

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Working Party on the Transport of Dangerous Goods

Geneva, 15–25 September 2015

Item 2 of the provisional agenda

**Harmonization with the United Nations Recommendations
on the Transport of Dangerous Goods**

Carriage of vehicles engines and machinery – harmonisation with UN Model Regulations – comments on ECE/TRANS/WP.15/AC.1/2015/23 add1

Adopted amendments

Amendment 1

Amend Table A for UN 3166 and 3171, as shown in the annex.

*Add the three new entries UN 3528, 3529, 3530 as proposed in document
ECE/TRANS/WP.15/AC.1/2015/23/Add.1*

Amendment 2

*Introduce special provisions 240, 312 and 385 of the UN Recommendations into Chapter
3.3 of RID/ADR as they appear in the 19th revised edition of the UN Model Regulations,
except for some editorial adaptations, as follows:*

“**240** This entry only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries carried with these batteries installed. Lithium batteries shall meet the requirements of 2.2.9.1.7, except as provided for in special provision 6YY.

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 electrically-powered cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with an electric motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheel chairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. This includes vehicles carried in a packaging. In this case some parts of the vehicle 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 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT or UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, as appropriate.

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 shall be assigned to the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. Vehicles which contain a fuel cell shall be assigned to the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.

Vehicles may contain other dangerous goods than batteries (e.g. 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 RID/ADR/ADN.”

“**312** Vehicles powered by a fuel cell engine shall be assigned to UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 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 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 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.

Lithium batteries shall meet the requirements of 2.2.9.1.7, except as provided for in special provision 6XX.”

“**385** This entry applies to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.

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 batteries installed shall be assigned to this entry. Vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, carried with the batteries installed, shall be assigned to the entry UN 3171 BATTERY POWERED VEHICLE (see special provision 240).

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, trucks, locomotives, scooters, three- and four-wheeled vehicles or motorcycles, lawn tractors, self-propelled farming and construction equipment, boats and aircraft.

Dangerous goods such as batteries, air bags, 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 RID/ADR/ADN . However, lithium batteries shall meet the requirements of 2.2.9.1.7 , except as provided for in special provision 6YY.”

Amendment 3

Modify Special provision 363 as proposed in document ECE/TRANS/WP.15/AC.1/2015/23/Add.1 with the following option for para. (g)(vi):

- “363 (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.), in quantities above those specified in column (7a) of Table A of Chapter 3.2, except equipment on vehicles assigned to UN 3166 referred to in SP 6XX.

NOTE: this entry does not apply to equipment referred to in 1.1.3.3.

- (b) Engines or machinery which are empty of liquid or gaseous fuels and which do not contain other dangerous goods, are not subject to RID/ADR/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 positive 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 3528 ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN 3528 ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or UN 3528 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN 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 3529 ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN 3529 ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3529 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN 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 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 3530 ENGINE, INTERNAL COMBUSTION or UN 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 RID/ADR/ADN. However, lithium batteries shall meet the requirements of 2.2.9.1.7, except as provided in special provision 6YY.
- (g) The engines or machinery are not subject to any other requirements of RID/ADR/ADN if the following requirements are met:
- (i) 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 manufacture²;

- (ii) Any valves or openings (e.g. venting devices) shall be closed during carriage;
- (iii) 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;
- (iv) for UN 3528 and UN 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 opposing 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 opposing 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.

- (v) for UN 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 opposing sides in accordance with 5.2.2.

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 opposing 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.

- (vi) A transport document in accordance with 5.4.1 is required only when the engine or machinery contains more than 1000 l of liquid fuels, for UN 3528 and UN 3530, or has a water capacity of more than 1000 l, for UN 3529.

This transport document shall contain the following additional statement “Transport in accordance with special provision 363”.

Amendment 4

Introduce two new special provisions into Chapter 3.3, as follows:

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).

