



Technical Publication

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG&UTPER)

Revision 0 issued 12/99
Revision 1 issued 07/01
Revision 2 issued 04/04
Revision 3 issued 12/04
Revision 4 issued 08/05
Revision 5 issued 01/08
Revision 6 issued 02/10

The information in this document is intended to give guidance and believed to be accurate and represent good practice at the time of publication. It does not replace the need to consult other formal documents where further information may be required.

No responsibility or liability is accepted by Calor Gas Limited for any loss or damage arising out of the information given.

It is important that users of this publication adhere to all legal requirements, Regulations, CoP's and Standards, particularly, those relating to gas safety.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording, or otherwise, without permission in writing from Calor Gas Ltd.

1.0 Who do the Regulations Apply to?

The Regulations apply to any person responsible for the carriage by road of dangerous goods (in tankers or packages) in connection with their **work**.

The Regulations impose duties on drivers, employers, vehicle operators and consignors and Safety Advisors (TDGSA) to ensure safe carriage of dangerous goods.

2.0 What is meant by a package?

In the case of LPG, which is listed as a Dangerous Substance, a package (sometimes referred to as a 'receptacle') is any cylinder or cartridge of any capacity.

It should be noted that **nominally empty cylinders are treated as full** for the determination of any quantity thresholds.

3.0 Do the Regulations apply to the LPG Cylinders in Private Caravans?

NO. LPG cylinders being carried in connection with private domestic or leisure activities do not come under these Regulations. However, caravans, with LPG cylinders used in connection with trade or business for work purposes and conveyed by road, must comply with the Regulations.

4.0 Are there any other Exemptions from these Regulations?

YES. If a vehicle is carrying less than 333 kg of LPG in cylinders it is exempt from part of the regulations.

If LPG in cylinders is being carried for use with equipment that is fitted on the vehicle, e.g. a road planing machine, a bitumen boiler or fixed heating in a vehicle such as a mobile library or play bus, the Regulations **do not** apply.

Additionally the LPG tank in a vehicle which uses the gas as fuel is exempt i.e. Autogas.

Drivers of any vehicle carrying more than 333kgs of LPG in cylinders regardless of the vehicles maximum weight must be holders of an ADR Vocational Training Certificate (VTC) in Class 2 "other than in tanks" which must be carried at all relevant times.

5.0 What are the requirements of the Regulations?

5.1 Vehicle Construction.

The vehicle used for conveyance must be properly designed, of adequate strength and good construction, and properly maintained, thus making it suitable for the purpose.

5.2 Information.

The vehicle operator must obtain information from the consignor (who is obligated to provide it under the Regulations) about the hazards of the substance to be carried. This information, together with advice on the action to be taken in an emergency must be provided to the vehicle driver.

The content of the information must reflect hazards advised on Data Sheets and take into account the quantities of LPG carried and severity of any potential accident.

The minimum information to be carried will generally be Instructions in Writing and a Consignment Note indicating the quantity of LPG and the number of cylinders carried, designation as

- UN1978, PROPANE, 2.1
- UN1011, BUTANE, 2.1
- UN1965, HYDROCARBON GAS MIXTURES, N.O.S, 2.1,

Written information on the consignment of dangerous goods, (LPG) such as the delivery and collection note or on the consignment note, must be held on file for 3 months after the delivery has been completed.

Drivers of vehicles carrying dangerous goods must carry photographic identification as must any member of the vehicle crew.

5.3 Training.

- Drivers carrying more than 333 kg of LPG in cylinders in connection with trade and business are required to receive instruction and training from their employer or vehicle operator. Training must be sufficient to identify hazards that may be encountered and must include the action to be taken in an emergency and the use of fire extinguishers. The extent of training will vary according to the total capacity of the cylinders carried but must include the advice and understanding of information Data sheets, Instructions in Writing, Consignment Notes and a practical knowledge of the relevant regulations

- The requirements to train drivers and keep records of that training is laid down in The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009. They apply to drivers at work carrying any number of cylinders, although there are differing requirements depending on circumstances and quantities and vehicle size.
- These provisions require the driver of a vehicle carrying cylinders containing more than 333 kg of LPG, to be the holder of a Vocational Training Certificate issued by the DVLA, Swansea, obtained by passing the approved exams, which must be carried at all relevant times and presented on demand.
- Drivers should undergo periodic updating of training, and whenever new equipment is introduced or changes in regulations take place and within 5 years of the issue of a VTC.
- Only members of the Vehicle Crew may be carried which means that non drivers carried on the vehicle must also have received an adequate level of training which should be recorded.
- Drivers must have received training in the security of dangerous goods in transport and must be aware of the action to be taken in a security situation.

