



**Australian Government**

# **CPPPMT3011 Manage organisms by applying fumigants to commodities and environments**

**Release: 1**

# **CPPPMT3011 Manage organisms by applying fumigants to commodities and environments**

## **Modification History**

Release 1.

Replaces superseded equivalent CPPPMT3011A Conduct fumigation.

This version first released with CPP Property Services Training Package Version 2.

## **Application**

This unit of competency specifies the outcomes required to control by fumigation, organisms and organism activity that affect the health, safety or amenity of persons, commodities or environments in domestic, commercial, industrial and maritime situations.

The unit covers developing a thorough understanding of client requirements; assessing the site; selecting methods, fumigants and equipment required to meet client requirements; and applying company procedures in order to perform the task. These work functions are conducted by teams of at least two people in compliance with state and territory health and safety legislation.

Fumigants are most frequently applied by pest technicians to meet quarantine conditions for exported or imported goods, but are also applied in commercial grain handling and storage environments.

This unit is not intended for use in horticultural or agricultural situations involving the growing of crops.

Fumigants are chemicals which at a particular temperature and pressure can exist in a gaseous state in sufficient concentration and for sufficient time to be lethal to insects or other animals, plants and seeds or other organisms. The fumigant is applied to a fumigation enclosure which is a space which has been made sufficiently gas tight to contain the fumigant at the required concentrations for the required time.

Licensing, legislative, regulatory or certification requirements apply to pest management in some States. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Where required, the fumigator must meet the licensing requirements of the relevant Australian or international quarantine authority.

## **Pre-requisite Unit**

Nil

## **Unit Sector**

Pest management

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.

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|---|---|
| 1. Access and assess work site.             | <p>1.1. Site <b><i>environment</i></b> is accessed according to company requirements.</p> <p>1.2. Work or quarantine order is reviewed according to company requirements, and issues are confirmed or clarified with <b><i>appropriate persons</i></b>.</p> <p>1.3. Authority of client requesting fumigation services is confirmed according to company requirements.</p> <p>1.4. <b><i>Hazards</i></b> are identified and risks controlled at work site according to company and <b><i>compliance requirements</i></b>.</p> <p>1.5. Work site and work site application characteristics are assessed according to company and compliance requirements.</p> <p>1.6. Size and usage pattern of work site are determined to ensure safety of personnel and efficient use of equipment and fumigants.</p> <p>1.7. Work site is assessed for access and security arrangements, according to company and compliance requirements.</p> |
| 2. Determine type and method of fumigation. | <p>2.1. Types of <b><i>organisms</i></b> and, if present, commodities are confirmed according to company requirements.</p> <p>2.2. Fumigation method is selected to suit types of organisms, work site and, if present, commodities according to manufacturer specifications and company and compliance requirements.</p> <p>2.3. Type of fumigant is selected and accessed according to manufacturer specifications and client, company and compliance requirements.</p> <p>2.4. Capacity to create fumigation conditions is established according to manufacturer specifications and company and compliance requirements.</p>   |

- 2.5. Factors preventing completion of work or quarantine order are identified and appropriate persons are promptly notified.
3. Prepare work site for fumigation.
  - 3.1. Hazards of using fumigants at the work site are identified and risks controlled according to company and compliance requirements.
  - 3.2. Appropriate personnel in adjoining properties and regulatory and other relevant authorities are advised of proposed fumigation according to company and compliance requirements.
  - 3.3. **Signage and barriers** are installed, as required, to maximise protection of public health and safety during fumigation according to company and compliance requirements.
  - 3.4. Security measures to control unauthorised access to work site during fumigation and prescribed non re-entry periods are implemented according to manufacturer specifications and company and compliance requirements.
  - 3.5. Conditions are created to ensure that required concentration of fumigant is retained for required period within fumigation enclosure, according to manufacturer specifications and company and compliance requirements.
4. Prepare equipment and fumigants.
  - 4.1. Suitable **personal protective equipment** (PPE) is selected and used according to manufacturer specifications and company and compliance requirements.
  - 4.2. Equipment suitable for the fumigation method is selected according to manufacturer specifications and company and compliance requirements.
  - 4.3. Calibration and operational effectiveness equipment is checked according to manufacturer specifications and company requirements.
  - 4.4. Equipment is set up and adjusted to suit operators' requirements according to manufacturer specifications

