



Dangerous Goods Safety Bulletin No. 0217

Emergency breakdown procedures when transporting unodourised LP gas

Background

Following a recent incident the Department has concerns regarding work practices in emergency breakdown situations for vehicles carrying unodourised liquefied petroleum (LP) gas. Especially in remote or rural areas away from appropriately trained maintenance workers.

During an inspection in a regional centre, a tanker containing unodourised LP gas residue, was observed parked-up on a side road in a major industrial area. A local mechanic was repairing the vehicle in the driver's presence, undertaking hot work on wheel-bearings which had been overheating.

The hot work was being done without a hot work permit, an established exclusion zone and continuous gas monitoring.

Note: The transport of unodourised LP gas must comply with special provision AU03 of Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code). Part of this provision requires that properly calibrated and operational gas monitors be used to monitor atmosphere for presence of unodourised LP gas in the vicinity of the load.

The vehicle's gas monitors were not charged and there were no records of readings taken at the vehicle's last stop as required by special provision AU03. The mechanic also had no hazardous areas awareness training.

Summary of hazard

LP gas is extremely flammable. It ignites easily at room temperature and when mixed with air in an enclosed space, it can quickly form an explosive mixture. Conducting hot work activities in a hazardous area creates a significant risk of fire or explosion.

Unodourised LP gas presents an additional risk as it does not contain any mercaptans which produce a smell; therefore a gas detector is required to detect leaks.

Contributory factors

- Failure to follow hot work safety procedures and special provision AU03.
- No procedure or plan for vehicle breakdowns in regional areas.
- Inadequate training and supervision of maintenance contractors.
- Insufficient number of charging units for all electrical equipment (gas detectors) in vehicles.

Actions required

A prime contractor who transports dangerous goods must take all reasonably practicable measures to minimise the risk to people, property and the environment from

the dangerous goods. They must also ensure that any ignition source in a hazardous area is eliminated or, if this is not reasonably practicable, the risk arising from an ignition source is controlled.

The following actions are recommended when transporting unodourised LP gas.

Safe systems of work

- Review maintenance procedures and if required, update to cover emergency breakdowns in remote areas in accordance with Section 11.8.6, AS/NZS 1596 *The storage and handling of LP Gas*.
- Complete a job safety analysis to identify hazards prior to commencing any hot work in hazardous areas.
- Use a permit-to-work system to authorise all hot work and identify the required precautionary measures.
- Provide appropriate and regular training (including refresher training for long-term employees) on hot work procedures, the proper use and calibration of gas detectors and job specific hazards.
- Regularly audit gas leak test records to ensure that gas detector monitoring is being undertaken as required by special provision AU03.

Maintenance and supervision

- Avoid hot work and use alternative methods whenever possible.
- Install additional hard-wired, gas-detector charging units in ad-hoc vehicles.
- Adequately supervise maintenance contractors conducting hot work and provide them with sufficient information about the specific hazards around dangerous goods.
- Consider pre-qualification of maintenance contractors in major regional centres.

Further information

- Standards Australia, www.standards.org.au
AS/NZS 1596 The storage and handling of LP Gas
- National Transport Commission, www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code
Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.4

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