

FUMIGATION OF GRAIN VESSELS PROCEDURE

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1 Purpose

Fumigation of grain vessels is a hazardous operation, generally undertaken while grain vessels are berthed alongside at Mid West Ports Authority (**MWPA**) infrastructure or at anchorage, or on departure. The purpose of this Procedure is to provide guidance as to the information required from the specialist third party Port users (fumigators) to conduct these activities in a safe and environmentally acceptable manner.

2 Scope

This document outlines the process for appropriately licensed third parties to access the Port and conduct fumigation operations on behalf of other Port users. It shall be noted that third parties who provide these fumigation services are not engaged by MWPA, however, their activities may impact the Port and as such they must demonstrate how they plan to manage their activities so as not to impact Port workers, environment or operations.

- In-transit fumigation (phosphine) of bulk grain cargo in ships.
- Fumigation (methyl bromide) of infestations in vessel holds as directed by Australian Fumigation Accreditation Scheme.

Note: Fumigation to be conducted only by a licensed fumigator. In addition, in-transit fumigation requires the licensed fumigator to be operating under an 'In-transit Fumigation of Export Cereal Grain in Ships' permit issued by the Australian Pesticides and Veterinary Medicines Authority (**APVMA**).

Ships are not permitted to leave the Port until:

- a gas-free certificate has been received from the fumigator in charge (for methyl bromide); or
- in the case of in-transit fumigation, the fumigator in charge has fulfilled monitoring requirements to ensure no leakages are detectable and has issued a clearance to the Master.

Throughout this Procedure the term 'licensed fumigator' is interchanged with 'fumigator in charge'.

3 Duties and Responsibilities

Role	Responsibility
Permit Owner	Worker who is undertaking the fumigation and completes the initial permit request. In the case of fumigation activities, the permit issued by the MWPA addresses how the hazards of the fumigation activity may affect Port users or the Port environment and is not an approval of the specialist work methods conducted by the third party.
Permit Coordinator / Duty Wharf Supervisor	MWPA worker who coordinates the permit process once all the applicable supporting information has been submitted. Ensures permit criteria has been met prior to reviewing and approving the permit request.

Role	Responsibility
Vessel Agents	The vessels agent shall notify workers intending to visit the vessel that fumigation will be taking place on board and access may be restricted. This would include for example, stevedores, wharf workers, surveyors, and Government Officials and the like. It is also advised that the expected timeframe of restriction should be included in any notification.

4 General Requirements

4.1 WHAT IS FUMIGATION?

Fumigation is a method of killing, suffocating or poisoning pests within a specific area by the use of fumigants. Within the Port of Geraldton, vessels containing cereal grain are typically fumigated to kill insect pests prior to export.

The Australian Pesticides and Veterinary Medicine Authority (APVMA) grants certain companies (known under APVMA requirements as a permit holder) a “Permit to allow emergency use of a registered AGVET chemical product for in-transit fumigation of export cereal grain and wood pellets in ships”. These ‘APVMA permit holders must comply with a number of conditions associated with the use of specified fumigant products and it is the APVMA permit holders responsibility to ensure they are met.

4.2 GENERAL HAZARDS ASSOCIATED WITH FUMIGATION

The fumigation and venting process may affect a broad range of workers who have access to the Port and the vessel being fumigated for example, MWPA workers, stevedores, Australian Border Force workers, vessel agents, vessel surveyors, berth operators and vessel crew. Hazards potentially include:

- **Accidental release of fumigant.** This could result in poisoning of the fumigation operator(s), vessel crew and other workers in the vicinity as well as potential environmental damage if fumigant enters the marine environment.
- **Release of gas during venting process (methyl bromide).** Part of the fumigation process following an infestation treatment is to aerate hatches to allow the remaining fumigant to be released to the environment. There is a risk that the remaining fumigant, being heavier than air, could drop to work areas where workers may be working. There is also a risk that the fumigant could be blown over and onto a work area.
- **Unauthorised entry into fumigation area.** There is a risk of unauthorised workers entering a fumigation exclusion zone.

