



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **TLIC4065A Operate chemical tanker**

**Release: 1**

## **TLIC4065A Operate chemical tanker**

### **Modification History**

Not applicable.

### **Unit Descriptor**

This unit involves the skills and knowledge required to operate a chemical tanker.

Licensing, legislative, regulatory and certification requirements are applicable to this unit.

### **Application of the Unit**

A chemical tanker vehicle must be operated in compliance with the Dangerous Goods Act and vehicle licence requirements and regulations pertaining to heavy vehicles relative to the relevant state and territory and traffic authorities.

A chemical tanker is operated with limited or minimum supervision, with accountability and responsibility for self and others in achieving the prescribed outcomes.

### **Licensing/Regulatory Information**

Refer to Unit Descriptor.

### **Pre-Requisites**

Not Applicable.

### **Employability Skills Information**

This unit contains employability skills.

## **Elements and Performance Criteria Pre-Content**

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

### ELEMENT

### PERFORMANCE CRITERIA

**1. Identify the properties and hazards of the chemicals being transported and the features of the chemical tankers that transport chemicals**

1.1 UN number, product class, its packing group and any sub-risks of the fuel being transported are identified in accordance with emergency response documentation

1.2 Approved handler and approved filler requirements for the chemicals being transported are identified in accordance with the regulatory requirements

1.3 Properties of the chemicals being transported are identified in accordance with emergency response documentation

1.4 Hazards associated with the chemicals being transported are identified in accordance with emergency response documentation

1.5 Hazardous atmosphere zones are identified in accordance with organisational requirements

1.6 Circumstances in which a chemical tanker may be left unattended are described in accordance with the current Australian Dangerous Goods (ADG) Code and company procedures

1.7 Functions of equipment fitted to a chemical tanker are identified in relation to the safe transfer and transport of chemicals

1.8 Factors that cause static electricity and ways of minimising the risks associated with it are identified in accordance with organisational requirements

## **2. Carry out a pre-trip inspection**

2.1 Vehicle is inspected to confirm that the tanker 5-yearly hydrostatic test is current, that it is tagged and compliant with the ADG Code, and meets company procedures; and non-compliant vehicles or trailers are repaired or reported in accordance with company procedures

2.2 Vehicle load transfer equipment is inspected to confirm security and state of repair, and that all hoses are tested and tagged according to the ADG Code; and non-compliant equipment is repaired or reported in accordance with company procedures

2.3 Safety equipment is inspected to confirm that it meets organisational and ADG Code requirements, is accessible and properly maintained, stowed and secured; and unserviceable items, or items with expired test dates, are replaced or reported in accordance with company procedures

2.4 Personal protective equipment (PPE) is inspected to confirm that it is available, ready for use, and meets ADG Code requirements

2.5 Dangerous goods placards are inspected to confirm that they are correct for the load being carried and are displayed in accordance with the current ADG Code

## **3. Position the chemical tanker and prepare to load**

3.1 Vehicle is driven into the loading site in accordance with site procedures and using PPE that complies with organisational and regulatory requirements

3.2 Vehicle is positioned without injury to people or damage to property and in a position that enables loading to be carried out in accordance with site procedures

3.3 Park brake is applied, engine turned off and, where applicable, battery is isolated

3.4 Locations of emergency equipment and emergency procedures are identified before loading commences

3.5 Product type and quantity to be loaded are checked to confirm that they are in accordance with delivery documentation and are within the safe carrying capacity and gross weight limitations of the vehicle, and any discrepancies are rectified in accordance with company procedures

