



Australian Government

**Assessment Requirements for MARA013
Contribute to basic cargo operations on oil
and chemical tankers (basic oil and
chemical)**

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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
- applying cargo operations, including:
 - cargo handling equipment
 - loading, unloading and care in transit
 - piping systems and valves
 - tank cleaning, purging, gas-freeing and inerting
- communicating clearly and effectively
- correctly identifying safety data sheets (SDS)/material safety data sheets (MSDS), relevant cargo-related hazards to vessel and to personnel, and taking appropriate actions
- ensuring cargo operations are carried out according to accepted principles and procedures to ensure safety of operations
- identifying and acting on hazardous situations
- interpreting and applying knowledge of tanker layouts, tanker cargo features, characteristics and hazards, and related hazard prevention strategies to duties on various types of tankers and gas carriers
- reading and interpreting SDS/MSDS
- recognising problems and hazards that can arise when managing safety on a tanker, taking appropriate remedial action and initiating appropriate solutions
- 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:

- actions to be taken in the event of spillage
- alarms
- ballast voyage
- cargo and pumps
- cargo heating systems
- cargo measurement systems
- crude oil washing
- effects of oil and chemical pollution on human and marine life
- electrical safety precautions
- emergency procedures and emergency shutdown (ESD)
- features and characteristics of oil and chemical tankers
- features and characteristics of various types of tanker cargo
- firefighting agents used to extinguish oil and chemical fires
- firefighting systems on tankers, including:
 - firefighting agents
 - fixed dry chemical systems
 - fixed foam systems
 - portable foam systems
- fire hazards associated with cargo handling and transportation of hazardous and noxious liquids in bulk
- functions and processes for the calibration of various types of measuring instruments and devices used to test environments on tankers and gas carriers
- general arrangement and construction of tankers
- hazard control procedures on oil and chemical tankers
- hazards and control measures associated with tanker cargo operations
- hazards associated with:
 - carriage of bulk liquids and chemicals
 - tanker operations
- hazards to the environment
- inert gas systems
- information on SDS/MSDS
- loading and unloading
- measures to be taken in the event of spillage
- oil and chemical tanker fire response organisation and actions to be taken, including in the event of spillage
- physical properties of oil and chemicals, including:
 - chemical symbols
 - pressure and temperature, including vapour
 - pressure/temperature relationship

- types of electrostatic charge generation
- piping systems and valves
- precautions to be taken before and during repair and maintenance work
- precautions to be taken when entering into enclosed spaces
- principles of chemistry as they relate to tanker operations
- procedures for the safe use of personal protective equipment (PPE), including:
 - breathing apparatus
 - resuscitators
- procedures to prevent air and water pollution
- safety measures for hot and cold work
- ship to shore safety checklists
- shipboard pollution prevention plans, including:
 - shipboard procedures to prevent pollution and spill-containment procedures
 - Shipboard Oil Pollution Emergency Plan (SOPEP)
 - Shipboard Marine Pollution Emergency Plan (SMPEP) for noxious liquid substances (NLS)
- slops and slops disposal
- tanker cleaning, purging, gas-freeing and inerting
- tanker safety culture and safety management
- types of hazards and hazard controls, including:
 - anti-static measures
 - atmospheric control
 - cargo inhibition
 - corrosion
 - electrostatic
 - environmental
 - explosions and flammability
 - gas testing
 - health hazards
 - importance of cargo compatibility
 - inerting, drying and monitoring techniques
 - oxygen deficiency
 - reactivity
 - segregation
 - sources of ignition
 - toxicity
 - vapour leaks and clouds
 - ventilation
- tank evacuating (rescue and escape) equipment
- terminology relating to the structure capacities and operations of various types of tankers and gas carriers

- types of oil and chemical tankers
- use of SDS/MSDS to provide first aid
- work health and safety (WHS)/occupational health and safety (WHS/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:
 - firefighting agents
 - fixed dry chemical systems
 - fixed foam systems
 - portable foam systems.

Links

Companion Volume implementation guide can be found in VetNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>