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MINISTERE DE L'AGRICULTURE,
DE L'ALIMENTATION, DE LA PECHE ET DES AFFAIRES RURALES

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Le Ministre de l'agriculture,
de l'alimentation, de la pêche et des affaires rurales
à

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Les textes cités sont diffusés par NOCIA aux Directions Régionales de l'Agriculture et de la Forêt / Services Régionaux de la Protection des Végétaux.

Je vous saurais gré de bien vouloir me faire connaître les éventuelles difficultés rencontrées dans la mise en œuvre de ces instructions.

Le sous-directeur de la Qualité et de la Protection des Végétaux

Hervé DURAND

Destinataires	
Pour exécution : -Les Chefs de S.R.P.V. -Les Chefs de S.P.V. (DOM)	Pour information : -MM. les I.G.A. -MM. les préfets de Région -MM. les préfets de département -les D.R.A.F. -les D.A.F. (DOM)

AQIS *Protecting our way of life*

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

Cargo Containers

Quarantine aspects and procedures

1 January 2004

Australian Government

Australian Quarantine and Inspection Service

AQIS

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

Important Notices

Disclaimer

The information contained in this document covers the Australian Quarantine and Inspection Service (AQIS) requirements for timber used as crates, pallets, and in containers as lining, flooring, and skids, and any other articles described as packaging and dunnage.

Importers must satisfy Australian quarantine concerns and comply with quarantine conditions applicable at the time of entry.

This document is current on the date of issue but may change without prior notice. Changes to this document are published on the 1st and 15th of the month, as required, and is directly available on the AQIS website at http://www.aqis.gov.au/cargoqap.

The Commonwealth of Australia through AQIS is not liable for costs arising from or associated with decisions to import based on conditions presented here, which are not current at the time of importation.

It is the importer's responsibility to be aware of and to ensure compliance with the requirements of all other regulatory and advisory bodies prior to, and following importation, eg. Australian Customs Service, State Departments of Agriculture, Imported Foods Program, Therapeutic Goods Administration, and the National Registration Authority (for Agricultural and Veterinary Chemicals).

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AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

The Australian Quarantine and Inspection Service (AQIS) is an agency within the Commonwealth Department of Agriculture, Fisheries and Forestry - Australia

CARGO CONTAINERS

QUARANTINE ASPECTS AND PROCEDURES

FOREWORD

Transporting goods in ships and aircraft between countries using containers is an economic and well-established practice. Quarantine requirements and procedures have been modified by the Australian Quarantine and Inspection Service (AQIS) to exclude exotic pests and diseases, while permitting reasonably quick clearance of containers and minimum interference to their movement within Australia.

This document deals with containers and the materials they are constructed from as a potential means of introducing serious pests and diseases to Australia. Timber insects pose a significant quarantine risk to Australia and accordingly all timber in Full Container Loads (FCL) containers, including exposed timber components, must be treated before the container can be considered for immediate release.

Quarantine is also concerned with the external and internal cleanliness of containers. As containers age and usage becomes even more widespread, the risks for quarantine are expected to multiply, and the need for quarantine vigilance will increase.

This document is designed to answer most questions on Australian quarantine entry requirements for containers. Should there be an uncertainty about any aspect of these procedures contact one of the offices listed in Section 5.

This document relates to quarantine requirements. You should also be aware of the Australian Customs Service conditions before attempting to move imported cargoes.

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1. QUARANTINE PROBLEMS ASSOCIATED WITH CONTAINERS OR THE MATERIALS THEY CARRY

Quarantine requirements, for containers arriving in Australia from overseas ports, are designed to exclude exotic pests and diseases while permitting reasonably rapid clearance of containers through quarantine.

The factors discussed below can be associated with containers or the materials they carry and are of specific quarantine concern since they could be the means of introducing serious pests and diseases to Australia.

1.1 Timber used in the construction of containers

Australian Quarantine is concerned about the exposed timber components of containers, and if FCL release is required, timber components must be treated to AQIS requirements. However, containers constructed without any exposed timber are not subject to any specific quarantine requirements other than freedom from soil, plant material and contamination from animal products.

