



Australian Government

MSMWHHS217 Gas test atmospheres

Release: 1

MSMWHS217 Gas test atmospheres

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS217A Gas test atmospheres

Application

This unit of competency covers the skills and knowledge required to test the working atmosphere, using electronic test apparatus, to find out if it is safe for the proposed work.

It applies to situations where an individual may be required to carry out gas testing of an atmosphere prior to entering a specific area or workspace. The competency requires the person to interpret readings and take actions based on the interpretation.

Working environment may be hazardous, unpredictable, subject to time pressure, chaotic and expose responders to risk, on land or water, by day or night. Workplace atmospheres may include visible and invisible hazards and hazardous surfaces.

The unit is suitable for use in the following situations:

- confined spaces
- enclosed and partially enclosed spaces
- hot work
- storage tanks, silos, pits, pipes, shafts, ducts, transport vehicles and ships
- testing as part of issuing a work permit
- monitoring as part of working under a work permit
- open areas
- holding the gas tester by hand
- lowering the gas tester into a space, e.g. on a line.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Pre-requisite Unit

Nil

Competency Field

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

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|---|-------------------------|--|
| 1 | Prepare for gas testing | 1.1 Find out type of gas/atmosphere to be tested |
| | | 1.2 Select and calibrate equipment in accordance with procedures |
| | | 1.3 Find out gas testing regime/sampling pattern required |
| | | 1.4 Identify hazards from possible atmosphere contaminants |
| | | 1.5 Implement hazard control measures and use of appropriate personal protective equipment (PPE) |
| | | |
| 2 | Test gas | 2.1 Use gas testing equipment to test gas as required |
| | | 2.2 Interpret and report readings |
| | | 2.3 Monitor gas on an ongoing basis as required |
| | | 2.4 Take required action if readings are unacceptable |
| | | 2.5 Communicate required actions to be taken to appropriate personnel |
| | | |
| 3 | Maintain equipment | 3.1 Clean and maintain gas testing equipment in accordance with procedures |
| | | 3.2 Inspect and fault-find monitoring equipment in accordance with procedures |
| | | 3.3 Return gas testing equipment to required location and in required condition |
| | | 3.4 Maintain records of tests and results in accordance with procedures |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements
- AS 2865-2009 Confined spaces
- AS 1674.1-1997 Welding and allied processes - Fire precautions

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Tools and equipment Tools and equipment include one or more of the following:

- portable instruments
- sampling tubes and pumps
- oxygen level meter

- combustible gas detectors
- other hazardous gas meters
- PPE

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems include one or more of the following:

- changes in readings
- unexpected readings
- faults in equipment

Known solutions include one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- fire and explosion
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions

- slippery surfaces, spills or leaks
- limited head spaces or overhangs
- extreme weather
- other hazards that might arise

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS217A Gas test atmospheres

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMWHS217 Gas test atmospheres

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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 and must include the ability to:

- recognise and assess conditions that require testing
- identify the appropriate action according to procedures and within scope of responsibility, including:
 - selecting, preparing and using gas testing equipment
 - applying testing regime
 - selecting and using personal protective equipment (PPE)
 - identifying hazards and applying control measures
 - cleaning and maintaining equipment
- take readings and interpret, report/record relevant data
- apply known solutions to routine problems
- communicate clearly and unambiguously with a range of personnel on safety conditions and procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including:
 - work permit systems
 - safety, hazards and hazard control
 - incident, fire and accident
 - PPE
 - organisation standard operating procedures (SOPs)
- common atmospheric hazards and contaminants
- explosive range, upper and lower explosive limits
- exposure standards (time-weighted average, short-term exposure limits, peak limitation values, and examination of toxic effect at the level of a range of flammable gases)
- conditions under which atmospheres become hazardous
- units of measurement used to express concentration of atmospheric contaminants (mg/cubic m. ppm, % v/v).

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - must include the use of the relevant gas testing meters and any other relevant tools, equipment and safety gear, and require demonstration of preparation, operation, completion and responding to problems
 - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
 - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - demonstration of skills
 - industry-based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

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