Australian Government

PUAFIR320 Render hazardous materials incidents safe

Release 2

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

PUAFIR320 Render hazardous materials incidents safe

Modification History

Release	TP Version	Comments
2	PUA12 V2.1	Editorial changes.
1	PUA12 V2	New Unit. Replaces unit PUAFIR306B Render hazardous materials incidents safe.

Unit Descriptor

This unit covers the competency required to safely combat incidents involving hazardous materials.
No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

This unit applies to personnel who respond to an incident involving dangerous goods and hazardous substances and who have the skills and knowledge to identify and assess the hazards and risks and contribute to the development, implementation and review of the plan constructed to mitigate the risk they pose the public and environment.
'Hazardous materials incident' is a generic term used to refer to an incident involving any material such as dangerous goods and hazardous substances that poses an unreasonable risk to life, property and the environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUAFIR215 Prevent injury

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. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Recognise a hazardous materials incident	1.1 Pre-incident plans, site control and containment plan and directives from supervisor are identified and implemented. 1.2 Incident is approached using care and caution, and a safe distance is maintained, in accordance with ***organisational procedures*** or ***guidelines,*** and/or advice from appropriate authorities. 1.3 Hazardous materials are ***identified*** from a safe distance and using a ***range of sources*** and information is conveyed to supervisor in accordance with organisational guidelines.
2. Identify and assess hazards	2.1 Site hazards are identified in accordance with organisational guidelines. 2.2 Hazards relating to the material/s and container/s are identified in accordance with organisational guidelines. 2.3 Hazards are assessed in accordance with organisational guidelines and information is conveyed to supervisor.
3. Assist with the development of a plan for the mitigation of a HAZMAT incident	3.1 Incident objectives are identified in accordance with organisational policies. 3.2 Risk control measures are identified and conveyed to supervisor. 3.3 Entry objectives are identified and conveyed to supervisor. 3.4 Entry plan is developed and documented in accordance with supervisor directives and organisational policies as required. 3.5 Personal protective equipment (PPE) is considered in accordance with organisational policies.

	3.6 Decontamination methods are identified in accordance with organisational policies. 3.7 Requirement for ***detection and confinement/containment strategies*** are identified in accordance with organisational policies. 3.8 ***Organisations required to assist with operations*** are identified.
4. Assist with the implementation of the plan for mitigation of a HAZMAT incident	4.1 Individual responsibilities within the organisation's action plan are identified and followed. 4.2 Scene is isolated and secured, and ***hazard control zones*** and ***decontamination*** corridor are established according to organisational guidelines. 4.3 Entry plan is implemented in accordance with organisational policies. 4.4 Response equipment is applied in accordance with organisational policies. 4.5 PPE is applied in accordance with organisational policies. 4.6 Decontamination procedures are applied as required in accordance with organisational procedures. 4.7 Requirement for detection and confinement/containment strategies are applied in accordance with organisational policies. 4.8 Results are recorded and reported in accordance with organisational policies.
5. Assist with the review of the plan	5.1 Plan is reviewed and safety of entry team is monitored in accordance with organisational guidelines. 5.2 Contamination incidents are recorded and reported to appropriate personnel in accordance with organisational guidelines. 5.3 Entry, decontamination, detection and mitigation effectiveness is reviewed in accordance with organisational guidelines.

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
- follow instructions and procedures
- interpret safety and hazard information
- use response equipment
- work as member of a team

Required Knowledge

- decontamination principles and procedures
- legislation relevant to the organisation
- methods of identifying hazardous materials
- mitigation (confinement/containment) techniques
- nature and properties of hazardous materials
- organisational policies and procedures
- PPE procedures
- principles of incident control
- scene control and site isolation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

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

Assessment must confirm the ability to:

- implement appropriate standard operating guidelines
- comply with relevant legislation
- demonstrate safe working practices
- identify hazardous materials
- assist in the establishment of action plan
- undertake mitigation techniques
- undertake decontamination procedures

Consistency in performance

Competency should be demonstrated over a period of time across a range of situations appropriate to organisational role.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in simulations or exercises and/or a series of tasks, which may involve setting scenarios to be completed either individually or as a member of a team.

Specific resources for assessment

Access is required to:

- relevant PPE, transport, communication
- response equipment

Method of assessment

This unit may be assessed with the following unit/s:

- PUAFIR308B Employ personal protection at a hazardous materials incident.

In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook.

Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment.

Assessment may occur in an operational environment or in an agency-approved simulated work environment. Forms of assessment that are typically used include:

- direct observation
- interviewing the candidate
- journals and workplace documentation
- third party reports from supervisors
- written or oral questions

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.	
Organisational procedures and guidelines must include:	• government organisational procedures • organisational procedures • workplace health and safety practices and procedures
and may also include:	• Australian Standards and manufacturers' guidelines • company organisational procedures • external organisation assistance
Identification of hazardous materials must include:	• awareness of physical, chemical, biological and radiological (CBR) properties and behaviour of hazardous materials including signs and symptoms of CBR agents • chemical names • dangerous goods class labels • definition of hazardous materials, hazardous substance, dangerous goods, non-dangerous goods, toxic substance, and goods too dangerous to be transported • emergency information panels/emergency information signs • HAZMAT information/initial information/site manager • identification and location of dangerous goods class labels • occupancies including site/use/manufacture location and transport • packing groups • placarding • product names or trade names • proper shipping names • United Nations numbers • visual signs and material indicators • storage manifests • transport documents
and may also include:	• containers including transport and storage • environment • fixed site or community emergency response plans • identification of the material/s and their properties through onsite analytical testing

	• physical, chemical, biological and radiological properties, behaviour and effects of hazardous materials including signs and symptoms of CBR agents • prediction of hazardous material behaviour, for example hazard prediction modelling • toxicology and entry routes of toxins
Range of sources must include	• CHEMDATA (HAZMAT Action Guides) • emergency procedures guides • emergency response guide books • HAZCHEM Emergency Action Codes • material safety data sheets (MSDSs) or safety data sheets (SDSs) • technical specialist
and may also include:	• electronic databases • European/Accord Dangereuse Routiers (ADR) hazard identification numbers • external organisation assistance • legislation/codes/standards – workplace health and safety, transport, storage and handling information, environment • National Fire Protection Association Codes • reference texts • site and community emergency response plans
Detection and confinement/containment strategies must include:	• defensive and offensive strategies for example: • over-packing including recovery drums or original containers • rescue • retention, absorbent materials and neutralisation of acids/bases • vapour suppression/blanketing and diking/diversion • ventilation and dispersion
and may also include:	• damming – using booms, pads, overflow and underflow dams • defensive and offensive strategies that may include: • external organisation assistance • field product transfer including gases/liquids using both closed and open loop methods • flaring • freeze (ice) patching • grounding and bonding • neutralisation of other materials, adsorption, gelation, emulsification and other chemical methods

	• plugging and patching • venting or vent and burn
Organisations required to assist with operations may include:	• ambulance • companies • emergency services • government departments • local government • police
Hazard control zones must include:	• area of likely contamination (hot zone) • area of operations (warm zone) • controlled exits, entrances, refuges and emergency exits • criteria applied to determine the extent of hazardous areas • support zone (cold zone)
Decontamination must include:	• decontamination plan and corridors • emergency decontamination • emergency mass decontamination • technical decontamination
Decontamination may include:	• alternative water decontamination techniques • alternative wet decontamination techniques • detection strategies applied for decontamination • dry decontamination techniques • external organisation assistance

Unit Sector(s)

Not applicable.