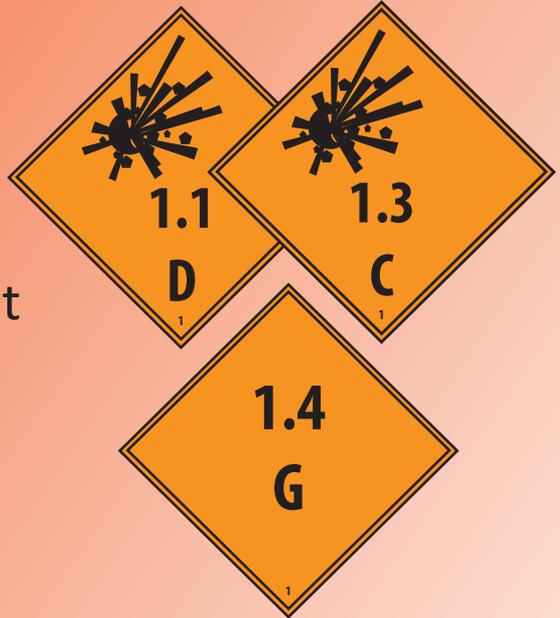


Carriage of  
Dangerous  
Goods and Use  
of Transportable  
Pressure Equipment  
(Amendment)  
Regulations 2011



# Industry Guide and Code of Practice

for the  
Classification and Labelling of Explosives  
(including mixed packages)



*This Guide and Code of Practice only applies formally to the transport of explosives by road as it is only covered by CDG 2011 and ADR. However, in most cases, the classification and labelling provisions of other transport modes (Rail, Inland waterway, by sea or by air) are very similar. You should ensure compliance with the requirements of other modes of transport.*

# Introduction

This Guide has been prepared by a Working Group of the Explosives Industry Group of the Confederation of British Industry (EIG/CBI) in association with the Explosives Policy Branch and the Explosives Inspectorate of the Health and Safety Executive.

The guidance contained in this document represents current best practice within the UK Explosives Industry for the classification, labelling and mixed packaging for carriage of explosives by road; and which follows the principles laid down in the Regulations quoted herein.

The Guide does not carry any legal authority and nor does it replace the provisions of the quoted Regulations, but by following the Guide, persons would normally be compliant with their legal obligations in respect to the matters covered by the Guide.

While every effort has been made to cover the appropriate legislation and accepted good practice to which reference is made in this Guide, neither the CBI nor its servants or agents can accept responsibility for, or any liabilities incurred as a result of, any errors or omissions contained within this document.

Those persons involved in the carriage of explosives by road are responsible for taking their own legal and other advice on the matters contained herein, as they see fit. In this respect, readers are strongly advised to check for any changes in the legislation since the publication of this Guide.

## **Explosives Industry Group**

Centre Point – London  
June 2011

ISBN No. 978-0-85201-741-8

This Guide and Code of Practice is also available on the EIG website

<http://www.eig.org.uk>

Version 2.15 - June 2011

# **Industry Guide and Code of Practice for the classification and labelling of explosives (including the classification and labelling of mixed packagings) in respect of the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011 (CDG 2011).**

This document comprises 3 parts:-

**Part 1** - An Industry Guide to the classification process ..... **Page 4**

**Part 2** - An Industry Guide on mixed packaging ..... **Page 8**

**Part 3** - An Industry Code of Practice on labelling of explosives ..... **Page 12**

Any future changes to the Guide or Code of Practice will be agreed by the Explosives Classification Group (ECG) - a joint working group of HSE, ESTC and Industry.

# Part 1 - Industry Guide – Process for classifying explosives

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and hence the GB Carriage Regulations (Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011 - CDG 2011) requires that all explosives carried in GB must be classified in accordance with the provisions of ADR Chapter 2.2 and sub paragraphs contained therein.

The future process for the classification of non-military explosives in GB depends on the classification status of the explosive (ie has it already been classified elsewhere) and whether such classification has been carried out by the Competent Authority (CA) of a country that is a contracting party to ADR.

## Route 1 – Where there is a CAD from a Competent Authority of a contracting party to ADR

Where an explosive is already classified by the Competent Authority of a contracting party to ADR, no further action is required, provided it conforms to the conditions (including packaging) of the original Competent Authority Document (CAD). A copy of the original CAD should be kept by the importer or the manufacturer and should be available on demand.

