 3318.

643 Stone or aggregate asphalt mixture is not subject to the requirements for Class 9.

644 *(Deleted)*

645 The classification code as mentioned in Column (3b) of Table A of Chapter 3.2 shall be used only with the approval of the competent authority of a Contracting Party to ADN prior to carriage. The approval shall be given in writing as a classification approval certificate (see 5.4.1.2.1 (g)) and shall be provided with a unique reference. When assignment to a division is made in accordance with the procedure in 2.2.1.1.7.2, the competent authority may require the default classification to be verified on the basis of test data derived from Test Series 6 of the *Manual of Tests and Criteria*, Part I, Section 16.

---

[4] *See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.*

646 Carbon made by steam activation process is not subject to the requirements of ADN.

647 Except for carriage in tank vessels, the carriage of vinegar and acetic acid with not more than 25% pure acid by mass is subject only to the following requirements:

(a) Packagings, including IBCs and large packagings, and tanks shall be manufactured from stainless steel or plastic material which is permanently resistant to corrosion of vinegar/acetic acid food grade;

(b) Packagings, including IBCs and large packagings, and tanks shall be subjected to a visual inspection by the owner at least once a year. The results of the inspections shall be recorded and the records kept for at least one year. Damaged packagings, including IBCs and large packagings, and tanks shall not be filled;

(c) Packagings, including IBCs and large packagings, and tanks shall be filled in a way that no product is spilled or adheres to the outer surface;

(d) Seals and closures shall be resistant to vinegar/acetic acid food grade. Packagings, including IBCs and large packagings, and tanks shall be hermetically sealed by the person in charge of packaging and/or filling so that under normal conditions of carriage there will be no leakage;

(e) Combination packagings with inner packaging made of glass or plastic (see packing instruction P001 in 4.1.4.1 of ADR) which fulfil the general packing requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6, 4.1.1.7 and 4.1.1.8 of ADR may be used;

The other provisions of ADN do not apply except those relating to carriage in tank vessels.

648 Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADN.

649 *(Deleted)*

650 Waste consisting of packaging residues, solidified residues and liquid residues of paint may be carried under the conditions of UN No. 1263, packing group II, or UN No. 3082, as appropriate. In addition to the provisions for UN No. 1263, packing group II, and UN No. 3082, the waste may also be packed and carried as follows:

(a) The waste may be packed in accordance with packing instruction P002 of 4.1.4.1 of ADR or to packing instruction IBC006 of 4.1.4.2 of ADR. Mixed packing of waste classified as UN No. 1263 and waste water-based paints classified as UN No. 3082 is permitted;

(b) The waste may be packed in flexible IBCs of types 13H3, 13H4 and 13H5 in overpacks with complete walls;

(c) Testing of packagings and IBCs indicated under (a) or (b) may be carried out in accordance with the requirements of Chapters 6.1 or 6.5 of ADR, as appropriate, in relation to solids, at the packing group II performance level.

The tests shall be carried out on packagings and IBCs, filled with a representative sample of the waste, as prepared for carriage;

(d) Carriage in bulk in sheeted wagons, movable roof wagons/sheeted vehicles, closed containers or sheeted large containers, all with complete walls is allowed.

The wagons, containers or body of vehicles shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining. Waste classified as UN No. 1263 may be mixed and loaded with waste water-based paints classified as UN No. 3082 in the same vehicle, wagon or container. In the case of such mixed loading the entire contents shall be assigned to UN No. 1263;

(e) If the waste is carried under the conditions of this special provision, the goods shall be declared in accordance with 5.4.1.1.3.1 with the appropriate UN number(s) in the transport document, as follows:

"UN 1263 WASTE PAINT, 3, II";

"UN 1263 WASTE PAINT, 3, PG II;

"UN 3082 WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT), 9, III"; or

"UN 3082 WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT), 9, PG III".

651 Special provision V2 (1) of ADR does not apply if the net explosive mass per transport unit does not exceed 4 000 kg, provided that the net explosive mass per vehicle does not exceed 3 000 kg.

652 *(Reserved)*

653 *(Deleted)*

654 Waste lighters collected separately and consigned in accordance with 5.4.1.1.3.1 may be carried under this entry for the purposes of disposal. They need not be protected against inadvertent discharge provided that measures are taken to prevent the dangerous build up of pressure and dangerous atmospheres.

Waste lighters, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 of ADR. In addition the following provisions shall apply:

– only rigid packagings of a maximum capacity of 60 litres shall be used;

– the packagings shall be filled with water or any other appropriate protection material to avoid any ignition;

– under normal conditions of carriage all ignition devices of the lighters shall fully be covered by the protection material;

– the packagings shall be adequately vented to prevent the creation of flammable atmosphere and the build up of pressure;

– the packages shall only be carried in ventilated or open wagons/vehicles or containers.

Leaking or severely deformed lighters shall be carried in salvage packagings, provided appropriate measures are taken to ensure there is no dangerous build up of pressure.