5.4 Loading and Storage.

Care must be taken in the methods of loading and storage to ensure no additional hazard is created. Cylinders should be conveyed in an upright condition and secured to prevent undue movement.

5.5 Miscellaneous Equipment

Where vehicles are carrying more than 333kgs of LPG in cylinders or cartridges, the vehicle and crew must carry the following equipment.

Vehicle

1 x wheel chock
 2 x self standing warning signs
 (Amber flashing lamp, triangle,
 reflective cone)

Crew (per member)

1 x warning vest (hi vis)
 1 x pocket lamp (ATEX rated)
 PPE as per Instruction in Writing

5.6 Marking of Vehicles.

If the vehicle load (quantity of LPG) carried is above 333 kg (nett), orange coloured reflective panels of 400mm base x 300 mm width dimensions with a 15mm black border must be displayed at the front and rear of the vehicle.

These panels must be removed or covered if **no** LPG is being carried. It is acceptable to display panels if a quantity less than 333 kg (nett) is being carried.

5.7 Fire Precautions.

The vehicle operator must ensure that the vehicle carries at least the minimum fire fighting equipment defined below and that necessary fire precautions must be taken. "No Smoking" and "No Naked Lights" rules are enforced whilst loading or unloading.

At least two fire extinguishers must be carried. One suitable for dealing with a fire in the engine or cab of the vehicle and the other suitable for dealing with a tyre, brake or load fire.

The minimum capacity requirements are: -

- 1x 2kg dry powder extinguisher for engine cabs, plus 1 x 2kg dry powder extinguisher for load on a vehicle up to 3500kg.
- GVW Vehicles over 3500kg up to 7500kg 1 x 2kg dry powder extinguisher for cab plus 1 x 6 kg dry powder extinguisher for load.
- Vehicles over 7500kg GVW 1 x 2kg dry powder extinguisher for cab plus a total of 10kg dry powder extinguishers (one fire extinguisher must be a minimum of 6 kgs content) for dealing with load fires.

Please note that every transport unit shall be equipped with at least 1 x 2kg fire extinguisher, even when transporting less than 333kgs.

5.8 Parking and Supervision.

For vehicles loads above 10,000 kg (nett), the driver must ensure that when parked, the vehicle is in a safe place, as defined, supervised by himself or some other competent person over 18 years old. The supervision requirement is only relaxed where the vehicle can be parked within secure premises, such as dealers' premises or a secure lorry park.

5.9 Transport of Dangerous Goods (Safety Advisers) TDGSA

As an employer involved in the transport of dangerous goods by road or rail, the Regulations may require you to appoint vocationally qualified safety advisers to advise you on health, safety and environmental matters in connection with the transport of dangerous goods.

These requirements apply where vehicles carry loads in excess of 333kg of LPG in cylinders as detailed below.

Those employers who will be covered are those who:

- Consign dangerous goods for transport and who load the means of transport themselves;
- Are operators of road vehicles carrying dangerous goods;
- Load or unload dangerous goods while they are in transit to their final destination, such as freight forwarders or warehousemen. This category will also cover employers at ports and airports who load/unload dangerous goods onto/off road or rail vehicles, **but does not include consignees who **only** unload at the final destination.**

You can appoint whoever you wish – an existing employee, yourself, or a consultant – **provided they hold a Vocational Training Certificate (VTC)** obtained by passing approved examinations valid both for the mode of transport (i.e. road or rail or both) and for the class/type of dangerous goods being transported. (LPG is UN Class 2)

The examination regime is administered by the Scottish Qualifications Authority. Advisers will need to pass a 'refresher' examination every five years in order to remain qualified.

Your Transport of Dangerous Goods Advisor (TDGSA) will need to:

- Provide you, when required, with advice on all aspects of the transport of dangerous goods;
- Monitor compliance with the legal requirements on the safe transport of dangerous goods and related health and safety practices and procedures (including the preparation of accident reports);
- Ensure the **preparation of an annual report** on your activities concerning the transport of dangerous goods. Such reports are primarily internal documents and so the format and content can vary from employer to employer. As a minimum, though, the contents should summarise the results/conclusions of the safety advisers' monitoring activities, with a view to assisting compliance with the transport of dangerous goods legal requirements. You will need to keep

any such reports for **five years**, and make them available to enforcement agencies on request.

You do not need to appoint Transport of Dangerous Goods Safety Advisers (TDGSA) if you meet ALL three of the following criteria.

