

Guideline 1 – Transporting gas cylinders and other gas products

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ANZIGA aims to:

- Consult with government authorities and organisations that make policy or prepare regulations and standards which govern the production, transportation, storage, handling and use of gases.
- Collaborate with other industry and trade organisations on safety and technical matters, including public programs that relate to the gases industry.
- Produce information that promotes the safe storage, handling and use of gases.

The members of ANZIGA produce and distribute gases for the health and medical industries, manufacturing, food, scientific and hospitality industries.

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Hazards

This section gives information on the hazards associated with the transport of gas cylinders or cryogenic receptacles—please read the rest of this section fully **before** transporting gas cylinders or cryogenic receptacles.

Compressed and liquefied gases are potentially hazardous for the following reasons:

- The gas pressure is very high and a ruptured cylinder or valve can cause serious injury or damage
- Heat may cause any safety device fitted to operate and release contents
- When a liquefied gas is released it vaporises and creates large amounts of gas
- Cryogenic liquids are very cold and can cause severe cold skin burns and brittle fracture of materials
- Some gases are very flammable and any leakage can create an explosive atmosphere in a vehicle
- Oxygen enrichment causes material to ignite easily and will increase the intensity of the fire. Nitrous oxide has similar properties.
- Inert gases can cause oxygen deficiency and asphyxiation
- Toxic or corrosive gases are hazardous to health
- Due to their size, weight and shape, moving gas cylinders creates manual handling risks.
- **Caution: Unrestrained or inadequately restrained cylinders pose a risk to people and/or damage to vehicles due to the hazards outlined above. When transporting gas cylinders always ensure that they are adequately restrained.**



Information on the hazards can be found on the cylinder label, and in the Material Safety Data Sheet that is freely available from your gas supplier.

For the purposes of this guideline:

- a cylinder pallet refers to a steel stillage for carrying cylinders;
- a cylinder pack refers to a bundle of cylinders manifolded together as a single unit ;
and
- a timber pallet is a base unit designed for the transport of general goods.

Regulation, Legislation and Industry Codes

National Transport Commission (NTC)

The National Transport Commission (NTC) is a body established under an Inter-Governmental Agreement with a charter to develop, monitor, and maintain uniform or nationally consistent regulatory and operational reforms relating to road, rail and intermodal transport. (<http://www.ntc.gov.au>)

Load Restraint Guide

The NTC publishes the Load Restraint Guide which contains the basic principles which should be followed for the safe carriage of loads on road transport. This guide is referenced in State/Territory legislation can be found at:
<http://www.ntc.gov.au/viewpage.aspx?documentid=00862>

Dangerous Goods

The States and Territories have legislative responsibility for the road and rail transport of Dangerous Goods and the National Transport Commission (NTC) has a role in maintaining and updating the Australian Dangerous Goods Code (Road and Rail) (ADG Code) and its associated model legislation.

Australian Dangerous Goods Code (ADG Code)

This Code is a reference document setting out detailed technical and procedural requirements for a range of activities performed in the day-to-day preparation for and transportation of dangerous goods by either road or rail. This Code also contains a number of non-mandatory provisions or guidelines and a small number of exemptions. The purpose of this Code is to ensure uniformity and consistency in technical requirements across jurisdictions applying to the land transport task.

The code can be found at: <http://www.ntc.gov.au/viewpage.aspx?DocumentId=01147>

State & Territory Dangerous Goods legislation

ACT:	www.workcover.act.gov.au/
NSW:	www.environment.nsw.gov.au/prdg/index.htm
NT:	www.worksafe.nt.gov.au
Queensland:	www.transport.qld.gov.au/dangerousgoods
South Australia:	www.safework.sa.gov.au
Tasmania:	www.workcover.tas.gov.au/node/workcover.htm
Victoria:	http://www.worksafe.vic.gov.au/
WA:	http://www.docep.wa.gov.au/resourcesSafety/Content/Dangerous_Goods/index.htm

Chain of Responsibility Legislation

National Transport Commission:	Chain of Responsibility Information Bulletin Road Transport Reform (Compliance and Enforcement) Bill Information Bulletin
NSW:	http://www.rta.nsw.gov.au/heavyvehicles/complianceenforcement/index.html?hvfid=1
Victoria:	http://www.vicroads.vic.gov.au/Home/Moreinfoandservices/HeavyVehicles/ComplianceAndAccreditation/ChainOfResponsibility.htm
Queensland:	http://www.transport.qld.gov.au/Home/Industry/Freight_and_heavy_vehicles/Heavy_vehicles/National_compliance_and_enforcement_bill/Chain_of_responsibility/
South Australia:	http://www.transport.sa.gov.au/pdfs/legislation/fact_sheet_02b.pdf

Carrying a load safely

Choosing a vehicle wisely

The vehicle must be suitable for the size and type of load.

The vehicle must be equipped to conform to the requirements of the transport of dangerous goods regulations.

The maximum payload of the vehicle must not be exceeded.

Positioning the load correctly

The load must be correctly positioned on the vehicle to maintain its stability.

