GEMD/GE6368/ACE

Geneva, 14 December 2018

NEW ADR PROPOSAL

IRU analysis

This document contains a comparison of the ADR 2019 vs ADR 2017

I. BACKGROUND

The dangerous goods transport regulations road (ADR) will come into force on 01.01.2019. As always, there will be a general 6 month transition period, until 30.06.2019 the current regulations of the ADR 2017 may continue to be used unrestrictedly.

The new regulations are based on the 20th edition of the UN Recommendations on the Transport of Dangerous Goods. These will be implemented in parallel for the other modes of transport, for rail and inland waterway transport identical to ADR, for air traffic without transitional period from 1.1.2019 and for maritime transport with Amendment 39-18 to the IMDG Code binding only on 1.1.2020. However, the new IMDG code may already be used from 1.1.2019 on to enable a simultaneous implementation for the companies:

II. ANALYSIS

Numerous changes have been made to the ADR 2019, the essentials are shown in the following overview and a more detailed analysis is reported in the next pages.

Major changes include:

Vol. 1:

- A total of 14 new UN numbers will be introduced, e.g. for devices and machines which contain dangerous goods as an elementary component in their internal structure;
- The UN 3363: the exemption in 1.1.3.1 b) is deleted;
- New exemption related to quantities carried out per transport unit are introduced (1.1.3.6.3)
- The classification of mixtures of Class 8 - corrosive substances will be re-regulated (pag. 234)

Vol. 2:

- New packaging instructions and new special regulations are introduced for lithium batteries, safety-critical batteries can now be transported without official approval if a certified packaging system is used (chapter 4.1);
- The requirement that the inner boundary line of the danger label samples must be at least 2 mm wide is abolished (rif. 5.2.2.2.1.1.3);
- The regulations for the transport of temperature-controlled substances are being restructured in a section 7.1.7

III. NEXT STEPS

The detailed changes can be found in the following table, which compares the previous regulation vs the new one.

A proposal indication on the priorities has been also inserted.

VOL.1

Site / Content	2017	2019	Priorities
Chapter 1.1			
1.1.3.1 (b) Exemption related to the nature of the transport operation	Exemption for devices or machines which contain dangerous goods in their internal structure and which are not explicitly listed in the ADR. In conjunction with the relevant UN number UN 3363, such devices or machines are exempt from ADR.	Deleted 1.1.3.1 (b) is deleted and 12 new UN numbers are introduced (UN 3537 to UN 3548, see also notes to Chapter 3.2 and Section 2.1.5) for such items, depending on the dangerous goods contained. If not more than the quantities permitted in limited quantities, it remains with the assignment to UN 3363 and the exemption from the ADR according to the new special provision 301 and 672.	**X**
1.1.3.6.3	Table contains information on which dangerous goods are classified in which category of carriage	For category 4, the new UN numbers are added – class 2 , 3 , 4.3 , 5.1 , 5.2 , 6.1 and 7	**X**
1.1.3.6.3		The new text considers the total mass in kg of the items without their packaging	
1.1.4.2.1		In the list are now also bulk-well container listed, which had been forgotten until now	
Chapter 1.2 Definitions			
1.2.1 Definitions	Reference to 19th edition of the UN Model Regulations	Reference to the 20th edition of the UN Model Regulations	
Content: it is the same, but different	A tank for the carriage of liquid substances with a pressure of at least 4 bar or	**New** definition of hermetically closed tank:	

Site / Content	2017	2019	Priorities
structure	for the transport of solid (powdered or granular) materials, regardless of their calculated pressure, the openings of which are hermetically sealed, and - not equipped with safety valves, rupture discs, similar safety devices or vacuum valves, or - not equipped with safety valves, rupture disks or similar safety devices, but with vacuum valves complying with 6.8.2.2.3, or - with safety valves which are preceded by a rupture disc in accordance with 6.8.2.2.10 but not equipped with vacuum valves, or - with safety valves fitted with a rupture disk in accordance with 6.8.2.2.10 and equipped with vacuum valves conforming to 6.8.2.2.3	A tank that - not equipped with safety valves, rupture discs, other similar safety devices or vacuum valves, or - with safety valves which have been fitted with a rupture disc in accordance with 6.8.2.2.10, but which are not equipped with vacuum valves. A tank for the carriage of liquid substances with a design pressure of at least 4 bar or for the transport of solid (powdered or granular) materials, whatever its design pressure, shall also be considered to be sealed when it is closed - with safety valves fitted with a rupture disk in accordance with 6.8.2.2.10 and equipped with vacuum valves conforming to 6.8.2.2.3, or - not equipped with safety valves, rupture disks or other similar safety devices, but with vacuum valves complying with 6.8.2.2.3	
		New definition of "Diameter (of tank body of tanks)": The inner diameter of the shell	
		New definition of "protective lining (of tanks): lining or coating which protects the material of the metal tank against the substances to be carried	
		New definition of "over-moulded cylinder ": A cylinder intended for the carriage of LPG with a water-capacity not exceeding 13 liters made of a coated welded steel inner cylinder with a an over-moulded protective case made from cellular plastic, which is non-	

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		removable and placed on the outer surface of the steel cylinder wall.”	
Chapter 1.6 Transitional measure			
1.6.1.1		Regulations of ADR 2017 may be applied until 30.06.2019.	
1.6.1.21 - 1.6.1.25 - 1.6.1.35 - 1.6.1.39 - 1.6.1.40 - 1.6.1.42		cancelled due to deadline	
1.6.1.43		New reference to 388 and 669 (Special provisions chapter 3)	
1.6.1.44		**NEW** Undertakings which are only involved as consignors in the transport of dangerous goods and who were not required to appoint a dangerous goods representative as a result of the rules in force until 31 December 2018 must, by derogation from the rules applicable from 1 January 2019, apply Subsection 1.8.3.1 not later than 31 December 2022 call a Dangerous Goods Officer	
1.6.1.45		**NEW** The Contracting Parties may continue to issue, until 31 December 2020, training certificates for dangerous goods officers in accordance with the template in force until 31 December 2018, instead of the template of 1.8.3.18 applicable from 1 January 2019. These certificates may continue to be used until the expiry of their five-year period of validity	

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1.6.1.46		**NEW** The carriage of machinery or equipment, unspecified in this Annex, containing dangerous goods in their internal structure or in their functional elements and which is therefore covered by UN No. 3363, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547 or 3548, which are classified in accordance with Subparagraph 1.1.3.1 (b) of which it was exempted from the requirements of ADR until 31 December 2018, may continue to be exempted from the provisions of ADR until 31 December 2022, provided that measures have been taken to: prevent the content from being released under normal conditions of carriage.	
1.6.1.47		**NEW** Lithium cells and batteries which do not comply with the provisions of paragraph 2.2.9.1.7 (g) may be carried forward until 31 December 2019	
1.6.3.17 1.6.3.42		cancelled due to deadline	
1.6.3.47		**NEW** Fixed tanks (tank vehicles) and demountable tanks built before 1 July 2019 and equipped with safety valves which comply with the rules in force until 31 December 2018, but not with the provisions of the latest applicable from 1 January 2019 Subparagraph of 6.8.3.2.9 with regard to their interpretation or protection may continue to be used until the next interim or periodic	

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		inspection to be carried out after 1 January 2021	
1.6.3.48		**NEW** Notwithstanding the requirements of special provision TU 42 of 4.3.5 applicable from 1 January 2019, fixed tanks (tank vehicles) and landing tanks with aluminium alloy shells, including those with protective liners, may be used before 1 January 2019 were used for the carriage of substances with a pH of less than 5,0 or more than 8,0, until 31 December 2026 for the carriage of those substances	
1.6.3.49		**NEW** Fixed tanks (tank vehicles) and demountable tanks built before 1 July 2019 in accordance with the rules in force until 31 December 2018, but not the requirements of 6.8.2.2.10 as of 1 January 2019 relating to nominal pressure the rupture disc may continue to be used	
1.6.3.50		**NEW** Fixed tanks (tank vehicles) and demountable tanks built before 1 July 2019 in accordance with the provisions of 6.8.2.2.3, in force until 31 December 2018, but not those of 1 January 2019, of the last subparagraph of 6.8.2.2.3 for flame arresters on breather devices may continue to be used	
1.6.3.51		**NEW** Fixed tanks (tank vehicles)	

