

## Main Changes Proposed to ADR 2009

The changes to ADR 2009 have been published and are expected to be incorporated into the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009, which will come into effect 1<sup>st</sup> July 2009. It is anticipated that some of the changes where there is a significant benefit to duty holders will be permitted to be used from January 2009.

At the time of preparing this report the DfT has implemented a consultation document, which closes on 10<sup>th</sup> October 2008. This consultation document can be accessed at:

<http://www.dft.gov.uk/consultations/open/cdg/dangerousgoods.pdf>.

The DfT has appointed Scientifics Ltd to prepare an analysis of the proposed changes to ADR 2009. Scientifics Ltd have divided the changes into various sections depending on the scope of applicability of the changes and I have used this scheme in summarising the changes. I have shown the title in bold and brought the items with the broadest affect on my clients to the front.

### **Instructions in Writing (TREM cards) - ADR 8.1**

Major changes in the provision of TREM cards. They will be provided by the carrier not the consignor

They will be in a language that the driver and/or crew members can read and understand before starting their journey. No longer are they required in languages of the country of origin, transit and destination. Members of the vehicle crew must familiarise themselves with the emergency arrangements for the dangerous goods loaded before commencing a journey.

The four page model of the revised instructions in writing consists of:

Actions to be taken in the event of an emergency

Guidance on the hazards and actions to be taken for each class of dangerous goods.

I have included a sample TREM card with the pack of information.

### **Additional Equipment to be Carried on Vehicles Carrying Certain Classes of Dangerous Goods.**

When carrying dangerous goods of classes other than Classes 1 or 2 the following additional items are required:

Eye rinsing liquid – per vehicle

Protective gloves - per crew member

Eye protection - per crew member

When carrying goods of class 6.1 and toxic gases the following additional items are required:

A suitable emergency escape mask of at least specification A1B1C1D1-P1- per crew member

When carrying goods of classes 3, 4.1, 4.3, 8 & 9 the following additional items are required:

A drain seal - per vehicle

A shovel - per vehicle

A collecting container made of plastic - per vehicle.

### **Environmentally Hazardous Substances - ADR 2.2**

Major changes have been made to this group to align all modes of classification.

Goods of classes 1 to 9 that meet the classification criteria for aquatic pollutants, 2.2.9.1.10, are deemed to be environmentally hazardous substances and will be required to be labelled as such. Other substances meeting the criteria 2.2.9.1.10 will be assigned UN3082 or 3077 as appropriate.

There is clarification, SP 335, as to the difference between UN 3082 and UN 3077, environmentally hazardous substance, liquid and solid.

There are changes to the carriage of UN 3077 in bulk.

Packages containing certain substances where the goods are classified as UN 3082 in packages of 5 litre or less can be packed in non-UN approved packages. E.g. Resin solution, paint, printing ink provided that the products are in palletised loads or packed in combination packs.

The dead fish and tree mark, 100 mm diamond, is required on all packages, greater than 5 litre or kilo, containing environmentally hazardous substances. Similarly bulk carriers will also have to display the dead fish and tree symbol where it applies.

Goods not marked as above can be carried until 31 Dec 2010.

The additional classification as environmentally hazardous is not required to be declared on associated dangerous goods documentation.

Any materials that are not classified under the carriage regulations but have the N, environmentally hazardous, classification under CHIP shall be classified as UN 3082 or UN 3077 respectively.

#### **Limited Quantities - ADR 3.4**

Requirements for the use of orientation labels has been introduced in 3.4.8 along with the marking of vehicles in 3.4.9 to 3.4.13.

Vehicle marking "LTD QTY" black letter 65 mm high on a white background, will only apply to vehicles with a tare weight of greater than 12 tonnes carrying more than 8 tonnes of goods in limited quantities and not displaying orange plates.

Consignors will be required to advise carriers of the total gross mass of goods packed in limited quantities being consigned, in advance of the carriage.

These requirements need only to be applied from 1<sup>st</sup> January 2011.

#### **Placarding and Marking - ADR 5.3**

5.3.1.1.6 & 5.3.2.2.5 Orange plates or other vehicle markings must not be able to unfold or come loose from their holder during carriage, especially as a result of an accident even if the vehicle is overturned.  
5.3.2.1.5 If vehicle plates or placards are not clearly visible from outside the vehicle then they shall be repeated on the sides of the vehicle.

