

Health & Safety, Edinburgh Napier University

# Transportation of Gas Cylinders in Vehicles

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## 1. Introduction

All toxic and flammable gases are defined by the Road Traffic (Carriage of Dangerous Goods and Use of Transportable Pressure Equipment) Regulations. However the carriage of other types of gases, e.g. inert gases, can also create hazards if precautions are not taken. This guidance also applies to their transportation in vehicles in connection with University activities.

The regulations apply to the carriage of one or more cylinders of more than 5 litres volumetric capacity.

## 2. Driver requirements

The drivers must receive adequate and appropriate training and instruction. For vehicles with a maximum permitted weight of 3.5 tonnes or below, this training must cover:-

- The potential hazards and dangers relating to the goods carried.
- Safe handling of gas cylinders.
- The action to be taken in an emergency.
- The emergency procedures and the use of firefighting appliances.

A record of the training should be kept and the training should be periodically supplemented with refresher training to take into account regulation changes and should be verified upon commencement of employment.

**The driver must receive in writing prior to transporting the cylinders, information identifying the following:**

- The UN number.
- The proper shipping name.
- The classification of the produce as in ADR (The European Agreement Concerning the International Carriage of Dangerous Goods by Road).
- The number and content of the cylinders, including product volume or mass.
- Emergency information with clear instructions for the driver – this is known as a TREM card.
- The name and address of the consignor (the organisation sending the goods) and consignee (the recipient of the goods).
- All the information (except the emergency information) must be kept for at least 3 months after the journey.
- The gas supplier will provide all necessary information to you when you collect your gas.

It is the responsibility of the driver's Dean of School or Director of Service to ensure that arrangements are made for such requirements to be met and to monitor compliance with the procedures. The Dean of School or Director of Service is also responsible for keeping records of driver training.

### 3. Vehicle requirements

A vehicle carrying over 500Kg of a Dangerous Substance (as specified in the Regulations) must display ORANGE plates in the front and rear of the vehicle. This requirement only applies when flammable or toxic gases are being transported.

**NOTE:** *The weight refers to the product, not the gross cylinder weight.*

The plates should be fitted in a vertical plane with the longest side as the base. They must not be displayed when no Dangerous Substances are being carried.

The vehicle must be equipped with a suitable fire extinguisher.

Whilst the use of open vehicles is preferable, closed vehicles can be used for the carriage of small quantities of cylinders provided the vehicle is designed to prevent a built-up of a hazardous atmosphere in the event of a cylinder leakage. The provision of high and low vents should allow this requirement to be met. Ideally the cylinders should be in a separate compartment from the driver.

The cylinders must be adequately secured and prevented from moving.

Gas cylinders should not remain on the vehicle longer than is required to make the journey and if the vehicle is parked, it must be parked in a safe place or supervised by the driver or other competent person.

### 4. Safety rules for drivers

**Drivers must adhere to the following safety rules:-**

- Wear safety footwear, gloves and eye protection when handling cylinders.
- Do not remove/deface cylinder labels provided by gas supplier.
- Do not drop/throw cylinders when loading/unloading vehicle.
- Secure cylinders properly on vehicle.
- Ensure cylinder valves are closed before and after transportation.
- Do not smoke or expose cylinders to sources of ignition when carrying flammable gas, e.g. LPG, Hydrogen, Acetylene, etc. or Oxygen.
- Protect carbon dioxide cylinders from direct sunlight and all cylinders from heat.
- Carry LPG and acetylene cylinders in a vertical position, valve uppermost.
- Park vehicle in a safe place and contact supplier for advice if at any time a cylinder is suspected of leaking.
- If involved in a road accident, advise emergency services what cylinders are being carried, how many and show them details of gases carried.

## 5. Legislative links

<http://www.hse.gov.uk/cdg/manual/exemptions.htm>

European Agreement concerning the International Carriage of Dangerous Goods by Road

<http://www.hse.gov.uk/cdg/index.htm>

HSE information page on Carriage of Dangerous Goods