“**6XX** Vehicles assigned to UN 3166 or UN 3171 and battery powered equipment assigned to UN 3171 in conformity with special provisions 240, 312 and 385, as well as any dangerous goods they contain that are necessary for their operation or the operation of their equipment, when carried as a load, are not subject to any other provisions of [RID/ADR/ADN], provided the following conditions are met:

- (i) For liquid fuels, any fuel cocks between the engine or equipment and the fuel tank shall be closed during carriage unless it is essential for the equipment to remain operational. Where appropriate, the vehicles shall be loaded upright and secured against falling;
- (ii) For gaseous fuels, the fuel cock between the gas tank and engine shall be closed and the electric contact open.
- (iii) Metal hydride storage systems shall be approved by the competent authority of the country of manufacture, if the country of manufacture is not a contracting party to RID/ADR/ADN the approval shall be recognized by the competent authority of a contracting party to RID/ADR/ADN
- (iv) The provisions of (i) and (ii) do not apply to vehicles which are empty of liquid or gaseous fuels,

***NOTE 1:** A vehicle is considered to be empty of liquid fuel when the liquid fuel tank has been drained and the vehicle cannot be operated due to a lack of fuel. Vehicle 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:** A vehicle is considered to be empty of gaseous fuels when the gaseous fuel tanks are empty of liquid (for liquefied gases), the positive pressure in the tanks does not exceed 2 bar and the fuel shut-off or isolation valve is closed and secured.”*

“**6YY** (a) The requirements of 2.2.9.1.7 a) do not apply when pre-production prototype lithium batteries or lithium batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle, engine or machinery.

(b) The requirements of 2.2.9.1.7 a) do not apply to lithium batteries installed in damaged or defective vehicles, engine or machinery. In such cases, the following conditions have to be met :

- (i) If the damage or defect has no significant impact on the safety of the battery, damaged and defective vehicles, engines or machinery may be carried under the conditions defined in special provisions 363 and 6XX as appropriate.
- (ii) If the damage or defect has a significant impact on the safety of the battery, the lithium battery shall be removed and carried according to special provision 376.

However if it is not possible to safely remove the battery or if it is not possible to verify the status of the battery, the vehicle, engine or machinery may be towed or carried as specified in (i).”

Amendment 5

In 1.1.3.3 (a) modify the 3rd paragraph as follows :

“ The total capacity of the fixed tanks shall not exceed 1500 litres per transport unit and the capacity of a tank fitted to a trailer shall not exceed 500 litres, irrespective of whether the trailer is towed or carried on another trailer. A maximum of 60 litres per transport unit may be carried in portable fuel containers. These restrictions shall not apply to vehicles operated by the emergency services;”

Amendment 6

Consequential amendments:

- 1) Delete 1.1.3.2 b) add “(Deleted)”
- 2) Delete 1.1.3.3 b) and c) add “(Deleted)”
- 3) Delete the final note in 2.2.9.1.7
- 4) For all entries to which SP 363 is currently assigned, delete 363 in column (6) as proposed in ECE/TRANS/WP.15/AC.1/2015/23/Add.1, page 11.
- 5) modify special provision 356 as follows:

“**356** Metal hydride storage systems intended to be installed in vehicles, vessels or aircrafts shall be approved by the competent authority of the country of manufacture before acceptance for carriage. The transport document shall include an indication that the package was approved by the competent authority of the country of manufacture¹ or a copy of the competent authority of the country of manufacture approval shall accompany each consignment.

¹ If the country of manufacture is not an RID Contracting State / Contracting Party to ADR/ Contracting Party to ADN, the approval shall be recognized by the competent authority of an RID Contracting State / Contracting Party to ADR / Contracting Party to ADN.”

Annex 1

Resulting amendments to Table A

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3166	VEHICLE, FLAMMABLE GAS POWERED or VEHICLE, FLAMMABLE LIQUID POWERED or VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED	9	M11			312 385 6XX 6YY	0	E0														
3171	BATTERY POWERED VEHICLE OR BATTERY POWERED EQUIPMENT	9	M11			240 6XX 6YY	0	E0														
3528	ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED	3			3	363	0	E0	P005													

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(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3529	ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED	2			2.1	363 6YY	0	E0	P005													
3530	ENGINE, INTERNAL COMBUSTION or MACHINERY, INTERNAL COMBUSTION	9			9	363 6YY	0	E0	P005													