These requirements are deferred until end 2009 for vehicles already in use at 1 Jan 2009.

#### **Tunnel Restrictions - ADR 1.9.5**

A new paragraph 5.4.1.1(k) requires the tunnel restriction code to be shown on documentation unless it is known in advance that the goods will not pass through a tunnel with restrictions for the carriage of dangerous goods. Tunnel restriction codes are to be published on the Internet.

#### **Exemptions - ADR 1.1**

Exemption 1.1.3.1(a) for the carriage of dangerous goods by private individuals when the dangerous goods are flammable liquids carried in refillable receptacles filled by or for a private individual, the total quantity per receptacle may not exceed 60 litres and the total per transport unit may not exceed 240 litres.

Exemption 1.1.3.2(c) for the carriage of gases in groups A and O have been modified and are now slightly more restrictive.

Exemption 1.1.3.6.3 amends the way in which dangerous goods in machinery and equipment can be carried and as a result this allows an increase in the quantities carried before the machinery or equipment becomes subject to the requirements of ADR.

New exemption 1.1.3.7 allows that the requirements of ADR do not apply to lithium batteries installed in a means of transport destined for its propulsion nor to lithium batteries contained in equipment for the operation of this equipment used or intended for use during carriage (e.g. a laptop computer).

#### **Changes to HIN for UN 3132, 3135, 3391 & 3393**

New HIN X432 for certain flammable solids that react dangerously with water.

#### **Intermediate Bulk Containers (IBCs) - ADR 6.5**

Various changes to the design and testing specification for IBCs. IBCs manufactured prior to January 2011 may continue in use.

#### **ADR Tanks - 1.6.2, 1.8**

There are some complex amendments to the allocation and specification of tanks. Interested parties should check out the full text.

4.3.2.2.4 tanks not divided by partitions or surge plates into sections of not more than 7,500 litres shall be filled to more than 80% or less than 20% of their capacity. Existing tanks may continue to be used without regard to this restriction to the end of their natural life.

Non-destructive testing of welds

Items of equipment - fixed piping on new tanks.

Clarification of the requirements, certification and tank marking in respect of periodic and intermediate inspections.

Vacuum tanks alternatives for the design of suction hoses.

For all of these issues interested parties should check out the full text.

#### **Additional Requirements - ADR 8.5**

Smoking is not permitted during carriage, during loading or in the vicinity of vehicles carrying goods of Class 1. Load compartments of EXII and EXIII vehicles must be locked during transport except during loading and unloading.

There have been changes to the special provisions S1(6), S14, S15 and S20 and the addition of new provisions S21, S22 and S23. These provisions deal with the supervision of vehicles above certain load quantities.

#### **Definitions - ADR 1.2**

A number of editorial modifications to definitions

#### **Training - ADR 1.3**

Employees involved in the carriage of dangerous goods must receive appropriate training before undertaking those duties.

The current UK practice is that if an employee has not received training then such duties may be undertaken under supervision. This may require the UK to seek a multilateral agreement for this arrangement to continue.

#### **Radioactive Materials Class 7**

There are various changes to the requirements for Class 7 however the changes reflect harmonisation of UN and IAEA and do not represent any material changes to the requirements for radioactive materials.

#### **Security Provisions**

Certain goods of Class 1.4, detonators, cords and charges and certain goods of class 5.1, ammonium nitrate emulsion, suspension or gels, have been added to the list of high consequence dangerous goods.

#### **Waste**

There is a simplified arrangement for the classification of waste based upon the knowledge available under the waste regulations.

### **Classification**

Minor alterations to the classification of fireworks in 2.2.1.1.7.5 to include “shell, spherical or cylindrical”, “preloaded mortar, shell in mortar” and a note regarding “flash composition”.

Amendment to 2.2.3.1.5 to give clarification for flammable liquids that are “non-toxic, non-corrosive and non-environmentally hazardous”

In 2.2.43.2 and 2.2.43.3 restrictions on the carriage of UN 3132 and UN 3135 have been lifted.

In 2.2.52.4 the list of peroxide entries for class 5.2 has been amended.

In 2.2.9.1.15 there are minor changes to the way that packing groups are assigned to class 9 materials.