Many insects, some exotic to Australia, attack seasoned timber. Containers with exposed timber components imported into the country must be free of infestation.

Exposed timber used in the construction of containers should be permanently treated to minimise quarantine impediments in Australia. Timber permanently and totally encapsulated in a manner which excludes insect infestation does not necessarily require chemical treatment.

Appendix I contains lists of the permanent treatments (or immunisation treatments) approved by the AQIS. These treatments are used to prevent infestation of the timber components during the 'life' of the container and many will also provide protection against timber decay. Treatment of the timber components eliminates a significant quarantine risk and facilitates clearance. Termites have been imported into a country within a container fitted with untreated plywood lining.

Containers with untreated exposed timber components can be released from quarantine without inspection of those components provided the container has been fumigated with methyl bromide or sulphuryl fluoride and packed or shipped within 21 days. Fumigation by these procedures in Australia will also eliminate the need for quarantine inspection of the timber components.

This treatment is the same as those for 'once imported' timber described in Appendix II. Fumigation treatments have no residual effect and since reinfestation can occur, the container must be fumigated for every subsequent trip to Australia.

See Appendix III for testing procedures to be followed in the event of a query concerning the treatment carried out on any timber.

1.2 Internal or external contamination

1.2.1 Snails

These pests, including the serious agricultural pest Giant African Snail, (*Achatina fulica*) are regularly found in or on containers entering Australia.

Containers from high-risk GAS countries (refer to Table 1) require mandatory inspection before release due to the very high risk of the introduction of Giant African Snail (*Achatina fulica*).

Table 1 Countries that have Containers Mandatorily Inspected for Giant African Snails

PACIFIC	INDO-MALAYAN
American Samoa	Christmas Island
Bonin Island (see Ogasawara Gunto)	Philippines (excluding Manila)
Federated States of Micronesia (Caroline Islands), Ponape (Pohnpei), Truk, Marianus Islands (Saipan, Bugsuk, Rota, Tinian)	East Timor
French Polynesia (Tahiti, Moorea, Society Islands)	
Guam (USA Territory)	
Hawaiian Islands	
New Caledonia	
Ogasawara Gunto (Bonin Island, Japanese)	
Papua New Guinea	
Republic of Palau (Belau), Palau Island	
Ryukyi Retto (Archipelago), (Amami Gunto, Japanese)	
Vanuatu	
Wallis & Futuna Islands	
Western Samoa	

Table 2 Pacific Countries Free of Giant African Snail (*Achatina fulica*)

PACIFIC	PACIFIC
Banaba Island	Norfolk Islands
Cook Islands	Pitcairn (UK)
Fiji	Solomon Islands
Kiribati	Tokelau
Lord Howe Island	Tonga
Nauru	Tuvalu
Niue	

1.2.2 Soil

This is an ideal medium for carrying weed seeds and a range of diseases, including foot and mouth disease, which could seriously affect Australia's agricultural production.

1.2.3 Plant Material

Small amounts of grain contamination can harbour serious stored grain insects and could introduce a new plant disease into Australia.

One of the most serious pests associated with plant and animal contaminants in containers is khapra beetle (*Trogoderma granarium*). This insect can persist for several years in undisturbed sites, in cracks, crevices and behind container linings then emerge to attack susceptible produce, which might subsequently be carried in the containers.

1.2.4 Animal products

Contaminants such as meat, bones or hides could introduce serious animal diseases to Australia. Bird droppings on cargo could also introduce avian diseases.

Thorough cleaning of the inside and outside of the container prior to shipment will assist in removing contamination and could alleviate the need for expensive and time-consuming quarantine treatment in Australia. All contaminated containers and cargoes detected entering Australia are treated before release.

1.3 Packing materials

1.3.1 Timber

Many damaging timber insect pests not present in Australia are capable of living in timber or timber products. These insects could be carried in timber used in the structure of containers or as packing in containers.

Timber permanently treated by a preservative listed in Appendix I, or temporarily disinfested by one of the methods given in Appendix II, significantly reduces the quarantine risk.