- and company requirements.
- 4.5. Selected fumigants are transported, and ***dosages calculated*** and prepared, according to manufacturer specifications and client, company and compliance requirements.
  - 4.6. Client is advised of risk of non-target contamination or damage, if required.
5. Apply fumigants.
    - 5.1. Fumigation enclosure is treated using equipment, fumigants and fumigation methods according to manufacturer specifications and company and compliance requirements.
    - 5.2. Fumigation enclosure seal is checked and adjusted, where applicable, according to manufacturer specifications and company and compliance requirements.
    - 5.3. Fumigant escape is assessed to control impact on public health and safety, according to manufacturer specifications and company and compliance requirements.
    - 5.4. ***Emergency response procedures*** are implemented when necessary according to company and compliance requirements.
  6. Monitor fumigation.
    - 6.1. Fumigation work site is secured or monitored continuously to prevent unauthorised access and to maintain safe conditions according to manufacturer specifications and company and compliance requirements.
    - 6.2. Fumigant concentrations are monitored and maintained over fumigation exposure period according to manufacturer specifications and company and compliance requirements.
    - 6.3. Integrity of seals is maintained, where applicable, throughout the fumigation exposure period according to manufacturer specifications and company and compliance requirements.

- 6.4. Ongoing assessment of fumigant escape is maintained to control impact on public health and safety according to manufacturer specifications and company and compliance requirements.
- 7. Ventilate fumigation enclosure.
  - 7.1. Suitable conditions for ventilation are established to control risks to public health and safety according to manufacturer specifications and company and compliance requirements.
  - 7.2. Approved method of safe release of fumigant is implemented according to manufacturer specifications and company and compliance requirements.
  - 7.3. Fumigation enclosure is ventilated to remove fumigant in a safe and controlled manner according to manufacturer specifications and company and compliance requirements.
  - 7.4. Fumigation enclosure and commodities, if present, are aerated according to manufacturer specifications and company and compliance requirements.
  - 7.5. Fumigation enclosure and commodities, if present, are tested for evidence of residual fumigant according to manufacturer specifications and company and compliance requirements.
  - 7.6. Client and other appropriate persons are notified of further required risk control measures according to manufacturer specifications and company and compliance requirements.
- 8. Restore work site.
  - 8.1. Equipment, fumigants and waste are collected and removed according to company and compliance requirements.
  - 8.2. Work site is restored according to work or quarantine order and client, company and compliance requirements.
  - 8.3. Signage and barriers are removed when work site is available for re-use, according to company and compliance requirements.

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|---|---|
| 9. Clean, safety check and store equipment and fumigants. | <p>9.1. Equipment and PPE are cleaned and decontaminated according to manufacturer specifications and company and compliance requirements.</p> <p>9.2. Equipment and PPE are safety checked and required maintenance is recorded according to manufacturer specifications and company and compliance requirements.</p> <p>9.3. Cleaned equipment and PPE are stored to allow ready access and re-use according to company requirements.</p> <p>9.4. Fumigants are transported and stored according to manufacturer specifications and company and compliance requirements.</p> <p>9.5. Collected waste is disposed of according to work or quarantine order, manufacturer specifications and company and compliance requirements.</p> <p>9.6. Exposed skin is treated to remove any contamination according to manufacturer specifications and company and compliance requirements.</p> |
| 10. Update required documentation.                        | <p>10.1 Regulatory and company documentation is completed and distributed according to company and compliance requirements.</p> <p>10.2 Client records are updated according to company requirements.</p>   |

## Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

### Skill

### Performance feature

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|---------------------|---|
| Learning skills to: | <ul style="list-style-type: none"> <li>• apply knowledge of buildings and structures to the planning of fumigation operations</li> <li>• identify responsibilities of self and others when working in fumigation team.</li> </ul> |
|---------------------|---|

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Numeracy skills to:	<ul style="list-style-type: none"> <li>calculate volumes of fumigation enclosures and calculate dosage rates, based on: <ul style="list-style-type: none"> <li>enclosure volume</li> <li>required concentrations at various stages of fumigation period</li> </ul> </li> <li>calculate percentage variations in concentrations of fumigants</li> <li>estimate timeframes required to complete fumigation tasks.</li> </ul>
Oral communication skills to:	<ul style="list-style-type: none"> <li>interact effectively with clients to give information and ensure client understanding of risks and risk control measures, expressing technical information in appropriate language for the client.</li> </ul>
Reading skills to:	<ul style="list-style-type: none"> <li>read and interpret directions and safety instructions in chemical labels, equipment manuals and safety data sheets (SDS).</li> </ul>
Writing skills to:	<ul style="list-style-type: none"> <li>record information on certification documents and in fumigant logs.</li> </ul>

## Range of Conditions

This section specifies 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. Bold italicised wording, if used in the performance criteria, is detailed below.

<b><i>Environment</i></b> for fumigation must include one or more of the following:	<ul style="list-style-type: none"> <li>sheeted stack</li> <li>container</li> <li>chamber</li> <li>silo</li> <li>burrow</li> <li>soil</li> <li>building</li> </ul>
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- ship
- aircraft.

***Appropriate persons*** must include one or more of the following:

- clients
- colleagues
- managers
- persons in control of work site
- supervisors.

***Hazards*** to be checked for must include:

- animal bites and stings
- chemicals
- confined or restricted spaces
- electrical
- environmental contamination
- fire
- lighting
- manual handling
- moving vehicles and machinery
- noise
- remote locations
- respiratory
- slips and trips
- temperature
- ultraviolet (UV) radiation
- working at heights.

***Compliance requirements*** must include:

- legislation, regulations, codes of practice and industry advisory standards relating to applying fumigants, including:
  - Australian and international standards
  - chemical registers and manifests
  - chemical usage
  - consumer protection
  - dangerous goods
  - fumigation regulations and licence requirements
  - health and safety legislation
  - privacy
  - public health and safety
  - quarantine requirements
- environmental requirements relating to applying fumigants,

including:

- clean up, containment or isolation of hazards
- emergency chemical spill control measures
- hazardous materials handling
- regulations, by-laws and guidelines of environmental protection agencies and government departments
- work health and safety requirements relating to applying fumigants, including:
  - procedures for hazard identification, risk assessment and hazard control, including hierarchy of hazard control
  - requirements of national registration authority and state government authorities
  - site inductions and client safety requirements
  - use of safe work methods, including use of fumigants according to manufacturer labels.

**Organisms** must include one or more of the following:

- arachnids
- bacteria
- fungi
- insects
- molluscs
- moulds
- plants
- rabbits
- rodents
- seeds.

**Signage and barriers** must include one or more of the following:

- physical barriers and restraints erected to restrict access to work site
- signs complying with legislative requirements or Australian standards that warn of danger or adverse conditions.

**Personal protective equipment** must include:

- appropriate eye, ear and respiratory protection
- first aid kit appropriate to the task and location
- site-specific PPE and clothing requirements
- soap and towel
- sun protection.

**Calculating dosages**

- legislative and quarantine requirements

- must include consideration of:
- target of fumigation
  - type of fumigant
  - volume of enclosure
  - temperature during the fumigation exposure period, if relevant.

- Emergency response procedures*** must include one of more of the following:
- calling emergency numbers and poisons information centre
  - cleaning up
  - containing hazards
  - decontaminating
  - evacuating work site or workplace, if required
  - isolating hazards
  - notifying authorities
  - using PPE.

## Unit Mapping Information

CPPPMT3011A Conduct fumigation

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>