The following information should be available in a form that is easily understood by CA inspectors:

- A description of the product so that the CAD can be matched with the product.
- The classification.
- Any special conditions detailed in the CAD, for instance the packaging and the arrangement of items within the packaging

## **Route 2 – Where there is a CAD from a Competent Authority of a non-contracting party to ADR**

Where the explosive is already classified by the CA of a country that is **not** a contracting party to ADR, the classification needs to be recognised by HSE as meeting the requirements of ADR. The product must conform to the conditions (including packaging) of the original CAD. A copy of the original CAD with an English translation, along with any additional information necessary to demonstrate compliance with ADR, should be sent to HSE who will issue an appropriate GB CAD to the applicant.

## **Route 3 – Where there is no CAD**

In the case where there is no existing CAD, then the explosive may be classified by HSE or by another CA.

If classification is carried out by HSE then full supporting data must be provided to HSE in order for the product to be classified. This could be on the basis of:

- Testing in accordance with UN tests.
- Direct analogy.
- The explosive falling within a group agreed by the CA of a contracting party to ADR
- Conformity to the fireworks default list

Alternatively the product could be classified by another CA. If this CA is from a country that is not a contracting party to ADR, then the CAD will need to be recognised by HSE.

## Classification - what does this mean in practice?

Explosives that are carried in Great Britain have to be classified – in this respect nothing has changed by these procedures. ADR does not require that explosives, that have been classified by the CA of a country that is a contracting party to ADR, to be “reclassified” by other ADR CAs and hence no action is required by the importer or manufacturer; other than there is a need to keep a copy, in an easily read and understood form, of the original CAD document including, where appropriate, a copy of the relevant packing certificate.

For unclassified explosives, one possible route is to have the explosive classified by the CA of a country that is a contracting party to ADR – in which case Classification Route 1 then effectively applies.

For explosives that have been classified by the CA of a country that is not a contracting party to ADR, ADR requires classification to be done at the first point of entry into the ADR zone. It therefore may be that an application needs to be made to HSE for classification. However, if the explosive has already been classified by another CA of a country that is a contracting party to ADR, before the explosive is carried within Great Britain, then no further action is required.

Where explosives are subject to other regulatory regimes (e.g. CE marking) it may be that a “one-stop” certification and classification regime is offered by the CA of a country that is a contracting party to ADR.

**It should be noted that where an item has been classified but where a change has taken place in:**

- **The item itself**
- **The packaging**
- **The configuration of items within the packaging**

**from that detailed in the original CAD, then the classification may have changed and the item will require classification by HSE or a CA from another country that is a contracting party to ADR.**

## Interpretations

**CAD (Competent Authority Document)** – a document detailing the classification assigned to an explosive, or group of explosives, by a CA. Copies of relevant CADs should be kept by all duty holders under ADR, in a form that is easily understood by CA inspectors and be available on demand.

**Group (sometimes known as “family”)** – a number of similar items that fall within specific defined parameters. For example, where there are maximum and minimum Net Explosive Content (NEC), calibre, or other features that have been agreed with a CA allowing such items to be classified on that basis.

**Direct analogy** – First generation comparison with a product which has been classified on the basis of UN testing.



## Military explosives

The carriage of explosives by the military is not within the scope of ADR. However, the UK requires all military explosives to be classified and recorded by the Ministry of Defence Explosives Storage and Transport Committee (ESTC) before they are either stored on MoD licensed premises, or transported using MoD transport assets.

Military explosives are defined<sup>#</sup> as those “under the control of the Secretary of State, or otherwise held for the service of the Crown, for the purposes of the Ministry of Defence”.

This means that an explosive that is supplied for use by the UK MoD is a military explosive and should be classified by ESTC.

In order to ensure that explosives fall within the definition of military explosives, classification applications to ESTC require that a valid contract number for the explosives is provided. If this is not provided then the explosives are not military and will therefore require classification by HSE or a CA from country that is a contracting party to ADR.

The same item (whether or not in the same packaging) that is not held for the services of the Crown for the purposes of MoD, is not a military explosive and therefore cannot be classified by ESTC. This means that for these non military versions of military explosives, classification will need to be carried out by HSE or a CA from a country that is a contracting party to ADR.

The ESTC classification process therefore remains a requirement for explosives that have been previously classified by HSE or another competent authority and providing a copy of the existing CAD as evidence to support the application will greatly assist the process. For explosives that have not been previously classified, the established process will remain and test data or other supporting evidence will be required for ESTC to process the application.