Temporary treatments (see Appendix II) eliminate insect infestation in the timber but do not give residual protection. For this reason, permanent treatments (see Appendix I) should be used to treat the exposed timber components of containers.

Where insect infestation or evidence of infestation is found all timber packing in the container is treated.

Bark can also be a major problem related to the use of timber packing. Bark is able to harbour insects within its sap, and can also carry both viral and fungal diseases.

1.3.2 Other packing materials

Plant material such as straw, rice hulls or similar plant material used as packing can carry many exotic insect pests and diseases. Containers in which those materials have been used as packing must be unpacked in order to destroy the packing material. The above Quarantine problems related to packing will be reduced if these materials are not used.

Some acceptable alternatives are synthetic foam and plastics, metal frames, inflatable dunnage, woodwool, shredded paper, fibreboard and other similar materials.

1.4 Goods subject to Australian Quarantine

Goods subject to quarantine control must be cleared by AQIS before the container is released.

2. QUARANTINE PROCEDURES FOR CONTAINERS

2.1 Approved ports

Containers may be imported into Australia through approved ports where quarantine staff and facilities are available. For example, all State capital ports are approved ports. Trans-shipment may be permitted from the wharf/terminal to locations outside the metropolitan area of the port of entry provided adequate AQIS staff and facilities are available to handle the containers at their destination.

2.2 Release of FCL containers

The release of FCL containers from the wharf/terminal to the consignee's premises in metropolitan and country areas is illustrated schematically in Figure 1.

The general requirements which permit this movement are:

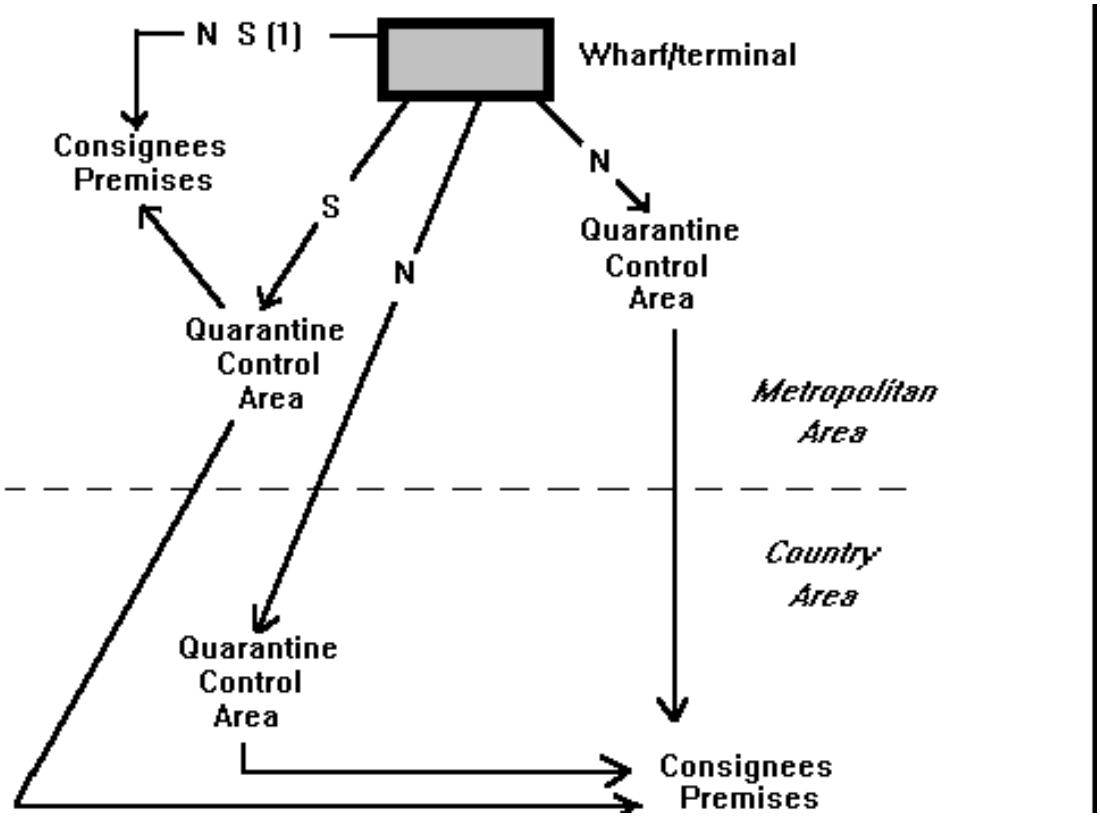
(i) if the exterior is free of contamination by soil or plant material. The outside surfaces of containers are inspected by AQIS staff at the wharf/terminal during unloading operations. If contamination is found it must be removed or treated before the container can proceed;

