



Australian Government

Department of Education, Employment and Workplace Relations

PUAFIR307B Monitor hazardous atmospheres

Release: 1

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Modification History

Not applicable.

Unit Descriptor

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This unit covers competence in monitoring atmospheric conditions to measure contaminants, interpret readings, recommend action to take based on the interpretation, and the effects on humans exposed to hazardous atmospheres.

Application of the Unit

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The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite Unit/s

PUAFIR207B Operate breathing apparatus open circuit

Employability Skills Information

Employability Skills 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. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. **Prepare and plan for monitoring**

1.1 ***Equipment*** is selected, calibrated and used to take atmospheric readings in accordance with the manufacturer's specifications and the organisation's requirements

2. **Take precautions to safeguard health**

2.1 ***Safety information and procedures*** are accessed and applied throughout the work

2.2 Appropriate personal protective clothing and equipment is selected and used

2.3 Recommendations on actions to be taken are made based on atmospheric readings

3. **Take atmospheric readings**

3.1 Readings of contaminants are interpreted, recorded and analysed and/or compared with specifications and exposure limits

3.2 Results are communicated in accordance with organisation's procedures

4. **Maintain equipment**

4.1 Monitoring equipment inspections and fault finding are carried out in accordance with manufacturers instructions

4.2 Records of tests and results are maintained in accordance with the organisation's procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

Don, operate in, decontaminate and remove personal protective clothing and equipment

Analyse and communicate results of sampling

Required Knowledge

use and limitations of protective clothing and equipment

risk assessment

applicable exemptions for emergency services

purging agents

common chemical asphyxiants including: hydrocarbons, carbon dioxide, carbon monoxide, hydrogen cyanide, and hydrogen sulphide

common irritants and corrosives including: chlorine, ammonia and acid bases

common flammable gases including: acetylene, petroleum, methane, ethane, propane and butane

narcotics

(explosive range, upper and lower explosive limits)

exposure standards (time weighted average, short term exposure limits, peak limitation values, examination of toxic effect at the level of a range of flammable gases)

conditions under which atmospheres become hazardous

organisational procedures for entering hazardous atmospheres

toxic effects on humans exposed to commonly encountered combustion gases

units of measurement used to express concentration of atmospheric contaminants (mg/cubic m, ppm, % v/v)

Evidence Guide

EVIDENCE GUIDE

EVIDENCE GUIDE

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

It is essential in this unit that competence be demonstrated in:

- applying personal safety principles
- interpreting atmospheric conditions using atmospheric monitoring equipment
- recommending appropriate action
- maintaining monitoring equipment

Consistency in performance

Evidence should be gathered over a range of variables, all using different types of monitoring equipment

Context of and specific resources for assessment

Context of assessment

A demonstration activity using workplaces/atmospheres with detectable but safe levels of contaminants should be used

Specific resources for assessment

For the demonstration of competence in this unit it will be necessary to provide a real life environment and/or simulations based on possible incidents. This should be done with access to a range of personal protective clothing and equipment, range of detection equipment as well as suitable simulation and/or sites.

Underpinning knowledge may be assessed through written assignments, and observation at simulated incidents

Guidance information for assessment

Information that will assist or guide assessment will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

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. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Working environment may be	hazardous, unpredictable, subject to time pressure, chaotic and expose responders to risk, on land or water, by day or night
Safety information and procedures must include	relevant legislation, Australian Standards, codes of practice, manufacturer's instructions and organisational procedures
Procedures may include	safe working permit entry plan entry testing procedures appropriate rescue and first aid plans risk management measurement computer plume modelling
Response situations must include	confined spaces enclosed and partially enclosed spaces
and may also include	storage tanks, silos, pits, pipes, shafts, ducts, transport vehicles and ships obstructed entry/exit points low visibility or lack of illumination unsound or insecure structures single and multi agency response
Equipment must include	breathing apparatus, chemical protective clothing and equipment, portable instruments, radiation detectors, sampling tubes and pumps, oxygen level meter, carbon monoxide detector and combustible gas detectors
Workplace atmospheres may	include visible and invisible hazards include hazardous surfaces range from safe to unsafe

RANGE STATEMENT

Incidents may include

all fire, Hazmat or rescue incidents

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s

PUATEA001B Work in a team