***NOTE**: Special provision 201 and special packing provisions PP84 and RR5 of packing instruction P002 in 4.1.4.1 of ADR do not apply to waste lighters.*

655 Cylinders designed, constructed, approved and marked in accordance with Directive 97/23/EC[5] or Directive 2014/68/EU[6] and used for breathing apparatus may be carried without conforming to Chapter 6.2 of ADR, provided that they are subject to inspections and tests specified in 6.2.1.6.1 of ADR and the interval between tests specified in packing instruction P200 in 4.1.4.1 of ADR is not exceeded. The pressure used for the hydraulic pressure test is the pressure marked on the cylinder in accordance with Directive 97/23/ EC[5] or Directive 2014/68/ EU[6].

656 *(Deleted)*

657 This entry shall be used for the technically pure substance only; for mixtures of LPG components, see UN 1965 or see UN 1075 in conjunction with NOTE 2 in 2.2.2.3.

658 UN No. 1057 LIGHTERS complying with standard EN ISO 9994:2019 "Lighters – Safety Specification" and UN No. 1057 LIGHTER REFILLS, may be carried subject only to the provisions of 3.4.1 (a) to (f), 3.4.2 (except for the total gross mass of 30 kg), 3.4.3 (except for the total gross mass of 20 kg), 3.4.11 and 3.4.12, provided the following conditions are met:

(a) The total gross mass of each package is not more than 10 kg;

(b) Not more than 100 kg gross mass of such packages is carried in a wagon or vehicle or large container; and

(c) Each outer packaging is clearly and durably marked with "UN 1057 LIGHTERS" or "UN 1057 LIGHTER REFILLS", as appropriate.

659 Substances to which PP86 or TP7 are assigned in Column (9a) and Column (11) of Table A in Chapter 3.2 of ADR and therefore require air to be eliminated from the vapour space, shall not be used for carriage under this UN number but shall be carried under their respective UN numbers as listed in Table A of Chapter 3.2.

NOTE: *See also 2.2.2.1.7.*

660 *(Deleted)*

661 *(Deleted)*

662 Cylinders not conforming to the provisions of Chapter 6.2 which are used exclusively on board a ship or aircraft, may be carried for the purpose of filling or inspection and subsequent return, provided the cylinders are designed and constructed in accordance with a standard recognized by the competent authority of the country of approval and all the other relevant requirements of ADN and other conditions are met including:

(a) The cylinders shall be carried with valve protection in conformity with 4.1.6.8;

---

5 *Directive 97/23/EC of the European Parliament and of the Council of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment (PED) (Official Journal of the European Communities No. L 181 of 9 July 1997, p. 1 - 55).*

6 *Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment (PED) (Official Journal of the European Union No. L 189 of 27 June 2014, p. 164 - 259).*

(b) The cylinders shall be marked and labelled in conformity with 5.2.1 and 5.2.2; and

(c) All the relevant filling requirements of packing instruction P200 of 4.1.4.1 of ADR are complied with.

The transport document shall include the following statement: "Carriage in accordance with Special Provision 662".

663 This entry may only be used for packagings, large packagings or IBCs, or parts thereof, which have contained dangerous goods which are carried for disposal, recycling or recovery of their material, other than reconditioning, repair, routine maintenance, remanufacturing or reuse, and which have been emptied to the extent that only residues of dangerous goods adhering to the packaging parts are present when they are handed over for carriage.

Scope:

Residues present in the packagings, discarded, empty, uncleaned shall only be of dangerous goods of classes 3, 4.1, 5.1, 6.1, 8 or 9. In addition, they shall not be:

- Substances assigned to packing group I or that have "0" assigned in Column (7a) of Table A of Chapter 3.2; nor
- Substances classified as desensitized explosive substances of Class 3 or Class 4.1; nor
- Substances classified as self-reactive substances of Class 4.1; nor
- Radioactive material; nor
- Asbestos (UN 2212 and UN 2590), polychlorinated biphenyls (UN 2315 and UN 3432) and polyhalogenated biphenyls, halogenated monomethyldiphenylmethanes or polyhalogenated terphenyls (UN 3151 and UN 3152).

General provisions:

Packagings, discarded, empty, uncleaned with residues presenting a primary or subsidiary hazard of Class 5.1 shall not be loaded in bulk together with packagings, discarded, empty, uncleaned with residues presenting a hazard of other classes. Packagings, discarded, empty, uncleaned with residues presenting a primary or subsidiary hazard of Class 5.1 shall not be packed with other packagings, discarded, empty, uncleaned with residues presenting hazards of other classes in the same outer packaging.

Documented sorting procedures shall be implemented on the loading site to ensure compliance with the provisions applicable to this entry.

NOTE: *All the other provisions of ADN apply.*

664 *(Reserved)*

665 Except in the case of carriage in bulk, unground hard coal, coke and anthracite, meeting the classification criteria of Class 4.2, packing group III, are not subject to the requirements of ADN.