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		and demountable tanks built before 1 July 2019 in accordance with the rules in force until 31 December 2018, but not the requirements of 6.8.2.1.23, applicable from 1 January 2019, relating to the testing of welds may correspond to the edge area of the tank bottoms, may continue to be used	
1.6.3.52		**NEW** Fixed tanks (tank vehicles) and demountable tanks built before 1 July 2019 in accordance with the rules in force until 31 December 2018 but which do not comply with the requirements of 6.8.2.2.11 as from 1 January 2019 may continue to operate. be used	
1.6.3.53		**NEW** Type-approval certificates for sealed tanks (tank-vehicles), demountable tanks and battery-vehicles issued before 1 July 2019 in accordance with the provisions of 6.8.2.3.1, applicable until 31 December 2018, but not the provisions of 6.8.2.3.1, applicable from 1 January 2019, relating to the indication of the distinguishing sign for motor vehicles in international traffic10) of the State in which the authorization was granted and the registration number, may continue to be used	
1.6.4.15 - 1.6.4.38 1.6.4.44 - 1.6.4.45		cancelled due to deadline	
1.6.4.49		**NEW** Tank-containers constructed before 1 July 2019 and equipped with safety valves which comply with the	

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		requirements applicable until 31 December 2018 but not with the provisions of the last sub-paragraph of 6.8.3.2 .9 in terms of their design or protection, may continue to be used until the next interim or periodic inspection to be carried out after 1 January 2021	
1.6.4.50		**NEW** Notwithstanding the provisions of special provision TU 42 of 4.3.5, applicable from 1 January 2019, tank-containers containing aluminium-alloy shells, including those with a protective lining, which may be used prior to 1 January 2019 for the carriage of Substances with a pH of less than 5.0 or more than 8.0 were used until 31 December 2026 for the carriage of these substances	
1.6.4.51		**NEW** Tank containers constructed before 1 July 2019 in accordance with the provisions applicable until 31 December 2018, but which do not comply with the requirements of 6.8.2.2.10 as of 1 January 2019 relating to the rated pressure of the rupture disk, may continue to be used	
1.6.4.52		**NEW** Tank-containers built before 1 July 2019 in accordance with the provisions of 6.8.2.2.3 applicable until 31 December 2018, but not those of the last subparagraph applicable from 1 January 2019 of 6.8.2.2.3 for flame arresters on positive pressure and low	

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		pressure ventilation equipment may continue to be used	
1.6.4.53		**NEW** Tank-containers built before 1 July 2019 in accordance with the rules in force until 31 December 2018, but not the requirements of 6.8.2.1.23, applicable from 1 January 2019, relating to the inspection of welds may correspond to the edge area of the tank bottoms, may continue to be used	
1.6.4.54		**NEW** Tank containers constructed before 1 July 2019 in accordance with the provisions applicable until 31 December 2018 but which do not comply with the requirements of 6.8.2.2.11 as from 1 January 2019 may continue to be used	
1.6.5.4		First extension until 31.03.2020	
1.6.5.21		**NEW** Vehicle registration certificates EX / III for the carriage of explosive substances in tanks issued before 1 July 2019 in accordance with the requirements of 9.1.3.3, in force until 31 December 2018, and no remark concerning the conformity of the vehicle with Section 9.7.9 may continue to be used until the next annual technical inspection of the vehicle	
1.6.5.22		**NEW** Vehicles registered for the first time before 1 January 2021 (or put into service,	

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		unless an authorization to operate was mandatory) and the provisions of Section 9.7 until 31 December 2018 .3, but not the provisions of Section 9.7.3, effective from 1 January 2019, may continue to be used	
1.8.3 Safety Adviser			
1.8.3.19		**NEW** Extension of the training certificate If a Dangerous Goods Officer extends the scope of his training certificate during its period of validity, in compliance with the requirements of 1.8.3.16.2, the period of validity of the new training certificate shall remain that of the previous certificates	
1.10 Security provisions			
1.10.3.1.2	For class 2, first line reads: flammable gases (classification codes containing only the letter F)	**New text:** flammable, non-toxic gases (Classification codes containing only the letter (s) F or FC)	
PART 2 - Classification			

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2.1.4.3		**NEW paragraph.** Samples of energetic materials for testing purpose	
2.1.5	Classification of used packaging, empty, uncleaned	Previous Section 2.1.5 is renamed to 2.1.6, content unchanged New Section 2.1.5: Classification of articles as objects containing dangerous goods. **NEW NOTE:** For items which have no official shipping name, except UN Nos. 3537 to 3548, which contain only dangerous goods within the limits permitted in column A of Chapter 3.2 of Table A, see UN Nos Special provisions 301 and 672 of Chapter 3.3. For the purposes of this Section, a "subject" is a machine, device or other device containing one or more dangerous goods (or residues of those goods) which are an integral part of the object, necessary for the function of the subject and cannot be removed for transport purposes	

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Continuation 2.1.5		2.1.5.1 Items containing dangerous goods may, as provided elsewhere in the ADR, be assigned to the official name for the carriage of the dangerous goods contained in them or classified in accordance with this section [...] 2.1.5.2 Such items may also contain batteries. Unless otherwise specified in ADR (eg for pre-production prototypes of items containing lithium batteries or for small series of production of no more than 100 such items), lithium batteries that are part of the subject must have a Which has been shown to comply with the test requirements of the Manual of Tests and Criteria, Part III, subsection 38.3 2.1.5.3 This clause does not apply to items for which a more precise official name for carriage already exists in Table A of Chapter 3.2. 2.1.5.4 This section does not apply to Class 1, Class 6.2 and Class 7 dangerous goods or to radioactive material contained in articles. 2.1.5.5 Items containing dangerous goods shall be classified in the appropriate class as determined by the dangerous goods present in each item in the article, where appropriate, using the table of the predominant heading in subsection 2.1.3.10, is determined. If the article contains dangerous goods classified as Class 9, it is considered that all other dangerous goods contained in the article constitute a major hazard. 2.1.5.6	

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2.2 Class specific provision		**The new** UN numbers are added to each of the classes concerned (for new UN numbers, see comments on Chapter 3.2 below)	**X**
2.2.41.1.17 Regulations for the temperature control of self-reactive substances	Description of the relationship between SADT, control temperature and emergency temperature	**New text** only refers to the new section 7.1.7. New text: Self-reactive substances with an SADT of not more than 55 ° C shall be transported under temperature control. See section 7.1.7.	
2.2.41.1.21 Regulations for the temperature control of polymerizing substances	Description of when temperature control is required	**New reference** to the new section 7.1.7. **New remark**: Substances that meet the criteria for polymerizing substances and, in addition, the criteria for inclusion in grades 1 to 8 are subject to the provisions of special provision 386 of Chapter 3.3	
2.2.41.4 List of currently assigned self-reactive substances in packaging	Note not included	The following **new information** shall be inserted before the table: The preparations listed in packaging instruction IBC 520 of 4.1.4.2 and in T 23 instructions of V 4.2.5.2.6 may, where appropriate, be subject to the same control and emergency temperatures, also packed in accordance with 4.1.4.1 packing instruction P 520 packing method with the same control and emergency temperature, if applicable. New entry in the list: PHOSPHORIC ACID-O - [(CYANO-PHENYL METHYL) -AZANYL] -O, O-DIET-HYLESTER – reference to UN 3227 The references now refer	**X**