### 3.6 Product transfer equipment is connected in accordance with organisational requirements

#### **4. Load a chemical tanker with chemicals**

- 4.1 Site procedures are followed for commencement of the loading process
- 4.2 Products to be loaded are checked for compatibility and correct segregation, also taking account of product sub-risks
- 4.3 Products to be loaded are checked to ensure that they are compatible with the tanker and that tanker is fit for purpose
- 4.4 Loading process and fill levels are monitored by the driver in accordance with company and site procedures
- 4.5 Vehicle is safely loaded with chemicals using only approved equipment and in accordance with organisational and regulatory requirements
- 4.6 At completion of the loading process, all valves on the vehicle and load-out facility are closed and where site procedures specify, then all transfer equipment is vented and/or depressurised before being disconnected and stowed, with all equipment secured in accordance with site and company procedures
- 4.7 Loaded vehicle is confirmed as being within legal weight limitations and complying with company and regulatory procedures
- 4.8 Loaded vehicle is inspected pre-departure to ensure all hoses, pipes and cables are disconnected and secure, brake interlock is deactivated if fitted, and any obstacles cleared in accordance with company and site procedures
- 4.9 Site is restored to a clean and tidy condition in accordance with site procedures
- 4.10 Vehicle is moved from the loading area without damage to property or injury to people and in accordance with site procedures
- 4.11 Delivery documentation is completed, checked, and secured in the vehicle in accordance with regulatory requirements
- 4.12 Vehicle and tanker are checked to ensure correct placarding

**5. Transport a load safely and efficiently to a customer site**

5.1 Tanker is driven and manoeuvred in accordance with legal requirements, taking into consideration eco-driving techniques

5.2 Any prescribed routes are followed in accordance with organisational requirements, exhibiting courtesy and professionalism toward other road users

**6. Deliver a load of chemicals to a customer site**

6.1 Pre-delivery assessment is made before entering the delivery site, and site features that constitute a hazard and/or prevent delivery are rectified or reported in accordance with organisational and site requirements

6.2 Any site instructions and/or restrictions are complied with

6.3 Vehicle is manoeuvred and positioned in such a way that the product can be delivered efficiently and safely, with the park brake applied and engine, unless required for pumping, turned off

6.4 PPE is used in accordance with organisational and regulatory requirements and steps are taken to apply personal safety measures

6.5 Worksite is marked with signs and/or cones and driver remains with the vehicle and manages the delivery, managing potential hazards in accordance with organisational and site requirements

6.6 Receiving vessel and components are checked for damage, and contents are checked to ensure sufficient ullage exists for the delivery, with any deficiencies reported or actioned in accordance with company and site procedures

6.7 Preparation for delivery is consistent with organisational and site requirements

6.8 Product type and quantity are confirmed against delivery documents

6.9 Delivery is undertaken in line with the product being delivered, company and site procedures, and special delivery instructions

6.10 Pressure gauges if fitted are checked, valves opened and closed in the correct sequence, and hoses and connections checked for leaks

6.11 At the completion of delivery, product transfer equipment is disconnected in accordance with the product type, and company and site procedures



6.12 Site is secured and restored to a clean and tidy condition in accordance with site procedures

6.13 Delivery documentation is completed to reflect changes in vehicle load and receiving vessel, and distributed in accordance with organisational and regulatory requirements

6.14 Vehicle is inspected pre-departure in accordance with organisational requirements

6.15 Vehicle is driven from the site safely and in accordance with site and organisational procedures

**7. Apply driver emergency procedures in the event of an emergency**

7.1 Procedures for emergencies that may occur during loading and unloading are followed in accordance with emergency response documentation and organisational transport emergency response plan (TERP)

7.2 Procedures for emergencies that may occur in transit are identified in accordance with emergency response documentation and organisational TERP

7.3 Emergency response documentation and organisational requirements are followed in initial responses to a person exposed to the chemicals being transported

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills required at the completion of this unit.

#### Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state and territory roads and traffic authority
- Relevant OH&S and environmental procedures and regulations relating to chemical tanker operations
- Relevant dangerous goods information pertaining to operating chemical tankers
- Workplace driving and operational instructions
- Procedures to be followed in the event of a driving emergency and in response to a TERP
- Efficient driving techniques and eco-driving considerations
- Safe delivery of chemicals to a customer site
- Factors that may cause traffic delays and diversions
- Loading and unloading procedures for chemical tankers
- Factors involved in trip preparation
- Workplace documentation

#### Required skills:

- Current dangerous goods licence
- Identify a product and placard the tanker accordingly
- Read and interpret instructions, procedures, information and signs relevant to operating chemical tankers
- Interpret and follow operational instructions and prioritise work
- Complete documentation relating to operating chemical tankers
- Work collaboratively with others when operating a chemical tanker
- Adapt appropriately to cultural differences in the workplace and customer sites, including modes of behaviour and interaction with others
- Implement contingency plans for unexpected events when operating a chemical tanker
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when operating a chemical tanker
- Monitor and anticipate traffic hazards and take appropriate action
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment

- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required PPE, conforming to industry and OH&S standards
- Monitor performance of chemical tanker, its trailers and equipment, and take appropriate action where required

# Evidence Guide

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency in this unit**

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
  - applying techniques for loading and unloading a chemical tanker
  - identifying the properties of the chemicals to be carried
  - applying the correct placarding required for the product being loaded
  - identifying the PPE required for the product being transported
  - applying eco-driving techniques when operating chemical tankers
  - understanding relevant legislation and workplace procedures for transporting chemicals
  - understanding customer requirements when delivering fuel to a customer's site
  - planning routes to avoid congested areas, tunnels or areas where people may congregate

### **Context of and specific resources for assessment**

- Access is required to:
  - relevant and appropriate materials and equipment to meet the performance criteria
  - applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals

### **Method of assessment**

- Practical assessment must occur:
  - in three different aspects of the job function in the workplace
  - ensuring written and verbal understanding of all classes to identify compatibility, e.g. tanker with product
- A simulator is not suitable for final assessment of this unit of competency

## Range Statement

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

**Properties and hazards of chemicals include understanding:**

- effect of heat and pressure on the chemical when stored in a container
- characteristics of the fuel in a leak, fire situation, or in the presence of static electricity
- density
- odour
- expansion rates
- segregation requirements

**Equipment fitted to a chemical tanker may include:**

- eyewash kit
- fire extinguishers
- emergency shutdown controls
- emergency information holder
- all vehicle configurations

**Chemical tanker vehicle includes:**

**Loading and unloading site may include:**

- refinery
- customer site
- depot

**Personal safety measures may include:**

- manual-lifting techniques
- three points of contact when using ladders
- correct use of safety rails and walkways
- safety footwear
- high visibility clothing
- hearing protection
- PPE required for the product class being transported

**Product transfer equipment may include:**

- delivery hoses
- scully systems
- external piping and fittings
- bonding devices
- pressure vessels
- master switch
- valves
- warning devices
- brake interlock
- pressure and ullage gauges

**Eco driving includes:**

- observing speed limits
- ensuring transmission control

**Factors that can cause traffic delays and diversions may include:**

- using auxiliary braking systems
- traffic accidents
- flooded sections of road
- road damage
- bridge or tunnel damage
- road works
- building construction
- emergency situations, such as bushfires
- livestock movement
- holiday traffic
- road closures for utility works, such as electricity, water, sewerage and telecommunications

**Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:**

- company procedures
- enterprise procedures
- organisational procedures
- established procedures
- regulatory procedures

**Documentation and records may include:**

- dangerous goods paperwork
- emergency procedure guides or HB76 Handbook
- dangerous goods licence
- site inductions
- state and territory heavy vehicle driving licence or permit requirements
- state and territory road rules
- workplace driving instructions and procedures
- vehicle manufacturer instructions, specifications and recommended driving procedures, including pre-operational checks of vehicle
- emergency procedures
- TERP
- vehicle work diaries or record books

**Applicable procedures and codes may include:**

- Australian code for the transport of dangerous goods by road or rail: the current ADG Code
- relevant state and territory:
  - roads and traffic authority driving regulations and licence or permit requirements pertaining to operating heavy vehicles on unsealed roads
  - road rules
  - OH&S legislation

- fatigue management regulations

### **Unit Sector(s)**

Not applicable.

### **Competency Field**

C – Vehicle Operation