



**Australian Government**

# **Assessment Requirements for MSS025009 Perform sampling and testing of air**

**Release: 1**

# Assessment Requirements for MSS025009 Perform sampling and testing of air

## Modification History

Release 1. Supersedes and is equivalent to MSS025009A Perform sampling and testing of air

## Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- collecting, preserving and labelling a set of representative air samples for at least one (1) site in accordance with a given sampling plan
- preparing air (sub)samples and conducting at least two (2) field tests using given test methods
- preparing air (sub)samples and conducting at least two (2) laboratory tests using given test methods
- planning field and laboratory activities
- selecting and checking all required field equipment, test instruments and materials
- using sampling equipment to obtain reliable, representative air samples in accordance with sampling plan and paying close attention to any pre-treatment, containers, preservation, storage, labelling and traceability requirements
- identifying atypical samples and taking appropriate action
- setting-up, calibrating and operating field/laboratory test instruments to obtain valid and reliable data in accordance with test methods
- interpreting gross features of data, identifying atypical results as out-of-normal range or an artefact and making relevant conclusions
- identifying and rectifying basic instrument faults
- calculating results using appropriate units/precision and/or preparing calibration graphs
- using established criteria to make valid conclusions about air quality, if relevant
- providing accurate, complete records of sampling and testing, site observations and data
- presenting and reporting results in accordance with workplace procedures
- seeking advice when issues/problems are beyond scope of competence/responsibility
- safely transporting, cleaning, maintaining and storing field equipment in accordance with workplace procedures
- working safely and following requirements for the disposal of waste and the preservation of the environment.

## Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific terminology used in job role covering atmospheric science, air measurement and air pollution

- structure, circulation and composition of the atmosphere
- atmospheric stability, lapse rates and inversions
- localised meteorology and dispersion of air pollutants
- air pollutants, such as:
  - particulates (e.g. inorganics, organics and metals)
  - inorganic gases (e.g. CO, CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, ammonia, acid rain, halogens and ozone)
  - organic gases (e.g. hydrocarbons, oxygen, halogens, sulphur and nitrogen containing organics)
  - photochemical smog, greenhouse gases and ozone depletion
- principles of air quality sampling and analysis, methods and standards
- function of key components and operating principles of common air quality instruments
- specific legislation, regulations, standards, statutory limits, policies and codes of practice related to air pollution and air quality monitoring
- field sampling and monitoring procedures including labelling, preservation, storage and traceability
- relevant hazards, health, safety and environment requirements, including field safety principles.

## Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
  - inspection of air samples collected by the candidate
  - review of air quality measurements, test results, calculations and observations and/or reports produced by the candidate
  - review of sampling/testing records completed by the candidate
  - feedback from supervisors about the candidate's ability to apply workplace procedures and air sampling/test methods consistently, work safely and produce results within the agreed timeframe

- oral and/or written questions to check the candidate's understanding of the principles of air quality sampling/testing, operation of air sampling equipment, test instruments and processing of data.
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - vehicles, survey equipment, camera, air sampling/monitoring equipment, field/laboratory test instruments, consumables and manuals
  - work program, workplace procedures, codes of practice, site maps, site monitoring plans and test methods and field protocols.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>