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		to the new section 7.1.7	
2.2.51.1.7 Assignment to packaging groups in class 5.1	Description of the VG assignment based on the test results	2.2.51.1.7 becomes 2.2.51.1.8, the previous paragraphs are also renumbered. The new paragraph 2.2.51.1.7 reads: Excluded from this are solid ammonium nitrate fertilizers, which must be classified in accordance with the procedure defined in the Manual of Tests and Criteria, Part III, Section 39. Note: "Excepted" refers to the classification principles in 2.2.51.1.6	
2.2.51.2.2 Not permitted for carriage		Replaced by two new line indices: - ammonium nitrate fertilizers with compositions leading to outputs 4, 6, 8, 15, 31 or 33 of the flow chart in paragraph 39.5.1 of the Manual of Tests and Criteria, Part III, Section 39 unless they have been assigned to a suitable UN number 1 class, - ammonium nitrate fertilizers with compositions leading to output 20, 23 or 39 of the flow chart in paragraph 39.5.1 of the Manual of Tests and Criteria, Part III, Section 39, unless they have become an appropriate Class 1 UN number or, provided that suitability for carriage has been proven and approved by the competent authority, assigned to a suitable UN number of Class 5.1, with the exception of UN number 2067,	
2.2.52.1.15 and 2.2.52.1.16 Regulations for temperature control of organic peroxides	Description of the relationship between SADT, control temperature and emergency temperature	The paragraphs are deleted, there is now a reference to the new bleed 7.1.7	
2.2.52.4 List of current		The following new information shall be inserted	

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assigned organic peroxides in packaging		before the table: The preparations listed in packaging instruction IBC 520 of 4.1.4.2 and in T 23 instructions of V 4.2.5.2.6 may, where appropriate, be subject to the same control and emergency temperatures, also packed in accordance with 4.1.4.1 packing instruction P 520 packing method, if applicable. **NEW** 3 new organic peroxides are added to the list: DIISOBUTRYRYPEROXIDE (as a stable dispersion in water) Di (4-tert-BUTYLCYCLO-hexyl) - PEROXYDICAR BONATE (as paste) 1-phenylethyl	
2.2.62.1.4 List of category A		Text for the two entries is changed: Virus of African swine fever (cultures only) classical swine fever virus (cultures only)	
2.2.8	Description of the classification principles for corrosive substances	2.2.8 Will be completely replaced by new text. The classification of mixtures is on the basis of the UN recommendations is completely new In 2.2.8.1.6, this new one will be incremental procedure described and in the form of a flow chart shown in fig. 2.2.8.16.1	
2.2.9.1.7 Regulations for lithium batteries	Subparagraphs (a) to (e) describe technical requirements for lithium batteries.	Two new requirements are added: Subparagraph (f) describes so-called hybrid batteries: f) Lithium batteries containing both lithium-metal primary cells and	

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		rechargeable lithium-ion cells which are not designed for external charging (see special provision 387 of Chapter 3.3), must comply with the following rules: (i) the rechargeable lithium ion cells can only be charged by the lithium metal primary cells; (ii) overloading of rechargeable lithium-ion cells is excluded by design; (iii) the battery has been tested as a lithium primary battery; (iv) The component cells of the battery must conform to a type which has been shown to comply with the relevant test requirements of the Manual of Tests and Criteria, Part III, Subsection 38.3	
Part 3 - Dangerous Goods Table, Special Provisions, Exemptions			
3.1.2.2 Information about the correct shipping name	It describes when the note "stabilized" is required and what has to be taken into account for temperature-controlled substances	**NEW text:** If a combination of several different official names for promotion is listed under a single UN number and these are separated by "and" or "or" in lowercase or by commas, only be given the most appropriate official shipping name may appear in the transport document or on the label of the package	
3.1.2.6 Information on the correct shipping name for stabilized and temperature-controlled substances		**NEW** New paragraph (b): if the term "TEMPERATURE CONTROLLED" is not already included in the uppercase letter in column 3.2 of Table A of Chapter 3.2, it shall be added as part	

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		of the proper shipping name; New paragraph (c): for gases: the conditions of carriage shall be approved by the competent Authority	
3.2 Dangerous goods list		**New** UN numbers: The following 14 new UN numbers are added: UN 3535 TOXIC INORGANIC SOLID FABRIC, FLAMMABLE, N.O.S. UN 3536 LITHIUM BATTERIES, BUILT IN GOODS TRANSPORTATION, lithium-ion batteries or lithium-metal batteries UN 3537 OBJECTS CONTAINING INFLAMENTABLE GAS, N.O.S. UN 3538 OBJECTS CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S. UN 3539 OBJECTS CONTAINING TOXIC GAS, N.O.S. UN 3540 OBJECTS DE-HOLDING AN ENT-FLAMMABLE LIQUID, N.O.S.	
3.2 Dangerous goods list - CONTINUED	A complete comparison "old - new" would go beyond the scope of this overview, as there are, as always, many detail changes. In the right-hand column you will therefore only see an overview of which UN numbers will be changed,	For the following 83 UN numbers, there are changes in the dangerous goods table: 0349, 0367, 0384, 0481, 0509, 1002, 1006 1011, 1013, 1043, 1046, 1049, 1056, 1058 1065, 1066, 1075, 1080, 1148, 1363, 1386 1398, 1435, 1744, 1755, 1778, 1779, 1788 1789, 1791, 1803, 1805, 1814, 1819, 1824 1830, 1832, 1840, 1906, 1952, 1954, 1956 1965, 1969, 1971, 1972, 1978,	**X**

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		2031, 2036 2067, 2071, 2217, 2381, 2581, 2582, 2586 2647, 2693, 2793, 2796, 3070, 3090, 3091 3148, 3163, 3166, 3171, 3223, 3224, 3264 3266, 3297, 3298, 3299, 3302, 3316, 3359 3373, 3480, 3481, 3528, 3529, 3530	
3.2 Dangerous goods list - CONTINUED		**New entry** for UN 3363: DANGEROUS GOODS IN MACHINERY or DANGEROUS GOODS IN EQUIPMENT with reference to special provisions 301 and 672	
3.3 Special Provisions (SP) applicable to certain articles or substances - Changes / deletions -			
SP 186 concerns UN 2067	UN 2067: AMMONIUM NITRATE-BASED FERTILIZER	SP is deleted because the content has been implemented in the handbook examinations and criteria	
SP 188 concerns UN 3090, UN 3091 UN 3480, UN 3481	Applies to "small" lithium cells and batteries No indication of hybrid batteries included	After paragraphs a) and b), the following comment is added in respect of the new hybrid batteries (see above under 2.2.9.1.7) If lithium batteries conforming to 2.2.9.1.7 (f) are carried in accordance with this special provision, the total lithium	

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		content of all the lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity all of the lithium-ion cells in the battery should not exceed 10 Wh (see special provision 387). The reference now reads: paragraphs 2.2.9.1.7 a), e), if appropriate f) and g) **NEW** wording in paragraph d) Protection against contact with electrically conductive materials In paragraph (f), the following new requirement, which was forgotten in 2017, is added: If packages are placed in an overpack, the lithium battery plate must either be clearly visible or repeated on the outside of the package and the package must be replaced with be marked with the phrase "OVERPACK". The letter height of the expression «OVERPACK» must be at least 12 mm A note shall be added to paragraph (f): Packages of lithium batteries packaged in accordance with the provisions of Part 4 Chapter 11 Packing instructions 965 or 968 (IB) of the ICAO Technical Instructions and marked with the mark specified in 5.2.1.9 (License plate for lithium batteries) and the label conforming to model 9A in accordance with paragraph 5.2.2.2.2 are deemed to comply with the	
	Paragraph c) refers to 2.2.9.1.7 a) and e) Paragraph d) states: Protection against contact with conductive materials No indication of over packaging		

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		provisions of this special provision	
Continuation SP 188	There is no definition of what is meant by "equipment"	Now, a new text at paragraph h) clarifies: "Equipment" in the sense of this special provision is a device for whose operation the lithium cells or batteries supply electrical energy	
SP 240 concerns UN 3171	Description of what vehicles are	The SP 240 is deleted, the content is transferred to the new SP 388 (see below)	
SV 252 concerns UN 3316	Description of which dangerous goods may be included in chemical test kits or first aid kits; there is only one cross-reference to column 7a - limited quantities	New formulation, which is allowed with reference to chapter 3.5 - exempted quantities and chapter 3.4 - limited quantities. The limit of 250 ml or 250 g per inner packaging was previously in the packaging instruction P901, where the passage is deleted	
SP 307 concerns UN 2067	Concerns UN 2067 AMMONIUM NITRATE-BASED FERTILIZER	**New text:** This entry may only be used for ammonium nitrate-containing fertilizers. These must be classified in accordance with the procedure laid down in the Manual of Tests and Criteria, Part III, Section 39, subject to the limitations set out in paragraph 2.2.51.2.2, 13th and 14th indents. When used the term "competent authority" in the said section 39 means the competent authority of the country of origin. If the country of origin is not a Party to the ADR, the classification and conditions of carriage shall be recognized by the competent authority of the first Party to the ADR reached by the consignment.	