4.3 DOCUMENTS USED TO MANAGE FUMIGATION

Mandatory documents that are required to manage fumigation include the following.

Requirement	Document
Fumigation	<p>The <u>mandatory</u> documents used to manage fumigation include:</p> <ul style="list-style-type: none"> • Permit to Work Procedure • Authority to Access • Application to Fumigate Vessel Permit • Job Safety and Environmental Analysis (JSEA) / Safe Work Method Statement (SWMS). The document supplied <u>must</u> identify hazards associated with the task (Info only) and specific hazards that impact the MWPA. See Section 4.4 for detail required by MWPA. • Safety Data Sheets (SDS) • Copy of the 'Permit to allow emergency use of a registered AGVET chemical product for in-transit fumigation of export cereal grain and wood pellets in ships'. • Copy of individual operator's fumigation licences and competence requirements.

4.4 RISK ASSESSMENT

A JSEA / SWMS / Risk assessment / Fumigation plan must be completed prior to conducting fumigation activities.

Please Note: The requirements identified below relate to the hazards that may affect the MWPA and must be addressed in the risk assessment process.

Requirement	Topic
Minimum Written Requirements for MWPA	<p>Note: Hazards associated with the fumigation activity on-board the vessel are under the control of the vessel / specialist worker and are provided by the worker to MWPA for <u>information only</u>. It is the responsibility of the fumigator to ensure they meet the regulatory requirements and notifications associated with fumigation (for example, stipulated by APVMA, AMSA, SWA).</p> <p>The issuing of a MWPA permit is on the basis of compliance with the requirements that affect MWPA activities including the following.</p> <ul style="list-style-type: none"> • Fumigator in charge – Must be clearly identified within the document. • Access to Vessel – Identify the controls in place to manage gangway access of workers to the vessel including the requirements for: <ul style="list-style-type: none"> • gangway control / sentry – mandatory; • signage / placarding of activity – mandatory; and • exclusion zones on berth – identify distances and possible impacts on MWPA workers.

Requirement	Topic
	<ul style="list-style-type: none"> • Vessel Immobilisation – Identify if the vessel engines are required to be immobilised as part of the fumigation process. The Harbour Master must be notified if engines are immobilised. • Emergency Procedures – Emergency procedures must be identified in the JSEA / SWMS / fumigation plan and need to ensure they have adequately identified: <ul style="list-style-type: none"> • local / job site emergency response – explain what the emergency requirements are; • workers have been made aware of immediate response requirements; and • MWPA Emergency contacts for notification and escalation.

4.5 PERMIT TO WORK PROCESS

All fumigation activities shall be managed by an Application for Fumigation Permit. Refer to the Permit to Work Procedure for additional information regarding the process around permit application and approval.

5 Definitions

AMSA	Australian Maritime Safety Authority. The regulator responsible for maritime safety, protection of the marine environment and maritime aviation search and rescue.
Fumigator in Charge	A licensed pest management technician who has control and authority of the fumigation site and surrounding areas during a fumigation; from the preparation, pre-operative checks through to completion of fumigation and the clearance and release of the commodity.
JSEA	Job Safety and Environmental Analysis
SDS	A Safety Data Sheet is a document that provides detailed information about a hazardous chemical including ingredients, hazards, physical properties workplace exposure standards, handling and storage, emergency, spill, first aid, and transport information.
SWMS	Safe Work Method Statement

6 Incidents, Breach of Fumigation Permit or Procedure

All incidents relating to fumigation of vessels and any breach of MWPA fumigation requirements must be formally reported to MWPA.

It is the responsibility of the fumigator to notify regulatory authorities in the event of an incident. This may include but is not limited to APVMA, AMSA and WA Department of Health.

7 Attachments

Document	Title
Attachment A	Guidance information for Fumigation with Phosphine (In-Transit Fumigation of Grain Cargo). Note: Guidance information only – activity is under control of fumigator.
Attachment B	Guidance information for Fumigation with Methyl Bromide (Treatment of an Infestation). Note: Guidance information only – activity is under control of fumigator.