### **Dangerous Goods List - ADR 3.2**

Special provision SP 274 (n.o.s. entries) has been added to UN numbers where SP 61 is mentioned in column 6.

PR 1 has been amended to PR 6 in column 8

Amendments have been made to the mixed packing requirements MP15 to MP19 to increase the permitted quantities to 5 litres.

A further 15 items have been added. About half of these are associated with new alcohol mix fuels, fuel cell batteries and lithium ion batteries.

New codes for signals UN 505 to 507 have been added to 1.4G and 1.4S

#### Chlorine

Chlorine is now to be classed as a oxidizing agent and will now have the classification 2TOC and a subsidiary 5.1 label is required and the HIN is changed from 268 to 265.

#### Hydrogen fluoride and hydrofluoric acid

Minor changes to inspection of tanks.

#### Lighters and lighter refills

Special provision SP654 simplifies the carriage of waste lighters.

#### Chlorosilanes

Various more stringent changes to the packaging arrangements for about 34 UN numbers in this group.

#### Ethanol UN 1170, alcohols n.o.s UN1987 and flammable liquid n.o.s UN1993

Minor changes to reflect the introduction of UN 3475 fuel containing ethanol.

#### Nitroglycerine solution in alcohol UN 1204

Changes to reflect the use of this material as a ready for use pharmaceutical.

#### Bromoacetone UN 1569

Changes to the tank specification

#### Bromine UN 1744

Changes to the packaging requirements for bromine.

#### Medicines UN 1851, 3248 and 3249

The restriction of a maximum quantity of 5 litres in PP6 for these materials has been lifted.

#### Nitric acid UN 2031

Various changes to the classification packaging and labelling of nitric acid to reflect it as oxidizing agent in concentrations greater than 70% and amend the use of IBCs with nitric acid.

Nitrocellulose solution flammable UN 2059

Changes to packing in IBCs

Ammonium nitrate based fertilizer UN 2067

Minor changes to the components in ammonium nitrate based fertilizer.

Lead compounds soluble n.o.s. UN 2291

Amendment to SP 199 in regard to testing of these materials.

Water reactive compounds UN 2813, 3129, 3131 and 3148

Changes to portable tanks provisions and tank codes.

Lithium cells and batteries UN 3090, 3091, 3480 and 3481

Changes to lithium ion batteries to separate the classification from lithium metal batteries. SP 188 and 636 have been amended and P903b for packing used lithium cells and batteries have been included.

Ethanol and gasoline mixtures UN 3475

See notes above on this new UN number.

Fuel cell cartridges

New numbers have been allocated for fuel cell cartridges UN 3476, 3477, 3478 and 3479 and various changes to the SP 328, 338 & 339 and a new packing instruction P004.

#### **Closed or Sheeted Vehicles - ADR 7.2.4**

Requirements W10/V10, W12/V12, and W11/V11 for certain UN numbers and goods of packing group I have been amended.

#### **Special Provisions - ADR 3.3**

SP 289 "air bags or seat belts" has been amended to read "air bag inflators, air bag modules or seat pre-tensioners"

SP 340 has been amended for UN 3269 Polyester resin kits and chemical and first aid kits of UN 3316 to allow the use of excepted quantities.

#### **Excepted Quantities - ADR 3.5**

A new chapter has been introduced to reflect the use of excepted packages in air transport. This is a complex change and interested parties should read this chapter carefully.

#### **Packaging - ADR 4.1 & 6.1**

Changes to PR1 to 7 for gas cylinders changes to P402 and a new packing instruction P601 and special packing provisions RR7 (UN 1251) and RR10 (UN 1614) and RR8 (UN 1389, 1391, 1411, 1421, 1928, 3129, 3130 and 3148).

P099 IBC99 and LP99 when used for packing approved by competent authority proof of approval must be carried with the goods.

Various changes which affect the following areas:

Quality assurance for reconditioning of UN packages

Clarification of the term plastics materials

UN certified packages are only certified for carriage by road, rail and inland waterways.

Modification of the drop test requirements for packages.

Portable tanks and multi-element gas containers ADR 4.2 & 6.7

Various changes to specifications to tank and portable tanks for certain UN numbers. Tanks in use at end 2008 may continue in use until end 2014.