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SP 312 concerns UN 3166 vehicles	Explanation of which vehicles are to be assigned to this UN number	SP 312 is deleted, the contents integrated into the new SP 388	
SP 363 relates to UN 3528, 3529, 3530	Special provision for the dispatch of engines	**New** introductory sentence: This entry may only be used when the conditions of this special requirement are met. No other provisions of ADR apply. **New** wording in paragraph 1 (formerly (g)(vi)): If the engine or engine contains more than 1000 liters of liquid fuel in UN Nos. 3528 and 3530 or if the fuel tank in the case of UN No. 3529 contains water Capacity of more than 1000 liters, - a transport document as required by 5.4.1 is required. In addition, the following should be noted in this transport document: «TRANSPORT TO SPECIAL PROVISIONS 363»; - if, prior to transport, it is known that a tunnel with restrictions on the carriage of dangerous goods will pass through, orange plates shall be affixed to the transport unit in accordance with 5.3.2 and the tunnel restrictions in section shall apply 8.6.4. Note: A tunnel restriction code is now assigned to the three UN numbers in the dangerous goods table. **A new** paragraph m) is added: The requirements of packing instruction P 005 of 4.1.4.1 must be met	
SP 376 concerns damaged / defective lithium batteries	Safety-critical defective lithium cells or batteries must be transported as determined by the competent authority	Now the SP 376 refers to the new packaging instructions P911 and LP906. If the local conditions are met, there is no need for official approval. The transport document must now contain:	

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		"Transport in accordance with special provision 376"	
SP 385 concerns UN 3166 vehicles	Explanation of which vehicles are to be assigned to this UN number	SP 385 is deleted, the contents integrated into the new SP 388	
SP 636 Disposal of lithium batteries	The SP 636 applies both to the disposal of "small" cells / batteries as well as for electrical devices	The SP 636 now only applies to cells / batteries alone. Devices are treated in the new SP 670 (see below)	
SP 660 gas storage systems for vehicles	Detailed description of the conditions for gas storage systems for motor vehicles; Affects numerous UN numbers for gases	The SP 660 now refers to the new SP 392	
SP 666 concerns UN 3166 and UN 3171, vehicles	Description under which conditions an exemption from the ADR is given. Reference to SP 240, 312, 385	There is only one reference to the new SV 388, the three former SV will be deleted.	
SP 667 concerns UN 3166 and UN 3171, vehicles		A new paragraph c) is added: The procedures described in paragraph (b) shall also apply to damaged lithium cells or batteries contained in vehicles, engines, machinery or articles	
New special regulations (SP) in chapter 3.3			
SP 193 concerns UN 2017 ammonium nitrate fertilizer		**New**: This entry may only be used for ammonium nitrate based compound fertilizers. They shall be classified in accordance with the procedure specified in the Manual of Tests and Criteria, Part III, Section 39. Fertilizers meeting the criteria of this UN number are not subject to ADR	

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SP 301 concerns UN 3363		**New SP** with regard to objects (devices, machines, other equipment) that contain danger-good in their internal structure. The maximum amount may not exceed the quantity specified in column (7a) of Table A of Chapter 3.2	
SP 387 concerns lithium batteries		**New** regulation for hybrid batteries containing both lithium-metal and lithium-ion cells and batteries. If the total amount of lithium in all of the lithium-metal cells in the battery does not exceed 1.5 g and the total capacity of all the lithium-ion cells in the battery is not greater than 10 Wh, the SP 188 may be used.	
SP 388 concerns UN 3166 and UN 3171 will apply to vehicles powered by flammable liquid or gas internal combustion engines or fuels cells	Content previously included in SP 240, 312 and 385	The explanations for vehicles are now bundled in the new SP 388, which replaces the three previous ones as described on the left	
SP 389 concerns new UN number 3536 lithium batteries in freight transport units		**New** regulation for freight transport units, e.g. Containers containing lithium batteries. Other dangerous goods such as fire extinguishers or air conditioning systems need not be taken into account. Labelling of the individual batteries is not required. The cargo transport unit must be marked on two opposite sides with orange warning signs and placards.	
SP 392 concerns gas storage systems	previously included in SP 660	SP 392 contains the regulations for the different types of gas storage systems with references to the	

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		relevant regulations in international standards such as ISO, ECE etc.	
SP 670 concerns the disposal of containing lithium cells or batteries	previously included in SP 636	If only cells or batteries are included as backup batteries / back-up batteries in an electrical appliance, these appliances are no longer subject to ADR regulations	
SP 671 concerns UN 3316 chemistry test kits or first aid kits		Determine which transport category the test kits or EH equipment are to be assigned to apply the exemption in 1.1.3.6 (1000 point rule)	
SP 672 concerns UN 3363		SP in conjunction with the SP 301 for dangerous goods in equipment and machines; if the quantities of dangerous goods in the equipment or in the machinery do not exceed the quantity for limited quantities specified in column 7a of the general hazardous gas table, the ADR shall be exempted, subject to the general packaging provisions in 4.1.1.1	
SP 674 concerns different liquefied gases		This special provision applies to the repeated testing of formed bottles as defined in 1.2.1	
Chapter 3.4 and 3.5 – no changes			

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Chapter 4 – Packaging and tank provisions			
4.1.1.17		Deleted NOTE: Packagings, including bulk packaging (IBC) and large packagings, which are described in 6.1.3, subsection 6.2.2.7, 6.2. 2.8, 6.2.2.9, 6.2.2.10, Section 6.3.4, 6.5.2 or 6.6.3, but have been approved in a non-Contracting Party of the ADR, may nevertheless be used for carriage under ADR	
4.1.4.1 P001 Packaging for liquid substances	6HH1 packaging may contain a maximum of 120 liters for packaging group I	The maximum amount is increased to 250 liters	
4.1.4.1 P200 pressure vessels	P200 describes the packaging for goods of Class 2 gases	Adjustment of referenced norms	
4.1.4.1 P520 Packaging for organic peroxides and self-reactive substances	PP94 and PP95 not available	**NEW** 2 new special provisions PP94 and PP95 are added for the samples of energetic substances (see 2.1.4.3 above) PP94 is valid for very small quantities PP95 is valid for small quantities	
4.1.4.1 P620 Packaging for hazardous substances UN 2814 and UN 2900		Additional provision 3 is replaced by the following: 3. Whatever the intended temperature of the consignment, the primary receptacle or secondary packaging must be able of withstand without leakage an	

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		internal pressure producing a pressure differential of less than 95 kPa without leaks. This primary receptacle or secondary packaging also must be able of withstand in the range of -40 ° C to +55 ° C.	
4.1.4.1 P901 Packaging for UN 3316 chemistry test kits or first aid kits	Additional instructions limit the maximum contents per inner packaging to 250 ml or 250 g	The additional rule will be deleted as the regulation has been transferred to SP 252	
4.1.4.1 P902 Packaging for UN 3268 safety equipment	Previous formulation: Unpackaged items The items may also be transported unpackaged from the place of manufacture to the assembly factory in specially equipped handling equipment or cargo handling units.	New formulation: Unpacked items The goods may be transported to, from or between the place of manufacture and an assembly factory, including intermediate handling facilities, also unpackaged in specially equipped handling facilities or cargo transport units	
4.1.4.1 P903 Packaging for lithium batteries	Definition of the term "equipment" can be found in paragraph 3): "Equipment" in the sense of this packing instruction is a device that requires the lithium-metal or lithium-ion cells or batteries packed with it	The definition in paragraph 3) is deleted. The following new information is added at the beginning of the packing instruction: "Equipment" means apparatus for which the lithium cells or batteries supply electrical power for its operations	
4.1.4.1 P908 Packaging for damaged / defective lithium batteries	Previous formulations non-conductive thermal insulation material non-conductive insulation material	New formulations for point 2) electrically non-conductive thermal insulation material to protect against a dangerous evolution of heat	
4.1.4.1 P909 Packaging for lithium batteries for		New formulation electrically non-conductive lining material	