# - the full definition is in the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011

## Part 2 - Industry Guidance - Mixed packaging

This guidance covers the mixed packaging provisions of ADR which apply to explosives. It details parts of ADR that should be considered when working with mixed packages. You should be aware that there are other duties in ADR that also need to be complied with.

ADR MP21, MP22, MP23 and MP24 require account to be taken of a possible amendment of the classification of packages in accordance with ADR 2.2.1.1 i.e. the requirement for classification of explosives. Duty holders should pay particular attention to:

- MP21 (a) (i); MP 22 (a); MP23 (a) – the assessment of the package with respect to ensuring that the means of initiation will not function under normal conditions of carriage.
- MP21 (a) (iii) – the assessment of whether or not the accidental functioning of the means of initiation causes an article to explode under normal conditions of carriage.
- MP24 – the masses are only allowed within the constraints of the packaging mark etc.

Unless explicitly required by ADR, there is no general requirement to seek a unique classification for mixed packages of certain classified explosives (namely, fireworks<sup>1</sup>, pyrotechnic articles<sup>2</sup> and certain other items<sup>3</sup>). For these explosives the requirements of Special Provision MP24 and the table following MP24 shall be applied.

For fireworks the consignor of the package must assign a suitable hazard classification to the resulting mixed package. In general, the sequence 1.1>1.2>1.3>1.4 applies. The package must be suitably labelled and described on the transport documentation.

1 UN 0333, 0334, 0335, 0336 and 0337

2 UN 0428, 0429, 0430, 0431 and 0432

3 UN 0012, 0014, 0027, 0028, 0044, 0054, 0160, 0161, 0186, 0191, 0194, 0196, 0238, 0240, 0312, 0373, 0405, 0505, 0506 and 0507

In general, duty holders should consider the following points:

- It is critical to identify whether or not the allocation of a hazard division is inherent to the article or has resulted from a particular method of packaging/arrangement of articles within packaging. This is likely to be particularly important for 1.4 articles, especially those in 1.4S
- To assess whether or not the requirements of the relevant packaging methods of the mixed articles are compatible
- To take account of any provisions relating to packaging required by the competent authority as stated on the CADs of the items being packaged together
- The potential for additional adverse effects caused by mixing articles – particularly those that could produce a localised shock effect capable of disrupting the casings of other, different, articles also present within the package
- If the classification is likely to require a hazard division other than the most severe of the individual articles/substances mixed in the package then the duty holder should seek expert advice (for instance their DGSA) on the way to proceed
- Whether or not the packagings will retain their structural integrity if they contain a mix of different types of explosives

The following guidance on compliance should also be noted:

- The details of the explosives on transport documents should use the text

**Mixed contents packed in accordance with ADR Special Packing Provision MP 21/MP22/MP23/MP24\***

*(\* delete as applicable)*

- Consignors must ensure that all the requirements of CADs for the individual explosives are complied with
- That the packaging certificate for the package being used, permits mixed packaging (some packaging certificates explicitly detail permitted contents)
- For mixed packages of fireworks classified by the “default” classification system, the most hazardous classification of the individual types applies and the package should be labelled with an appropriate hazard warning symbol.
- For mixed packages of other explosives, the package should be labelled with hazard warning symbols for the different hazard classifications of its contents (if applicable)

Consignors must ensure that any changes to the method of packaging that could affect safety for transport are considered – e.g. packing black powder with primers and smokeless powder. If, as a consequence, an explosive is no longer safe to transport in that packaging then reclassification is necessary.

## Mixed packagings - what does this mean in practice?

Consignors will need to have evidence that each individual article contained in a mixed package has been classified and that an appropriate assessment of the safety for carriage and the hazard division of the mixed package has been made.

For firework display companies, firework retailers and manufacturers and distributors of theatrical pyrotechnics and others who consign packages containing explosives of the UN numbers shown, ADR explicitly allows mixed packaging.

It is important to note that account shall be taken of any possible change in classification as a function of the mixed packaging – whether this is to a “higher” or “lower” classification.

Consignors must assure themselves that the package is appropriately labelled and that it is transported correctly according to the hazard presented.

In addition the consignor must ensure that the packaging used is certified for such mixed packaging and that the items packed within it are permitted within the packaging.

In all cases the consignor must ensure that the hazard arising from mixed packing is adequately assessed and that by carrying out mixed packing the hazard has not been inadvertently increased. In many cases this will be achieved by simply ensuring any voids in the resulting package are filled, so as to prevent the contents being affected during the transport process.