- Your main or secondary activity is not the transport of dangerous goods, i.e. where work associated with the transport of dangerous goods is only a minor function of your business. For example, occasional deliveries of small amounts of dangerous goods to a site by a small building company would not be regarded as being its main or secondary activity (whereas a plant hire company who, along with items of plant, regularly delivers dangerous goods to a site would be regarded as having the transport of dangerous goods as a main or secondary activity); **and**
- You are only occasionally involved in the transport of dangerous goods, in the region of one or two such transport movements per month; **and**
- The transport of dangerous goods must not create a significant risk to health, safety and the environment. HSE consider that LPG in amounts greater than 333kg presents significant risk
- The Regulations governing TDGSA leave it open to you to decide how many safety advisers you need to appoint. In deciding the appropriate number you will need to consider issues such as time, information and facilities the safety adviser(s) will need to fulfil their functions and duties, how many operating sites they will need to cover, and whether they will prepare reports and carry out monitoring themselves or simply ensure others do these things. It is also left open to you to co-operate with other employers in appointing the same safety adviser(s) – this may be particularly useful on sites where more than one employer is involved in the transport, loading or unloading of dangerous goods, such as ports, railway marshalling yards and airports.

6.0 Can cylinders be carried in a closed van?

For safety reasons and to ensure the dispersion of any possible leakage of LPG vapour it is preferable to carry cylinders in an open vehicle. There are occasions when closed vans need to be used and this is permitted but increased safety precautions must be taken.

Adequate permanent ventilation of the load space must be provided and this may require standard vehicles to be modified. (**Adequate ventilation** has been set at a minimum equivalent area equal to 2% of floor area of the load compartment).

Cylinders must not be left on board unnecessarily and should be loaded immediately prior to the journey and removed immediately the destination is reached.

If you are carrying cylinders in a closed van, it is a UKLPG Code of Practice requirement that at least 3 red diamond flammable gas danger signs are affixed, one to each of the sides and one to the rear of the van.

It is recommended that spare caps and plugs are carried to seal collected/returned cylinders.

All the above advice is described in **UKLPG Code of Practice No. 27** and has been agreed with the Enforcement Authorities.

7.0 Important Information requested by Police or other Enforcing Authorities

If requested by a police officer or another Enforcing Authority (i.e. Health and Safety Executive Officer or Vehicle Inspector of the Vehicle Operators Service Agency (VOSA)) the driver must produce documents (instructions in Writing) to identify the Dangerous Substance (LPG), the hazards, emergency action, the quantity carried.

Driver training records must be available for inspection at the drivers home base but it is recommended that if a driver regularly conveys significant numbers of cylinders he should carry with him a copy of his training records or a certificate of training.

The original Vocational Training Certificate (Class 2 other than in tanks) must be carried at all times whilst on duty.

On request the name of the appointed Transport Dangerous Goods Safety Advisor (TDGSA) must be given.

Note: LPG, propane and butane have been categorised as Transport Category 2, in the Regulations.

8.0 References

The following publications are available from HSE Books, PO Box 1999, Sudbury, Suffolk. Tel: 01787 881165.

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

The following publication is available from
UK LPG - Unit 14 Bow Court, Fletchworth Gate, Burnsall Road, Coventry, CV5 6SP.
www.uklpg.co.uk

Code of Practice 27 – Carriage of LPG Cylinder by Road (2004).

Orange Plates and Transport Emergency Cards are obtainable from:
Designed for Safety
Corbiere House
Bourne End Lane
Hemel Hempstead
Herts HP1 2RN
TEL: 01442 875071

Further copies of this publication are available FREE of charge from Calor Gas Ltd.










Appendix A









INSTRUCTIONS IN WRITING

Actions in the event of an accident or emergency

In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewerage system and to contain spillages;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
(1)	(2)	(3)
Explosive substances and articles  1 1.5 1.6	May have a range of properties and effects such as mass detonation; projection of fragments; intense fire/heat flux; formation of bright light, loud noise or smoke. Sensitive to shocks and/or impacts and/or heat.	Take cover but stay away from windows.
Explosive substances and articles  1.4	Slight risk of explosion and fire.	Take cover.
Flammable gases  2.1	Risk of fire. Risk of explosion. May be under pressure. Risk of asphyxiation. May cause burns and/or frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Non-flammable, non-toxic gases  2.2	Risk of asphyxiation. May be under pressure. May cause frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Toxic gases  2.3	Risk of intoxication. May be under pressure. May cause burns and/or frostbite. Containments may explode when heated.	Use emergency escape mask. Take cover. Keep out of low areas.
Flammable liquids  3	Risk of fire. Risk of explosion. Containments may explode when heated.	Take cover. Keep out of low areas. Prevent leaking substances from running into the aquatic environment or the sewage system.
Flammable solids, self-reactive substances and desensitized explosives  4.1	Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames. May contain self-reactive substances that are liable to exothermic decomposition in the case of heat supply, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours. Containments may explode when heated.	Prevent leaking substances from running into the aquatic environment or the sewage system.
Substances liable to spontaneous combustion  4.2	Risk of spontaneous combustion if packages are damaged or contents are spilled. May react vigorously with water	
Substances which, in contact with water, emit flammable gases  4.3	Risk of fire and explosion in contact with water.	Spilled substances should be kept dry by covering the spillages.