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disposal			
4.1.4.1 P910 Packaging for lithium batteries as prototypes / small series		New formulations Non-electrically conductive thermal insulation material and not electrically conductive	
4.1.4 IBC 520 relates to organic peroxides		Three new organic peroxides are added: 2,5-DIMETHYL-2,5-DI- (tert-BUTYLPEROXY) -HEXAN, not more than 52%, in diluent type A. 3,6,9-TRIETHYL-3,6,9-TRIMETHYL-1,4,7-TRIPEROXONAN, not more than 27%, in diluent TYPE A tert-AMYLPEROXY-2-ETHYLHEXANOATE, not more than 62% in diluent Type A	
4.1.4 LP 902 concerns UN 3268 safety devices		**New** formulation: Rigid large packagings meeting the testing requirements for Packing Group III: made of steel (50A) made of aluminum (50B) made of a metal other than steel or aluminum (50N) made of rigid plastic (50H) made of natural wood (50C) made of plywood (50D) made of wood fiber material (50F) made of rigid cardboard (50G) Unpacked items: The goods may be	

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		transported to, from or between the place of manufacture and an assembly factory, including intermediate handling facilities, also unpackaged in specially equipped handling facilities or cargo transport units	
4.1.4 LP 903 concerns lithium batteries		**New** formulations The following large packagings are approved for a single battery and for a single piece of equipment containing batteries. The battery or equipment must be packed in such a way as to protect the battery or equipment from damage caused by movement of the battery or equipment in the bulk packaging or by inserting the battery or equipment into the bulk packaging can	
4.1.4 LP 904 concerns defective lithium batteries		**New** formulations This instruction applies to individual damaged or defective batteries of UN numbers 3090, 3091, 3480 and 3481 and to individual equipment containing damaged or defective cells and batteries of these UN numbers. The following large packagings shall be approved for a single damaged or defective battery and for a single equipment containing damaged or defective cells and batteries, provided that the general requirements of 4.1.1 and 4.1.3 are met: The term "conductive" is replaced by "electrically conductive"	

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Chapter 4.1 **- New packing instructions -**			
4.1.4.1 P006 Concerns new UN numbers 3537 to 3548		New packing instruction for items containing dangerous goods (see new UN numbers in chapter 3.2) Basically type-tested packaging, but exceptions for robust devices possible	
4.1.4.1 P007 Concerns UN number 3363		New packing instruction for articles containing dangerous goods, provided that the quantities contained do not exceed the quantities specified in column 7a-limited quantities.	
4.1.4 P911 concerns safety-critical damaged / defective lithium batteries	Regulated in the SP 376, for the transport of safety-critical defective batteries, a regulatory approval is required	New packaging instructions for safety-critical damaged / defective Lithium batteries. Description of the requirements of the packaging system which an authority must approve. Then no approval is required for the respective transport	
4.1.4 LP 03 concerns new UN numbers 3537 to 3548		New large packaging for the new UN numbers for items containing dangerous goods	
4.1.4 LP 905 concerns prototypes or small series of lithium batteries without UN 38.3 test		New bulk packaging for prototypes or small series of lithium batteries without UN 38.3 test	

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4.1.4 LP 906 concerns safety-critical damaged / defective lithium batteries		New large packaging for safety-critical damaged / defective lithium batteries. Description of the requirements of the packaging system which an authority must approve. Then no approval is required for the respective transport	
Chapter 4.1 – OTHERS			
4.1.6.15 Standards for UN pressure vessels	Standard covers: ISO 11114-1: 2012 Annex A to ISO 10297: 2006 or Annex A to ISO 10297: 2014	Updating the standards: EN ISO 11114-1: 2012 + A1: 2017 Appendix A to EN ISO 10297: 2006 or Appendix A to EN ISO 10297: 2014 or Appendix A to EN ISO 10297: 2014 + A1: 2017 New standard for valves with self-protection: EN ISO 17879: 2017	
4.1.10.4 Packing of explosive substances and objects	UN 0509 not listed	UN 0509 is re-inserted in the table with restrictions for packing with UN 0027, 0028, 0044, 0160 and 0161	
Chapter 4.2 – use of portable tank and multiple gas containers			
4.2.5.2.6 T23		**New** formulation at the end of the first sentence: The preparations listed below may be packed, if appropriate with the same control and emergency temperatures, also packed in accordance with 4.1.4.1 packing instruction P 520 packing method OP8	
4.2.5.3 Special provision	TP10: A lead lining of at least 5 mm	**New** sentence will be added at TP 10	

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TP10 concerns UN 1744	thickness, which must be tested annually, or another suitable lining material approved by the competent authority is required	A portable tank, may be offered for carriage after the date of expiry of the last lining inspection for a period not to exceed a period for three months beyond that date, after emptying, but before cleaning, for the purpose of performing the next prescribed test or the inspection prior to refiling	
4.2.5.3 Special provision TP38 Relates to UN 3148 WITH WATER REAGENT RENDER LIQUID, N.A.G.		Special provision will be deleted due to deadline 31.12.2018	
4.2.5.3 Special provision TP39 relates to UN 2381 DIME-THYLDISULFID		Special provision will be deleted due to deadline 31.12.2018	
Chapter 4.3 – ADR tanks			
4.3.4.1.3 Requirements for tanks with one (+) after tank coding		**New** note is added: The requirements for these tanks are indicated by the following tank codes, which are supplemented by the relevant special provisions given in column (13) of Table A of Chapter 3.2 The list of affected UN numbers for each class is now clearly displayed in a table	
4.3.5 TU 42 concerns several UN numbers for		**New** special provision: Tanks with a shells constructed of aluminium, including those with a protective lining, may only be used if the pH of the substance is not less than	

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Class 8 substances		5.0 and not more than 8.0	
4.3.5 TU 43 concerns UN 1744		**New** special provision: An uncleaned empty tank may be placed on the carriage after the deadline for the examination of the lining, within a maximum of three months from the expiry of that period, for carriage to the next inspection of the lining before being re-filled (see section 6.8.4 d) special provision TT 2)	
Chapter 5 – Consignment procedures			
5.2.1 Marking and labelling		**New** comment available: In accordance with the GHS, a GHS pictogram, not required by ADR should only appear in carriage as part as a complete GHS label and not independently (see section 1.4.10.4.4 of the GHS)	
5.2.1.3 Marking salvage enclosures	Regulation for salvage packs and salvage pressure vessels, which must be marked "SALVAGE".	The subsection now also mentions large-size packaging, thus closing the gap in the regulation	
5.2.1.5 Marking of packages of goods of Class 1	Indication of the official designation on the package required in an official language of the country of dispatch and, if that language is not German or English or French, in addition in one of the three languages	Now it is sufficient if one of the three languages German or English or French is used. However, other languages may also be specified.	
5.2.1.10.1 orientation arrows	The paragraph contains 3 enumerations when alignment arrows are required	A fourth indent is added: - machinery or equipment containing liquid dangerous goods, if warranted that the liquid dangerous goods remain in their intended orientation (see Chapter 3.3 Special provision 301)	