## Part 3 - Industry Code of Practice – Labelling of explosives

This Code of Practice is designed to reduce the burden on explosives businesses without compromising explosives safety or security. The responsibility for complying with this Code rests with those involved in the carriage of explosives and it is expected that there will be voluntary compliance with this Code.

On 1 July 2011, the Classification and Labelling of Explosives Regulations 1983 (CLER) were revoked by the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011 (CDG 2011). Explosives classification will then be carried out under CDG which implements ADR in GB.

The three regulations in CLER that concern the labelling of the inner and outer packaging of explosives will be taken forward by this industry code of practice. Whilst there is no longer a requirement in law to label packaging in accordance with CLER, there are other legislative requirements for the labelling of explosives packages. This code details continuing legal requirements regarding labelling and record-keeping, as well as other measures that will assist industry in handling explosives efficiently, safely and securely.

Many of the labelling requirements in CLER were existing industry practice (for instance, the identification of package contents by commercial name, number etc). There are also legislative requirements concerning the labelling of explosives and their packaging. These include:

- ADR itself and the UK Carriage Regulations (CDG 2011)
- Pyrotechnic Articles (Safety) Regulations 2010
- Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP4)
- Classification Packaging and Labelling of Dangerous Substances Regulations 1984 (CPL)
- Classification, Labelling and Packaging Regulations (CLP)

The guide to CLER recognised that it is neither practical nor sensible to label explosives at the point of use or for many explosives (e.g. fireworks) after sale from a retailer. However, the labelling of explosives and its packaging can be extremely useful in ensuring compliance with other legislative requirements, e.g. storage in accordance with a licence or registration under MSER.

Labelling is also a responsible and easy way for duty holders to provide safety and security information to those keeping and using explosives, so that they can comply with the law, e.g. the Control of Explosives Regulations 1991 (COER) requires various items of information to be recorded and kept.

## **Labelling - what does this mean in practice?**

If you continue to comply with the labelling of explosives packaging requirements that were in place before 1 July 2011, then you will be meeting the requirements of this Code of Practice.

All explosives packages should be durably labelled with the following information:

- The packaging mark
- The proper shipping name
- The 4 digit UN classification code
- The appropriate UN hazard label (diamond)
- The name and address or monogram of the manufacturer/importer

For certain explosives (listed overleaf) the package should also be labelled with the following information

- The Net Explosive Content (NEC) of the package
- The number of items in the package
- The month and year of manufacture

## List of UN numbers for additional labelling requirements

The following UN numbers require additional labelling

UN 0027, 0028, 0029, 0030, 0042, 0048, 0059, 0060, 0065, 0066, 0072, 0074, 0079, 0081, 0082, 0083, 0084, 0099, 0101, 0103, 0104, 0105, 0106, 0107, 0113, 0114, 0118, 0121, 0124, 0129, 0130, 0133, 0135, 0143, 0144, 0146, 0147, 0150, 0151, 0159, 0160, 0161, 0173, 0190, 0204, 0208, 0209, 0220, 0224, 0226, 0241, 0225, 0237, 0248, 0249, 0255, 0257, 0266, 0267, 0268, 0282, 0283, 0288, 0289, 0290, 0296, 0314, 0315, 0325, 0331, 0332, 0340, 0341, 0343, 0342, 0349, 0350, 0351, 0352, 0353, 0354, 0355, 0356, 0357, 0358, 0359, 0360, 0361, 0367, 0374, 0375, 0382, 0383, 0384, 0388, 0389, 0390, 0391, 0392, 0393, 0408, 0409, 0410, 0411, 0433, 0439, 0440, 0441, 0442, 0443, 0444, 0445





# The Explosives Industry Group

The Explosives Industry Group of the CBI (EIG/CBI) exists to promote safety in the Industry, by the development of best practice techniques; to disseminate information on explosives safety matters and impending legislation and to represent the interests of its Members, both nationally and internationally, to the highest authorities.

EIG was established in 1984 as a Sector Group within the CBI, the UK's leading business organisation, speaking for some 240,000 businesses that together employ around a third of the Private Sector work force in the UK. The CBI takes briefs from EIG as required, to represent them at the highest possible echelons in Government.

EIG publishes Guides on various topics aimed at achieving the best possible safety measures across a range of subjects. EIG has a membership comprising all sectors of the explosives industry, from explosives' manufacturers (both military and civil), explosives' storage companies, Pyrotechnic and Firework companies, explosives' transporters and shippers; off shore explosives operators, AWE, BAE Systems, MoD (ESTC) and QinetiQ. EIG is not a Trade Association.

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