



**Australian Government**

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

# **AHCCHM301A Conduct fumigation in enclosed spaces**

**Release: 1**

## AHCCHM301A Conduct fumigation in enclosed spaces

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the process of fumigation of grain, seed, crops and plants in enclosed spaces and defines the standard required to: assess the need for fumigation; select appropriate fumigant and application method; prepare and monitor storage facility and equipment; apply fumigant; restore facility and clean equipment; record work activities.
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### Application of the Unit

<b>Application of the unit</b>	This unit relates to the control of insects and other pests by means of fumigation of grain and seed in storage and crops and plants grown in protected environments. These storage areas and protected environments may be deemed to be confined spaces "in situ" or be deemed to be confined spaces because of the impact of the fumigation activities.
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Not Applicable

## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<p>1. Assess the need for fumigation.</p>	<p>1.1. Ascertain the threshold level of infestation against quality requirements and industry practice.</p> <p>1.2. Determine the need for fumigation as an option within an Integrated Pest Management (IPM) and IRM strategy.</p> <p>1.3. Determine the appropriate fumigation method with regard to pest type, facility and storage/growing conditions.</p> <p>1.4. Undertake a cost-benefit analysis of fumigation.</p>
<p>2. Determine type and method of fumigation</p>	<p>2.1. Select method of fumigant application to suit type of pests, facility and grain/plant type in accordance with manufacturer's specifications, environmental, legislative, Occupational Health and Safety (OHS) requirements and industry practice.</p> <p>2.2. Determine type of fumigant and application rate in accordance with manufacturer's specifications, standards and environmental, legislative, OHS and industry practice.</p> <p>2.3. Assess appropriateness of facility and conditions for selected fumigation method.</p> <p>2.4. Identify and report any factors affecting the safe application of fumigants.</p> <p>2.5. Determine facility capacity to ensure fumigation conditions are in accordance with manufacturer's specifications and environmental, legislative, OHS and industry practice.</p>
<p>3. Prepare storage facility for fumigation</p>	<p>3.1. Assess hazards and control risks in relation to the use of fumigants in accordance with legislative, environmental, OHS requirements and industry practice.</p> <p>3.2. Establish security measures to control access during fumigation and prescribed re-entry periods in accordance with label directions.</p> <p>3.3. Erect signage and barriers to control risk of inadvertent entry to facility.</p> <p>3.4. Apply sealing methods as appropriate to contain fumigant in accordance with label and industry practice.</p> <p>3.5. Check seal, calculate volume of storage facility, and take appropriate measurement to ensure the required concentration of fumigant is retained in accordance with label directions.</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>3.6. Set up emergency and confined spaces systems in accordance with legislative and OHS and requirements.</p>
<p>4. Prepare application equipment and fumigant(s)</p>	<p>4.1. Select and use appropriate personal protective equipment in accordance with label and Material Safety Data Sheets (MSDSs) requirements.</p> <p>4.2. Select application equipment appropriate for the fumigation in accordance with label directions and industry practice.</p> <p>4.3. Check operational effectiveness of equipment in accordance with manufacturer's specifications and industry practice.</p> <p>4.4. Calibrate fumigation equipment to application rate in accordance with label directions.</p> <p>4.5. Prepare fumigant in accordance with label legislative and OHS requirements and industry practice.</p>
<p>5. Conduct fumigation</p>	<p>5.1. Apply fumigation using appropriate equipment, fumigation methods and sealing methods in accordance with label and industry practice.</p> <p>5.2. Respond to emergency situations using emergency response procedures in accordance with legislative and OHS requirements and industry practice.</p>
<p>6. Monitor fumigation</p>	<p>6.1. Monitor fumigation site during exposure time and ventilation to prevent unauthorised access in accordance with legislative and OHS requirements and industry practice.</p> <p>6.2. Maintain integrity of seals throughout the active fumigation period in accordance with label, legislative and OHS requirements and industry practice.</p>
<p>7. Ventilate storage facility</p>	<p>7.1. Establish ventilation and re-entry times and control risks to public health and safety in accordance with label, legislative, OHS requirements and industry practice.</p> <p>7.2. Ventilate facility to remove fumigant in a safe and controlled manner in accordance with label, legislative, OHS and industry practice.</p> <p>7.3. Test for evidence of residual gas using appropriate equipment.</p> <p>7.4. Notify appropriate person(s) of any further risk control measures required in accordance with label,</p>

ELEMENT	PERFORMANCE CRITERIA
	legislative, OHS and industry practice.
8. Restore storage facility	8.1. Collect and remove all equipment, fumigants and waste in accordance with label, legislative, OHS and industry practice. 8.2. Remove signage and barriers when facility is available for re-use in accordance with legislative and industry practice. 8.3. Restore storage facility in accordance with legislative and industry practice.
9. Clean, safety-check and store equipment and fumigants	9.1. Clean, decontaminate, check and store equipment and Personal Protective Equipment (PPE) in accordance with manufacturer's specifications, OHS and industry practice. 9.2. Transport and store fumigants in accordance with label, OHS and industry practice. 9.3. Dispose of all waste in accordance with label, legislative, OHS environmental and industry practice.
10. Record fumigation details	10.1. Record details of fumigant applications in accordance with legislative and quality assurance requirements and industry practice. 10.2. Record and report gas escapes, safety incidents or poisoning to the appropriate person or authority in accordance with legislative requirements.

## Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
<b>Required skills</b>
<ul style="list-style-type: none"> <li>• prepare fumigants</li> <li>• conduct pre-operational checks, clean up and storage of fumigation equipment and PPE</li> <li>• prepare and seal facility</li> <li>• set up and calibrate fumigation equipment</li> <li>• apply fumigants</li> </ul>

**REQUIRED SKILLS AND KNOWLEDGE**

- check for residual fumigant gas
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record accurately and legible information collected and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

**Required knowledge**

- primary and secondary pests relevant to grain, seed, crops or plants to be treated
- threshold pest levels and cost benefit options
- fumigant free options for pest control including Integrated Pest/Resistance Management principles
- fumigant label and MSDSs formats
- interpretation and application of fumigant label requirements
- factors and considerations in relation fumigation of relevant grain, seed, crops and plants
- techniques for sealing facility
- types and application of personal protective equipment
- legislation and regulations including OHS and licensing requirements in relation to fumigant use
- confined space regulations including, signage, gas detection and entry procedures
- features, functions, calibration and set up of fumigation equipment
- risk factors including human and animal health, weather, leakage, spillage and environmental
- assessment of residual gas and safe re-entry periods
- consequence of fumigant residues and Maximum Residue Limits (MRLs)
- ventilation processes
- requirements for disposal of excess fumigants, clearing spillages and equipment clean up.

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> <li>• assess the need for fumigation</li> <li>• select appropriate fumigant and application method</li> <li>• prepare and monitor storage facility and equipment</li> <li>• apply fumigant</li> <li>• restore facility and clean equipment</li> <li>• record work activities.</li> </ul>
<b>Context of and specific resources for assessment</b>	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

## Range Statement

<b>RANGE STATEMENT</b>	
The range statement relates to the unit of competency as a whole.	
Operating procedures may include:	<ul style="list-style-type: none"> <li>• Standard Operating Procedures (SOPs) used for fumigation in storage areas and in protected environments.</li> </ul>

## Unit Sector(s)

<b>Unit sector</b>	Chemicals
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## Co-requisite units

<b>Co-requisite units</b>		

## Competency field

<b>Competency field</b>	
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