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5.2.2.1.12 New regulation for items containing dangerous goods		**New** paragraph 5.2.2.1.12 is introduced with the labeling requirements for items containing dangerous goods, i. for the new UN Nos. 3537 to 3548. - Danger labels according to the hazard characteristics as described in 2.1.5 must be affixed. - If lithium batteries are included in addition, there is no need to affix lithium battery markers or 9A hazard labels - for liquids, alignment arrows may need to be placed on two opposite sides	**X**
5.2.2.2.1.1.2 Size and shape of the danger label	With the ADR 2015, the patterns of the hazard labels were specified exactly. The inner boundary line had to be exactly 5 mm from the edge and at least 2 mm wide	The requirement for the line width of 2 mm is eliminated again and the distance from the edge must now be about 5 mm	**X**
5.2.2.2.1.1.3 Size and shape of the danger label	If the size of the package is reduced, if required by the size of the package, the 5 mm distance and also the 2 mm wide line must be maintained	If the size of the package requires, the dimensions may be proportional be reduced, provided that the symbols and the other elements of the danger label remain clearly visible. The dimensions of the danger labels for bottles must comply with the requirements of paragraph 5.2.2.2.1.2	**X**
5.2.2.2.2 LABELS		The patterns of the danger labels are all illustrated with the description IN THE ANNEX 1 Not variation in the content	
5.3 Placarding and marking of containers		**New** note 2 is added: In accordance with the GHS, a non-ADR should not be required GHS pictogram during carriage only as a complete GHS label and not appearing on its own (see section 1.4.10.4.4 of the GHS)	

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5.3.1.1.1 General provisions	In the list is only about containers and no indication of the permanence of the placards	The term bulk container is added. **New** requirement added: The placards must be weather-resistant and ensure permanent identification throughout the carriage.	**X**
5.3.1.2 5.3.1.3 5.3.2.1.5 5.3.6.1 5.3.6.2 Attachment of large sheets and orange-coloured marking	In the list, only containers are mentioned	The term bulk container is added everywhere.	
5.3.1.7.1 Description of the placards	Description of how placards should look and what size they should have	A new note is added that the deviations apply to badges / placards as in the risk labels. This applies to the information in 5.2.2.2.1 (minor deviations as with other carriers), 5.2.2.2.1.3 (indication in the lower half, which indicates the nature of the hazard) and 5.2. 2.2.1.5 (any text below the icon)	
5.3.2.3.2 Meaning of the number to identify the hazard	20 - asphyxiant gas or gas which has no additional *risk*	20 - asphyxiant gas or gas that has no subsidiary *hazard*	
5.3.3 Elevated temperature substance mark	No information on the durability of the license plate	**New** regulation: "The license plate must be weather-resistant and a permanent mark throughout the carriage	**X**
5.4.1.1.1 f) Quantity in the promotion document	NOTE: 1. For the application of subsection 1.1.3.6, for each category of transport, the total quantity of dangerous goods of the	**New** wording to indicate for each category of carriage, under subsection 1.1.3.6, the total quantity of dangerous goods and the calculated	

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	transport document must be given	value of dangerous goods according to 1.1.3.6.4.	
5.4.1.1.5 Additional entry in the promotion document for salvage enclosures	Concerns salvage packaging and salvage pressure vessels	Salvage bulk packs are added.	
Chapter 6 – Construction and testing requirements for packaging, IBCs, bulk packaging and tanks			
6.1.5.8.1 Test report on packaging inspection	Details of what a test report must contain at least	Point 8 adds that for plastic packaging subject to the internal pressure test 6.1.5.5, the temperature of the water used shall be indicated	**X**
6.2.1.6.1 Periodic inspection and test	Note 2: with the consent of the competent authority, the fluid pressure test for cylinders or cylinders may be used Large bottles should be replaced by an equivalent test method based on acoustic emissions testing or a combination of acoustic emission testing and ultrasound examination based. The standard ISO 16148: 2006 may be used as a guideline for acoustic emission test methods.	**New** text Note 2: For seamless cylinders and large steel cylinders, the test of paragraph 6.2.1.6.1 (b) and the fluid pressure test of paragraph 6.2.1.6.1 (d) may be carried out by a method in accordance with standard ISO 16148: 2016 Gas cylinders - Refillable seamless gas cylinders and large steel cylinders - Acoustic emission test and subsequent ultrasonic testing for periodic inspection and testing	
6.2.2.1.1 Reference to standards for UN pressure vessels	ISO standard 11118: 1999 applicable until further notice	ISO standard 11118: 1999 only applicable until 31.12.2020, **new standard** is ISO 11118: 2015	**X**
6.2.2.1.2 Reference to standards for UN large bottles	ISO standard 11120: 1999 applicable until further notice	ISO standard 11120: 1999 only applicable until 31.12.2022, **new standard** is ISO 11120: 2015	**X**
6.2.2.1.8 UN pressure drums		**New paragraph** is added: For the design, construction and initial testing of UN	**X**

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		pressure drums, the following standards apply, with the exception that the test requirements related to the conformity assessment and approval system must be in accordance with 6.2.2.5 Standards to which reference is made: ISO 21172-1: 2015 ISO 4706: 2008 ISO 18172-1: 2007	
6.2.2.3 Service equipment	ISO standard 13340: 2001 applicable until further notice	ISO standard 13340: 2001 only applicable until 31.12.2020, **new standards** are ISO 14246: 2014 and ISO 17871: 2015, which then apply until further notice	**X**
6.2.2.4 Periodical inspection and test	Table applies to UN cylinders and UN metal hydride storage systems ISO standard 11623: 2003 applicable until further notice	Two tables are listed, the first for the UN bottles and the second for the UN metal hydride storage systems ISO standard 11623: 2003 only applicable until 31.12.2020, **new standard i**s ISO 11623: 2015 New standard for the testing of valves is added ISO 22434: 2006	**X**
6.2.2.7.4 Manufacturing code for refillable UN pressure vessels	Letter m) requires the identification of the cylinder thread, e.g. 25E	A new remark is added to letter m): Information on labels used for the identification of bottle threads can be used in the standard ISO / TR 11364 "Gas cylinders - Compilation of national and international Valve steam/gas cylinder neck threads and their identification and marking system "	
6.2.3.5 Periodic inspection of pressure vessels other than UN pressure vessels	Two paragraphs available 6.2.3.5.1 (Reference to 6.2.1.6 and 6.2.3.5.2 (Cryogenic container)	Two new paragraphs are added: 6.2.3.5.3 General rules for replacement of specific periodic inspection (s) required by paragraph 6.2.3.5.1 This is followed by a list of	

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		the determinations to be observed when using these alternative testing methods. 6.2.3.5.4 Formed cylinders subject to 6.2.3.5.3.1 shall be subjected to periodic inspections in accordance with Chapter 3.3 Special provision 674	
6.2.3.6.1 Approval of pressure receptacles	No regulation for non-refillable pressure vessels.	**New text** is added: For non-refillable pressure receptacles, the conformity assessment of valves and other removable accessories that have a direct safety function must be carried out in conjunction with the pressure receptacles.	
6.2.4.1 Design, construction and initial testing of pressure vessels, which are not UN pressure vessels	EN ISO standard 11120: 1999 + A1: 2013 applicable until further notice EN ISO standard 10297: 2014 applicable until further notice EN ISO standard 17871: 2015 applicable until further notice	EN ISO standard 11120: 1999 + A1: 2013 only applicable until 31.12.2020; **new standard** EN ISO 11120: 2015 EN ISO standard 10297: 2014 only applicable until 31.12.2020; new standard EN ISO 10297: 2014 + A1: 2017 EN ISO standard 17871: 2015 only applicable until 31.12.2020; new standard EN ISO 17871: 2015 + A1: 2018 New standard added: EN ISO 17879: 2017	**X**
6.2.4.2 Periodic inspection test	List of standards EN Standard 1440: 2016 applicable until further notice EN Standard 16728: 2016 applicable until further notice	Deletion of the following standards: EN ISO 11623: 2002 EN 14912: 2005 EN 1440: 2008 + A1: 2012 EN Standard 1440: 2016 only applicable until 31.12.2020 **New standard added**: EN 1440: 2016 + A1: 2018 (except Annex C) EN Standard 16728: 2016	**X**