8 Associated Documents

Document Title
Application to Fumigate Vessel Permit
Permit to Work Procedure

Location – Mid West Ports Intranet – [Document Centre](#)

9 References

Standard	Title
International Standards	MSC. 1/Circ. 1264, 2008 Recommendations on the safe use of Pesticides in Ships applicable to the Fumigation of Cargo Holds
	MSC.1/Circ. 1358, 2010 Recommendations on the safe use of Pesticides in Ships
Australian Standard	AS2476-2008 General fumigation procedures Sections 2.2, 2.3

Location – SAI Global – <https://www.saiglobal.com/online/>

Act or Regulation	Description
<i>Work Health and Safety Act 2020</i> <i>Work Health and Safety (General) Regulations 2022</i>	General access requirements
<i>WA Health (Pesticides) Regulations 2011</i>	Part 4, Division 3 Fumigation

Location – Western Australian – <https://www.legislation.wa.gov.au> | Australian – <https://www.legislation.gov.au>

Authority	Resource
Australian Maritime Safety Authority	In-transit fumigation of ships cargoes, Marine Notice 2014/06
	Marine Orders Part 33 (Cargo and cargo handling – grain) 2005
International Maritime Organisation (IMO)	Recommendations on the safe use of pesticides in ships, MSC.1/Circ.1264, 27 May 2008
Australian Fumigation Accreditation Scheme (AFAS)	Methyl Bromide Fumigation Standard (Version 2.3 August 2015)

Authority	Resource
Safety Data Sheet (SDS)	Methyl Bromide
	Phosphine
WA Department of Health	Guidelines for the safe use of pesticides in non-agricultural workplaces.
Australian Pesticides and Veterinary Medicine Authority (APVMA)	Permit to allow emergency use of a registered AGVET chemical product for in-transit fumigation of export cereal grain and wood pellets in ships.
Safe Work Australia	Workplace Exposure Standards for Airborne Contaminants, December 2019.

10 Monitoring, Evaluation and Review

This document is required to be reviewed every two years from the last scheduled review date.

Minor updates made within this two year period, will not be taken as a *full review*.

The Document Custodian is responsible for conducting the review in accordance with **Controlled Documents Review and Approval Process Work Instruction**.

11 Administration

Document Custodian: Ship Scheduler
 Document Approver: Harbour Master / Marine Manager
 Approval Date: 31 October 2023
 Document Review Period: 2 yrs

Attachment A – Guidance Information for Fumigation with Phosphine (In-Transit Fumigation of Grain Cargo)

A1 APPLICATION TO FUMIGATE

The fumigator in charge must lodge an application for a permit to fumigate with MWPA as soon as possible after the requirement is identified. A copy of the fumigator's risk assessment licence and APVMA permit will need to accompany the permit application – see Section 4.3 for mandatory documentation.

Fumigation may not commence until an MWPA Application to Fumigate Vessel Permit has been issued in writing and all conditions outlined in the permit have been met.

A fumigator in charge must be nominated to supervise and coordinate the fumigation.

A2 FUMIGATION PLAN

The fumigator is required to have in place a fumigation plan that covers off the topics outlined in Section 2.2 of AS2476 General fumigation procedures. The fumigation plan must be completed for each fumigation but can be based on a generic document. The plan needs to incorporate any conditions imposed under the In-transit Fumigation Permit issued by APVMA.

A3 RISK ASSESSMENT

A risk assessment must be completed for each fumigation to determine any hazards which may be present, the potential consequences and the appropriate control measures.

Where the fumigation being carried out is similar to previous work in terms of location, material, goods and the like, a generic risk assessment may be used as a basis, with the addition of any hazards specific to the particular job, in consultation with relevant site workers.

The risk assessment must include the hazards that may affect MWPA operations / workers as per Section 4.4.

It is the responsibility of the fumigator to meet the legislative requirements identified within various documents such as International / Australian Standards.

A4 SAFETY OF VESSEL CREW

The Master is to be provided with written instructions by the fumigator in charge on the type of fumigant used, hazards to human health involved and the precautions to be taken. It is the fumigator's responsibility to ensure the Master understands the instructions and has passed this onto the crew.