Danger labels and placards number	Hazard characteristics	Additional guidance
(1)	(2)	(3)
Oxidizing substances  5.1	Risk of ignition and explosion. Risk of vigorous reaction in contact with flammable substances.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Organic peroxides  5.2	Risk of exothermic decomposition at elevated temperatures, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Toxic substances  6.1	Risk of intoxication. Risk to the aquatic environment and the sewerage system.	Use emergency escape mask.
Infectious substances  6.2	Risk of infection. Risk to the aquatic environment and the sewerage system.	
Radioactive material  7A 7B 7C 7D	Risk of intake and external radiation.	Limit time of exposure.
Fissile material  7E	Risk of nuclear chain reaction.	
Corrosive substances  8	Risk of burns. May react vigorously with each other, with water and with other substances. Risk to the aquatic environment and the sewerage system.	Prevent leaking substances from running into the aquatic environment or the sewerage system.
Miscellaneous dangerous substances and articles  9	Risk of burns. Risk of fire. Risk of explosion. Risk to the aquatic environment and the sewerage system.	Prevent leaking substances from running into the aquatic environment or the sewerage system.

Note 1: For dangerous goods with multiple risks and for mixed loads, each applicable entry shall be observed.

Note 2: Additional guidance shown above may be adapted to reflect the classes of dangerous goods to be carried and their means of transport.

The following equipment shall be carried on board the transport unit for all danger label numbers:

- for each vehicle, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- two self-standing warning signs;
- eye rinsing liquid ²⁾; and

for each member of the vehicle crew

- a warning vest (e.g. as described in the EN 471 standard);
- a pocket lamp;
- a pair of protective gloves; and
- eye protection (e.g. protective goggles).

Additional equipment required for certain classes:

- an emergency escape mask ³⁾ for each member of the vehicle crew shall be carried on board the vehicle for danger label numbers 2.3 or 6.1;
- a shovel ⁴⁾;
- a drain seal ⁴⁾;
- a collecting container made of plastics ⁴⁾.

²⁾ Not required for danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3.

³⁾ For example an emergency escape mask with a combined gas/dust filter of the A1B1E1K1-P1 or A2B2E2K2-P2 type which is similar to that described in the EN 141 standard.

⁴⁾ Only required in combination with danger label number 6.1.

⁵⁾ Only required for danger label numbers 3, 4.1, 8 and 9.

**Carriage of Dangerous Goods Regulations
and LPG CYLINDERS**

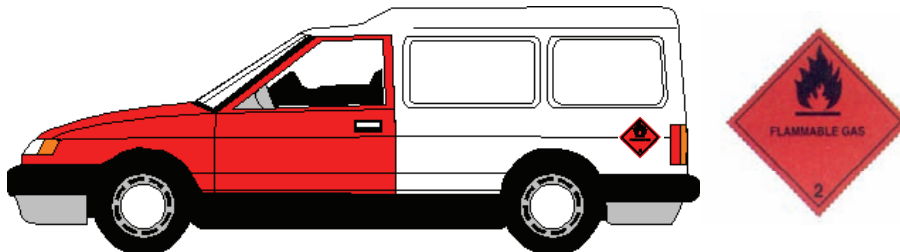
VEHICLE MARKINGS SUMMARY

All vehicles conveying 333kg or more of LPG **MUST** display two orange plates. These may be displayed when carrying below 333kg of LPG but **MUST** be removed or covered when the vehicle has had all LPG containers offloaded.

Orange-coloured panel, normally 400mm wide, 300 mm tall with 15 mm black borders, fixed in a vertical plane to the front and rear of the vehicle.



Closed Vehicles must display three hazard diamonds of an approved pattern, one on each side and one to the rear of the vehicle, when carrying LPG cylinders.



All general enquiries contact

Calor Gas Limited
Athena House
Athena Drive
Tachbrook Park
Warwick CV34 6RL

Tel: 0845 602 1143
www.calor.co.uk

CALOR GAS EMERGENCY SERVICE
0845 7 444999

(ALL CALLS CHARGED AT LOCAL RATE.)