### **Marking and Labelling - ADR 5.2**

Various changes have been introduced

5.2.2.2.1 Minor variations in labels for other transport modes can be used as long as the obvious meaning of the label is not affected,

5.2.2.2.1.1 Changes to the colour of the line around the edge of a two-colour label or placard.

5.2.2.2.1.2 Change to the identification of the ISO7225 version for cylinders for Class 2

5.2.2.2.1.3 Minor changes to aid clarification versus IMDG

5.2.2.2.1.4 Clarification of labelling of Class 1 substances

5.2.2.2.1.6 Slight change to Class 5.2 label to allow white symbol to be used.

### **Documentation - ADR 5.4**

5.4.1.1.6.4 There is a new documentation requirement for tank vehicles and demountable tanks.

Minor changes to the use of IMDG documents for a road transport journey.

Fumigated wagons vehicles containers tanks etc ADR 5.5

5.5.2.2 Slight changes to the requirements for warning signs on fumigated tanks.

### **Infectious Substances - ADR 6.2**

2.2.62.1.12 Changes to the way in which dead animals infected by disease can be transported.

Various amendments have been made to the construction testing of packaging for infectious substances of Class 6.2. This should have no impact on UK carriers.

### **Large Packagings - ADR 6.6**

Changes requiring UN marking and drop testing of large packages.

### **Pressure Receptacles - ADR 1.6.2, 1.8**

There are technical changes to the specification of pressure vessels.

There are technical changes to the inspection of pressure vessels, two new sections 1.8.6 and 1.8.7 have been added.

These changes are quite extensive and those involved should look at the full document.

### **Exemptions and Declarations - ADR 1.1.3.6 & 5.4.1.1.10**

Slight changes such that when goods are carried under an exemption in 1.1.3.6 the exemption need not be stated on the transport document.

### **Transitional Measures - ADR 1.6.5**

Small amendment to the construction of EXII, EXIII, FL, OX and AT vehicles.

### **Orange Coloured Plate Marking -ADR 5.3.2**

Some minor changes when carrying dangerous goods and non-dangerous goods in compartmented tanks.

### **Road Tank-vehicles - ADR 6.8**

Changes to the design of tank manhole cover assemblies.

### **Provisions Concerning Carriage in Tanks - ADR 7.4**

Minor change to 7.4.1

### **Loading Unloading and Handling - ADR 7.5**

Changes to the quantity of organic peroxide and self-reactive substances that can be carried on one vehicle to bring ADR in line with IMDG.

Relaxation on the loading of organic peroxides labelled 5.2 with those labelled 5.2 + 1 resulting in all organic peroxides can now be carried together. The mixed loading table in 7.5.2.1 has been amended accordingly.

### **Vehicle Crew Training - ADR 8.2**

Clarification that drivers carrying goods of 1.4S do not have to receive ADR or Class 1 training.

### **Miscellaneous Vehicle Crew Requirements - ADR 8.3**

Unbraked trailers need to be restrained with at least one wheel chock.

O<sub>2</sub> and O<sub>3</sub> trailer with antilock braking systems the electrical connection between the unit and trailer must be connected at all times when carrying dangerous goods.

### **Approval of Vehicles - ADR 9.1**

Annual technical inspections for XXII, EXIII, FL, OX and AT trailers will not require that the drawing vehicle be tested for the same purpose.

### **Construction of Vehicles - ADR 9.2**

Minor changes to reflect the appropriate construction standards.

### **Mobile Explosive Manufacturing Units - ADR 4.7**

A new chapter has been added regarding these vehicles. For these issues interested parties should check out the full text.

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The above 7 pages of information have been extracted and condensed from a 40 page document published by Scientifics Ltd on behalf of the Department for Transport. The Scientifics Ltd paper is in turn a distillation from the 180 page document detailing changes to ADR 2009 published by the United Nations Economic Commission For Europe, Inland Transport Committee

Whilst every effort is made to accurately reflect the proposed changes interested parties with particular interests are advised to check any changes to the requirements that affect their business when ADR 2009 is published in the autumn of 2008.

I have made available the full text of the Scientifics Ltd report and a link to the UN document on my web site, [www.lenhallsafetyadvisor.co.uk](http://www.lenhallsafetyadvisor.co.uk), so that these documents can be easily accessed.