Acetylene, LPG cylinders and liquefied gases must always be transported in an upright position.

Using suitable restraint equipment

The load restraint equipment and the vehicle body and attachments must be strong enough for each type of load carried, and must be in good working condition.

Providing adequate load restraint

Every load must be restrained to prevent unacceptable movement during all expected conditions of operation.

For more information refer to *Load Restraint Guide*, published by the National Transport Commission.

Responsibilities

Refer to the *Chain of Responsibility Legislation* for a more detailed explanation of responsibilities.

Consignor/Dispatcher

The Consignor (or Dispatcher) despatches goods for delivery.

If you are a Consignor/Dispatcher, ensure your delivery request doesn't require a driver to:

- Transport goods that cause vehicle dimension or mass limits to be exceeded
- Inappropriately position or restrain the load
- Exceed the permitted number of driving hours
- Fail to have minimum rest periods
- Exceed the speed limits

Loader

The Loader loads goods onto the vehicle.

If you are a loader, ensure the vehicle loads:

- Do not exceed the dimension or mass limits
- Can not cause the vehicle to become unstable
- Can not dislodge from the vehicle

The Loader is responsible for ensuring:

- All dangerous goods are inspected, loaded correctly, and are accompanied by the correct paperwork
- A contractor checklist or certificate is completed and signed by a competent person, every time a contractor vehicle is loaded

Note: The vehicle owner is responsible for vehicle roadworthiness.

The loader may not load the vehicle if it is not deemed to be roadworthy or suitable for the purposes of the load.

Driver

The Driver transports the load to its destination.

If you are a Driver, ensure that:

- The vehicle does not exceed dimension or mass limits
- The load does not make the vehicle unstable
- The load is appropriately restrained
- All required equipment is properly fitted to the vehicle
- Required rest breaks are taken and driving hours regulations and speed limits are observed
- The load is secure. Restraints should be checked at regular intervals
- Safe and responsible driving behaviour is demonstrated at all times
- You understand what has been loaded on the vehicle and the potential hazards and risks associated with the load
- You are aware of the initial emergency procedures required in case of an incident
- You have undergone training specific to the load you are carrying
- You update the schedule of dangerous goods quantities on your load plan

- You maintain security of your load
- You carry the appropriate dangerous goods license as required
- You have in your possession the appropriate shipping documentation e.g. dangerous goods manifest as per the requirements of the ADG Code.

Dangerous Goods requirements

The purpose of the section below is to ensure compliance with government regulations and industry standards for loading and transporting cylinders in contractor's vehicles.

Third party haulers (Contractors)

All third party haulers used to transport dangerous goods must comply with government regulations and industry standards. The Australian Dangerous Goods Code (ADG Code) specifies limits above which vehicles must display placards and imposes other additional requirements e.g. fire extinguisher, manifest, EPG etc. Refer to ADG Code for further information.

Vehicle equipment

The vehicle must:

- Be equipped with fire extinguishers and minimal ppe as per table 12.2 ADG Code version 7
- Have a load restraint system capable of preventing the load from dislodging during normal conditions of transport
- Not have gas cylinders protruding more than 30% above the height of side gates of the vehicle.

For placarded loads, the transport emergency instructions are required as per ADG Code and **must** be on display before the vehicle leaves the premises. These are normally inside, or near the driver's door.

Note: Individual gas cylinder suppliers may impose their own stricter load limits based upon the product being carried and their assessment of the risk associated with the particular vehicle.

Segregation

All segregation requirements specified in the ADG Code (Section 9, table 9) must be applied.

Placards

The vehicle must be fitted with the appropriate placards or signs as per the ADG Code. A placard is a 250mm Dangerous Goods Division (Class) label that must be attached at the front and rear of the vehicle. Placards are required if the following is carried:

Quantities greater than 250 litre W.C.* of Division (Class) 2.1 (flammable gas) such as:

- Acetylene
- Hydrogen
- LPG

OR Quantities greater than 1,000 litre W.C.* of Division (Class) 2.2 (inert and oxidising gas), such as:

- | | |
|------------------|-----------------|
| • Argon | • Nitrogen |
| • Carbon Dioxide | • Nitrous Oxide |
| • Helium | • Oxygen |

OR Quantities greater than 250 litre W.C.* of Division (Class) 2.3 (toxic gas)

OR Quantities greater than 250 litre W.C.* of mixed Division (Class) loads

OR Quantities of Dry Ice greater than 400kg Class 9

*W.C. = Water Capacity

Your vehicle will not be loaded if legislative requirements are not met.

Restraining gas cylinders

Inside a pallet

Information on how to restrain gas cylinders and cryogenic receptacles in a cylinder pallet is found in:

- *Guideline 2 – Restraining gas cylinders for transport inside a cylinder pallet*

Onto or inside a vehicle

Information on how to restrain gas cylinders and cryogenic receptacles in a vehicle is found in:

- *Guideline 3 – Restraining cylinder pallets and packs of gas cylinders for transport*
- *Guideline 4 – Restraining individual gas cylinders & other gas products for transport*

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