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		only applicable until 31.12.2020 New standard added: EN 16728: 2016 + A1: 2018	
6.2.6.4 Aerosols and small vessels, with gas (gas cartridges)	Reference to standards At the end of the 3rd line it says "(except paragraph 9)"	'(Except paragraph 9)' is deleted, with the following text added: In addition to the markings prescribed in this standard, the gas cartridge must be marked "UN 2037 / EN 16509"	
6.4 Packages for radioactive substances	6.4.23.11, 6.4.23.12, 6.4.23.13, 6.4.23.14. 6.4.23.15, 6.4.23.16, 6.4.23.17 and 6.4.23.18 Assignment of identifiers	The word license plate is replaced at all places by identification marks	
6.5.6.9.3 Drop test for IBC		New text: the same IBC or another IBC of the same design may be used for each drop	
6.5.6.14.1 Documentation of the test report		New point is added at 8: For rigid plastic IBCs and combination IBCs subject to the internal pressure test of sub clause 6.5.6.8, the temperature of the water used	
6.8.2.1.23 Execution and testing of welding work		New text: The qualification of the manufacturer or the maintenance or repair workshop to carry out the welding must be checked and confirmed either by the competent authority or by the body designated by that authority. The manufacturer or the maintenance or repair workshop must operate a quality assurance system for welding work A new footnote 6 is added, renumbering the existing footnotes:	

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		Overlap joints used to connect the tank bottom to the cylindrical part of the shell may be tested using alternative methods instead of radiographic or ultrasonic The second sentence under "λ = 0.8" is replaced by the following: "Non-destructive testing shall include all" T "joints, all inserted bumps to avoid overlapping welds, and all welds in the edge of the tank bottom." The second sentence under "λ = 0.9" is replaced by the following: "Non-destructive testing shall include all connections, all inserted joints to avoid overlapping welds, all welds in the edge area of the tank bottoms, and all welds for the assembly of larger diameter equipment"	
6.8.2.2.3 Requirements for hermetically sealed tanks		New text is added: Flame arresters for overpressure and under pressure aeration devices shall be suitable for the vapours emitted by the transported substances (experimentally determined maximum safe gap (MESG)), the temperature range and the application. They shall comply with the requirements and tests of EN ISO 16852: 2016	
6.8.2.2.10 Tanks hermetically closed with rupture disk	The arrangement of the rupture disc and the safety valve must comply with the requirements of the competent authority	The rupture disc shall burst at a nominal pressure equal to 0.8 to 1.1 times the test pressure, except for tanks carrying condensed, liquefied or dissolved gases, where the rupture disc and safety valve arrangement meets the requirements of the competent authority must comply	

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6.8.2.2.11 Level indicator made of glass		New paragraph: Level gauges made of glass and other fragile materials that are directly related to the contents of the shell shall not be used	
6.8.2.3.1 Type Approval Tanker etc.	2nd paragraph is: The registration number consists of that for motor vehicles Distinguishing marks of the state used in international traffic, in which the Admission was made, and a registration number	**New** 2nd paragraph: an approval number for the type, which consists of the distinguishing mark used for motor vehicles in international traffic of the country in which the authorization was granted and a registration number; the dividing line in the middle is omitted	
6.8.2.4.2 Periodical inspection of tank vehicles etc.	No indication of protective coverings	**New requirement**: Protective liners must be visually inspected for damage. If damage is detected, the condition of the lining must be assessed by appropriate testing (suitable tests)	**X**
6.8.2.4.3 Intermediate inspection of tank vehicles etc.	No indication of protective coverings	**New requirement**: Protective liners must be visually inspected for damage. If damage is detected, the condition of the lining must be assessed by appropriate testing (suitable tests)	
6.8.2.6.1 Design and construction of tank trucks etc.		**New references:** "NOTE: Standards EN 1252-1: 1998 and EN 1626, to which reference is made in this standard, also apply to sealed cry-o containers for transporting UN 1972 (METHANE, DEEP-COOLED, LIQUID or NATURAL GAS, DEEP-	**X**

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		COOLED , LIQUID) Add the following remark under the title of EN 1626: 2008: NOTE: This standard is also applicable to valves for transport of UN 1972 (METHANE, DEEP-COOLED, LIQUID or NATURAL GAS, DEEP-COOLED, LIQUID). New references: EN 13317: 2018 Tanks for the transport of dangerous goods - Operating equipment of tanks - Construction group Lid for manholes EN 14595: 2016 Tanks for the transport of dangerous goods - Operating equipment - Ventilation equipment	
6.8.3.2.6	The first sentence reads: If the tanks are equipped with liquid level indicators that are in direct contact with the substance being transported, they must not be made of transparent materials	This sentence is deleted	
6.8.3.2.9 Equipment of tanks for gases with safety valves		**New requirement**: Safety valves must be designed or protected to prevent the ingress of water or other foreign matter that may interfere with their proper functioning. The protection must not affect the performance of the valve	**X**
6.8.3.6 Standards references for battery vehicles and MEGC	Reference to EN 13807: 2003	New standard reference EN 13807: 2017 Transportable gas cylinders - Battery vehicles and multi-element gas containers (MEGCs) - Design,	

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		manufacture, marking and testing The previous reference is only valid until 31.12.2020	
6.8.5.1.2 Materials and tank body	Paragraph a) contains the steels that are permitted	In paragraph (a), the following is added: - austenitic-ferritic stainless steels up to a temperature of -40 ° C	
6.8.5.2.1 Test regulations for steel tank bodies	2nd line listing: The minimum impact strength (see paragraphs 6.8.5.3.1 to 6.8.5.3.3) for test bars with a longitudinal axis perpendicular to the rolling direction and a V notch (in accordance with ISO R 148) perpendicular to the surface of the slab must be 34 J / cm2 for mild steel (these tests may be carried out on the basis of existing ISO standards with test bars whose longitudinal axis is in the rolling direction), fine-grained steel, alloyed ferritic steel Ni <5%, alloyed ferritic steel 5% ≤ Ni ≤ 9 % or austenitic Cr Ni	**New text (in bold):** The minimum impact strength (see paragraph 6.8.5.3.1 to 6.8.5.3.3) for test bars with a longitudinal axis perpendicular to the rolling direction and a V notch (in accordance with ISO R 148) perpendicular to the surface of the slab must be 34 J / cm2 for structural steel (this Tests can be carried out on the basis of existing ISO standards with test bars whose longitudinal axis runs in the rolling direction), fine-grained steel, alloyed ferritic steel Ni <5%, alloyed ferritic steel 5% ≤ Ni ≤ 9%, **austenitic Cr-Ni Steel or austenitic-ferritic stainless steel.**	
6.8.5.4 Reference to standards	Standard reference: EN 1252-1: 1998 Cryogenic containers - Materials Part 1: Toughness requirements at temperatures below -80 °C	**New reference**: EN ISO 21028: 2016 Cryogenic containers - Toughness requirements for materials at cryogenic temperatures - Part 1: Temperatures below -80 ° C	
Ch. 7 - Rules for carriage, the loading and unloading and handling			**X**
7.1.7 Special provisions for temperature control	The temperature control regulations for the carriage of self-reactive substances or organic peroxides can be found in special provision V8 in Section 7.2.4 and in special provision S4 in	Special provisions V8 and S4 only refer to the new section 7.1.7	

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	Section 8.5 Special provision V8: Paragraphs (3) and (4) Description of the measures to be taken for which substance categories so that the control temperature is not exceeded. The methods are described as R1 to R5	7.1.7.4.5 This new paragraph now contains the description of the measures described under (a) to (e) 7.1.7.4.6 now contains the regulations which method should be used for which groups of substances In terms of content, there are no major changes	
7.2.4 Special provision V8	Special provision contains information on temperature control	Special provision V8 only refers to the new section 7.1.7 with a new note: The special provision does not apply if, according to 3.1.2.6, the substances are stabilized such that the SADT is above 50 ° C. Only measures must then be implemented if the actual conditions of carriage were to reach a temperature above 55 ° C	
7.3.2.10 Special provisions V8 and S4 only refer to the new section 7.1.7 Use of flexible bulk containers	No indication of containers allowed in non-ADR states	New remark is added: NOTE: Flexible bulk containers marked in subsection 6.11.5.5 but have been admitted in a state which is not an ADR Contracting State, may still be eligible for promotions under ADR to be used	
7.3.3.1 Restrictions according to column 17 of the Hazardous Goods Table		A new remark is added: If the code VC 1 is given in Chapter 3.2 of Table A of column A, a BK 1 bulk container may therefore be used for land transport provided that the supplementary provisions of the subsection are used 7.3.3.2 are met. If the code VC 2 is given in Chapter 3.2, Table A, column 17, land transport may therefore also be used a BK 2 bulk container may be used for carriage, provided that the	