Evacuation of the space under gas treatment is mandatory. The *WA Health (Pesticides) Regulations 2011* requires that the fumigator ensure all doors, windows and other means of access to the fumigation area are closed and securely fastened and a warning sign is attached to each door, window and access point.

The fumigator is responsible for ensuring the Master is aware that crew on board the vessel:

- must remain in an area on the vessel that is away from the area being fumigated;
- are to be trained in using the required respiratory protective equipment and have access to that equipment;
- know what gas is being used and understand the risks;
- know what first aid treatment is required; and
- have on board an instrument capable of monitoring gas levels.

Fumigation shall not commence until the fumigator by personal inspection has ascertained that no worker is within any part of the vessel to be treated with fumigant and this has been confirmed by the Master.

Where it is proposed that the ship is to become immobilised or unmanned, specific approval must be obtained from the MWPA Harbour Master to ensure that the ship is safe.

A5 DETERMINATION OF EXCLUSION ZONE DURING VENTILATION

As part of the risk assessment, the area to be evacuated and kept clear during ventilation of the hold after fumigation (the 'exclusion zone' or 'risk area'), is to be determined by the fumigator. This is to be noted on the Permit Application.

It is the fumigator's responsibility to ensure that adequate controls are in place to prevent any worker inadvertently entering the risk area during ventilation. An Information Tag is to be attached to the barricading to advise of its purpose.

The fumigator in charge is to advise MWPA as soon as ventilation is complete, and the area is deemed to be safe so that other operational activities can resume as soon as possible.

A6 APPROVAL FOR IMMOBILISING VESSEL

All workers, except the ship's crew and those workers involved in the fumigation process, shall either remain in the accommodation or have disembarked the vessel prior to fumigation. Crew members remaining on board should remain indoors.

Where it is proposed that the ship is to become immobilised or unmanned, specific approval must be obtained from the MWPA Harbour Master to ensure that the ship is safe.

A7 ADVICE TO OTHERS IN THE AREA

In accordance with APVMA Permit conditions, the vessel's agent shall notify workers intending to visit the vessel, that fumigation will be taking place on board and access may be restricted. This includes stevedores, wharf workers, surveyors, government officials and the like.

Upon authorisation of a permit the Wharf Supervisors will issue notification to Port stakeholders via the Daily Works Update or similar notification process.

It is the responsibility of the fumigator in charge to ensure that the following are advised and appraised of all facets of the fumigation.

- Vessel Master and crew
- Vessel Agent
- Night watchman

Advice is to include:

- date and time of fumigation;
- date and time of venting;
- type of fumigant to be used;
- the risk area (areas that need to be evacuated) and when; and
- expected date and time for the 'all clear'.

A8 APPROVAL CHEMICAL

The selected chemical identified to be used for fumigation by the fumigator in charge must comply with the requirements of the APVMA and must as a minimum be approved by, and be labelled in accordance with, APVMA. The fumigator in charge is responsible to ensure applicable SDS are available onsite at all times.

A9 WATCHPERSON TO BE POSTED

It is the responsibility of the fumigator in charge to ensure a watchperson is posted at the gangway to prevent unauthorised boarding or entry. Clear instructions must be given to the watchman by the Master or fumigator in charge about his / her duties. They must also be advised of what to do in an emergency and contact numbers should an emergency occur.

A10 WARNING SIGNS

The fumigator in charge is required to erect at each means of access to the fumigated area a sign or notice with a white background printed with the words:

- 'DANGER KEEP OUT' in red capital letters not less than 150mm high; and
- 'VESSEL BEING FUMIGATED' in black capital letters at least 50mm high.

The sign must also contain the name of the fumigant being used and the emergency contact and phone number of the fumigator in charge or the fumigation firm.

A11 VENTING PROCESS

The venting process is a critical part of the procedure particularly in relation to areas that may be affected by the release of fumigant.

It is the responsibility of the fumigator in charge to ensure that all workers likely to be affected by the release of fumigant are aware of the time and are evacuated from the area if required. The need to evacuate will be determined during the risk assessment procedure.

