



**Australian Government**

**Assessment Requirements for MARA012  
Contribute to basic cargo operations on  
liquefied gas tankers**

**Release: 1**

# Assessment Requirements for MARA012 Contribute to basic cargo operations on liquefied gas tankers

## Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- assisting in implementing shipboard spill containment procedures
- communicating clearly and effectively
- contributing to cargo operations in accordance with principles and procedures
- identifying hazards, assessing risks and applying control measures in accordance with safety management systems (SMS)
- measuring for gas using monitoring instruments
- reading and interpreting safety data sheets (SDS)/material safety data sheets (MSDS), relevant cargo-related hazards to vessel and to personnel, and taking appropriate action according to organisational procedures
- recognising problems and hazards that can arise when managing safety on a liquefied gas tanker in accordance with SMS
- reporting relevant information to the responsible person.

## Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- cargo handling equipment, including cargo compressors
- cargo types, characteristics and their properties
- chemical symbols
- effects of brittle fracture and prevention
- effects of pollution on human and marine life
- electrical safety
- emergency response procedures, including emergency organisation and alarms
- emergency shutdown (ESD) system
- fire hazards associated with cargo handling and transportation of liquefied gases in bulk
- firefighting agents and systems used to extinguish gas fires
- gas testing and monitoring instruments
- general arrangement and construction of liquefied gas tankers

- hazards and hazard control measures associated with tanker operations, including:
  - anti-static measures
  - atmospheric control
  - cargo inhibition
  - corrosion
  - cryogenic effects on the hull
  - electrical
  - electrostatic
  - enclosed space
  - environmental
  - explosion and flammability
  - extremely low temperatures
  - fire
  - gas testing
  - health hazards
  - hot and cold work
  - importance of cargo compatibility
  - inerting, drying and monitoring techniques
  - loss of containment
  - pollution
  - pressure
  - reactivity
  - repair and maintenance work
  - segregation
  - sources of ignition
  - toxicity
  - transport of cargo
  - vapour leaks and clouds
  - ventilation
- importance of cargo compatibility
- information on SDS/MSDS
- interpreting liquefied gas tanker layouts, tanker cargo features, characteristics and hazards
- loading, unloading and care in transit
- piping systems and valves
- precautions to be taken:
  - before and during repair and maintenance work
  - when entering enclosed spaces
- liquefied gas tanker cleaning, purging, gas-freeing and inerting
- liquefied gas tanker safety culture and safety management
- pressure and temperature, including vapour pressure/temperature relationship

- relevant firefighting operations and the use of firefighting installations
- reliquefaction systems and control of boil-off
- ship/shore safety checklist
- tank evacuation (rescue and escape) equipment
- types of electrostatic charge generation
- types of liquefied gas tankers
- using SDS/MSDS information when applying first aid
- using types of personal protective equipment (PPE), including:
  - breathing apparatus
  - resuscitators
- work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices.

## Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry, including gas monitoring instruments and oxygen indicators.

## Links

Companion Volume implementation guide can be found in VetNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>