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		supplementary requirements of 7.3.3.2 are met	
7.5.1.1 and 7.5.1.2 Regulation on arrival at the place of loading and unloading and inspection obligation	Refers to vehicle and driver	New formulation refers to vehicle and vehicle crew	
7.5.7.1 load securing	Footnote 1 refers to "European Best Practice Guide- lines on Cargo Securing for Road Transport" (European guidelines for optimal road charging procedures in road transport	Footnote now also refers to the CTU code as a guide to proper stowage	
7.5.7.4 Loading of containers, tank containers, portable tanks and MEGCs	The provisions of 7.5.7.1 also apply to the loading, stowing and unloading and unloading of containers, tank-containers, portable tanks and MEGCs on or from vehicles	New note for enclosures that do not have standard container closures, that compatibility with the vehicle is to be checked	
Ch. 8 - Rules for the crew, the equipment, the operation of the vehicles and the documentation			
8.1.2.1 a) accompanying document	Large container or vehicle package certificate required when approaching the seaport	Modification of wording: Container or vehicle packing certificate required when approaching the seaport	
8.1.5.2 Equipment of transport units	For the safety vest, reference is made to standard EN471: 2003 + A1: 2007	New reference: EN ISO 20471	
8.5 Special provision S4	S4 contains temperature control regulations	S4 refers only to 7.1.7 (see above) with a new note: The special provision does not apply if, in accordance with 3.1.2.6, the substances are stabilized such that the SADT is above 50 ° C. Only measures must then be implemented if the actual conditions of carriage were to reach a temperature above	

Site / content	2017	2019	Priorities
		55 ° C	
Part 9 - Rules for the construction and registration of vehicles			
9.1.3.3 Description of the registration certificate	No indication for EX / III vehicles	New note will be added at the end: EX / III Vehicles approved for tanker transport in accordance with 9.7.9 shall indicate in the registration certificate: "Vehicle according to section 9.7.9 of the ADR for the transport of explosive substances in tanks"	
9.6.2 Transport of substances under temperature control	Reference to special provision V8, measures R1 to R5	Reference to new reference 7.1.7.4.5	
9.7.3 Fastening	With regard to fasteners, see 6.8.2.1.2, 6.8.2.1.11 to 6.8.2.1.13, 6.8.2.1.15 and 6.8.2.1.16. 6.8.2.1.2: The tanks, including their loading -fixing devices must be at the maximum permissible mass the filling can take the following forces: - 2 times the total mass in direction of travel; - 1 x total mass horizontally sideways to the direction of travel; - 1X total mass vertically upwards and - 2 times the total mass vertically downwards. The tank containers including their fastening devices must be at the highest permitted Mass of the filling can absorb the following forces: - 2 times the total mass in direction of travel; - 1 x total mass horizontally sideways to the direction of travel (if the direction of	The forces to be absorbed for the vehicles (tank vehicles, battery vehicles) as well as for carrier vehicles will now be described at this point, so far only the cross reference to 6.8.2.1.2 has been made 6.8.2.1.2 remains unchanged	

Site / content	2017	2019	Priorities
	travel is not clear is determined, the twice the total mass in each direction applies); - 1X total mass vertically upwards and - 2 times the total mass vertically downwards		

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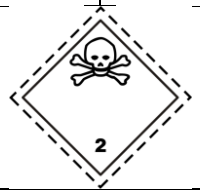
Annex 1

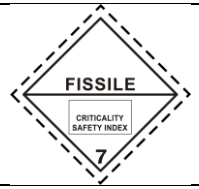
GEMD/GE6368/ACE
14.12.2018

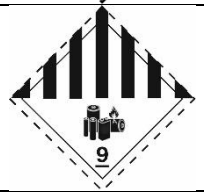
Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 1 hazard: Explosive substances or articles						
1	Divisions 1.1, 1.2, 1.3	Exploding bomb: black	Orange	1 (black)		-** Place for division – to be left blank if explosive is the subsidiary hazard -* Place for compatibility group – to be left blank if explosive is the subsidiary hazard
1.4	Division 1.4	1.4: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm × 100 mm)	Orange	1 (black)		* Place for compatibility group
1.5	Division 1.5	1.5: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm × 100 mm)	Orange	1 (black)		* Place for compatibility group
1.6	Division 1.6	1.6: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm × 100 mm)	Orange	1 (black)		* Place for compatibility group

Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 2 hazard: Gases						
2.1	Flammable gases (except as provided for in 5.2.2.2.1.6 d))	Flame: black or white	Red	2 (black or white)	 	-
2.2	Non-flammable, non-toxic gases	Gas cylinder: black or white	Green	2 (black or white)	 	-
2.3	Toxic gases	Skull and crossbones: black	White	2 (black)		-

Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 3 hazard: Flammable liquids						
3	-	Flame: black or white	Red	3 (black or white)	 	-
Class 4.1 hazard: Flammable solids, self-reactive substances, solid desensitized explosives and polymerizing substances						
4.1	-	Flame: black	White with 7 vertical red stripes	4 (black)		-
Class 4.2 hazard: Substances liable to spontaneous combustion						
4.2	-	Flame: black	Upper half white, lower half red	4 (black)		-
Class 4.3 hazard: Substances which, in contact with water emit flammable gases						
4.3	-	Flame: black or white	Blue	4 (black or white)	 	-

Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 5.1 hazard: Oxidizing substances						
5.1	-	Flame over circle: black	Yellow	5.1 (black)		-
Class 5.2 hazard: Organic peroxides						
5.2	-	Flame: black or white	Upper half red, lower half yellow	5.2 (black)	 	-
Class 6.1 hazard: Toxic substances						
6.1	-	Skull and crossbones: black	White	6 (black)		-
Class 6.2 hazard: Infectious substances						
6.2	-	Three crescents superimposed on a circle: black	White	6 (black)		The lower half of the label may bear the inscriptions: "INFECTIOUS SUBSTANCE" and "In the case of damage or leakage immediately notify Public Health Authority" in black colour

Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 7 hazard: Radioactive material						
7A	Category I – WHITE	Trefoil: black	White	7 (black)		Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." One red vertical bar shall follow the word: "RADIOACTIVE"
7B	Category II – YELLOW	Trefoil: black	Upper half yellow with white border, lower half white	7 (black)		Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." In a black outlined box: "TRANSPORT INDEX"; Two red vertical bars shall follow the word: "RADIOACTIVE"
7C	Category III – YELLOW	Trefoil: black	Upper half yellow with white border, lower half white	7 (black)		Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." In a black outlined box: "TRANSPORT INDEX". Three red vertical bars shall follow the word: "RADIOACTIVE"
7E	Fissile material	-	White	7 (black)		Text (mandatory): black in upper half of label: "FISSILE"; In a black outlined box in the lower half of label: "CRITICALITY SAFETY INDEX"

Label model No.	Division or Category	Symbol and symbol colour	Background	Figure in bottom corner (and figure colour)	Specimen labels	Note
Class 8 hazard: Corrosive substances						
8	-	Liquids, spilling from two glass vessels and attacking a hand and a metal: black	Upper half white, lower half black with white border	8 (white)		-
Class 9 hazard: Miscellaneous dangerous substances and articles, including environmentally hazardous substances						
9	-	7 vertical stripes in upper half: black	White	9 underlined (black)		-
9A	-	7 vertical stripes in upper half: black; battery group, one broken and emitting flame in lower half: black	White	9 underlined (black)		-

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