A12 COMPLETION OF FUMIGATION – GAS FREE CERTIFICATE

It is the responsibility of the fumigator in charge to ensure that once the fumigation is completed that all workers affected are advised and a gas-free certificate is issued to the Master.

A13 DISEMBARKATION OF FUMIGATION WORKERS

Workers to comply with latest Maritime direction issued by WA Police and ABF.

A14 DISPOSAL OF FUMIGATION PACKING

Any waste from the fumigation process is the responsibility of the fumigator in charge and must be removed from site and disposed of in line with relevant legislation.

A15 CLEARANCE

Prior to the MWPA Marine Pilot boarding the vessel and the vessel setting sail, the fumigator in charge must have fulfilled all monitoring requirements to ensure no leakages are detectable and have issued a clearance to the Master.

Attachment B – Guidance Information for Fumigation with Methyl Bromide (Treatment of an Infestation)

B1 APPLICATION TO FUMIGATE

The fumigator in charge must lodge an application for a permit to fumigate with MWPA as soon as possible after the requirement is identified. A copy of the fumigator's risk assessment licence and APVMA permit will need to accompany the permit application – see Section 4.3 for mandatory documentation.

Fumigation may not commence until an MWPA Application to Fumigate Vessel Permit has been issued in writing and all conditions outlined in the permit have been met.

A fumigator in charge must be nominated to supervise and coordinate the fumigation.

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The risk assessment must include the hazards that may affect MWPA operations / workers as per Section 4.4.

It is the responsibility of the fumigator to meet the legislative requirements identified within various documents such as International / Australian Standards.

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The Master is to be provided with written instructions by the fumigator in charge on the type of fumigant used, hazards to human health involved and the precautions to be taken. It is the fumigator's responsibility to ensure the Master understands the instructions and has passed this onto the crew.

Evacuation of the space under gas treatment is mandatory. The *WA Health (Pesticides) Regulations 2011* requires that the fumigator ensure all doors, windows and other means of access to the fumigation area are closed and securely fastened and a warning sign is attached to each door, window and access point.

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- must remain in an area on the vessel that is away from the area being fumigated;
- are to be trained in using the required respiratory protective equipment and have access to that equipment;
- know what gas is being used and understand the risks;
- know what first aid treatment is required; and
- have on board an instrument capable of monitoring gas levels.

Fumigation shall not commence until the fumigator by personal inspection has ascertained that no worker is within any part of the vessel to be treated with fumigant and this has been confirmed by the Master.

Where it is proposed that the ship is to become immobilised or unmanned, specific approval must be obtained from the MWPA Harbour Master to ensure that the ship is safe.

B5 DETERMINATION OF EXCLUSION ZONE DURING VENTILATION

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B7 ADVICE TO OTHERS IN THE AREA

In accordance with APVMA Permit conditions, the vessel's agent shall notify workers intending to visit the vessel, that fumigation will be taking place on board and access may be restricted. This includes stevedores, wharf workers, surveyors, government officials and the like.

Upon authorisation of a permit the Wharf Supervisors will issue notification to port stakeholders via the Daily Works Update or similar notification process.

It is the responsibility of the fumigator in charge to ensure that the following are advised and appraised of all facets of the fumigation.

- Vessel Master and crew
- Vessel Agent
- Night watchman

Advice is to include:

- date and time of fumigation;
- date and time of venting;
- type of fumigant to be used;
- the risk area (areas that need to be evacuated) and when; and
- expected date and time for the 'all clear'.

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The fumigator in charge is required to erect at each means of access to the fumigated area a sign or notice with a white background printed with the words:

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The sign must also contain the name of the fumigant being used and the emergency contact and phone number of the fumigator in charge or the fumigation firm.

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Workers to comply with latest Maritime direction issued by WA Police.

B13 DISPOSAL OF FUMIGATION PACKING

Any waste from the fumigation process is the responsibility of the fumigator in charge and must be removed from site and disposed of in line with relevant legislation.

B14 CLEARANCE

Prior to the MWPA Marine Pilot boarding the vessel and the vessel setting sail, the fumigator in charge must have fulfilled all monitoring requirements to ensure no leakages are detectable and have issued a clearance to the Master.