(ii) if the goods, packing and interior of the container are not contaminated with material of animal and plant origin or soil;

(iii) if no timber has been used as packing or if the timber has been treated by one of the methods in Appendices I or II. This includes crates, cases, dunnage pallets and skids or any other timber used as a shipping aid. Declarations of treatment must be provided by the exporter or the shipping agent. These declarations must accompany shipping documents to the consignee and be presented to the AQIS if required; and

(iv) no straw, rice hulls or similar plant material are used for packing. This also should be declared.

Figure 1: Schematic representation of movement of FCL containers from the wharf/terminal to the consignee's premises in metropolitan and country areas.



N Goods not subject to quarantine
S Goods subject to quarantine
(1) Provided specific arrangements apply - see Section 2.2.2

2.2.1 Release of FCL containers carrying goods not subject to quarantine

FCL containers which conform to AQIS requirements for packing and cleanliness and do not contain goods subject to quarantine can be released immediately to unpacking addresses within the metropolitan area of the port of entry or within the metropolitan area of other approved ports.

Immediate release is only possible if appropriate documentation has been provided to AQIS at the port of entry prior to arrival of the vessel (see Section 3: Documentation).

All non hard-frozen containers destined for country unpacking addresses must receive a tail-gate examination by quarantine and copies of treatment certificates for timber packing used in the container must be presented to quarantine before the container may be released. Unless otherwise directed, all hard-frozen containers accompanied by acceptable shipping company documentation providing evidence that goods have been maintained at -18°C (0°F) for at least 7 days are exempt from a tail-gate examination, but still require an external examination to determine freedom from contamination.

The provision of treatment certificates in itself does not automatically qualify containers for immediate release without inspection. If a quarantine infringement is suspected in a container it will be directed to an approved area for further inspection, and where necessary, additional treatment.

2.2.2 Release of FCL containers carrying goods subject to quarantine

FCL containers that contain goods subject to quarantine must go to a break-bulk depot for unpacking and inspection unless prior AQIS permission for release has been given.

Overseas exporters seeking information on goods subject to Australian quarantine are referred to the booklet *Summary of Australian Plant and Animal Quarantine Requirements (1992)* produced by AQIS and available from offices listed in Section 5.

Immediate release of containers carrying goods subject to quarantine and which otherwise meet our requirements for cleanliness and packing is possible provided specific arrangements exist for those goods. Procedures for exposed infestible agricultural produce and manufactured timber articles are listed below as examples.

Containers carrying goods subject to quarantine are not permitted to move to the country for unpacking. This is because of the increased risk of establishing pests and diseases in agricultural areas and the inadequacy of inspection and treatment facilities. However, where these constraints have been satisfied, delivery has been approved in accordance with appropriate conditions to manage quarantine risks. For a proposal to be considered contact the appropriate AQIS officer in your State at the address given in Section 5.

You should also contact the relevant AQIS officer in your State for information on specific procedures which may apply to other quarantinable goods.

2.2.2(a) Exposed infestable agricultural produce in FCL containers

Khapra beetle is established within an area broadly limited north by the 35° parallel, south by the Equator, west by West Africa and east by Myanma; ie the warm dry regions along the Suez route from the Indian subcontinent to Europe. Khapra beetle has been introduced into areas of similar climatic conditions elsewhere, especially the alternative route between India and Europe around Africa.

Table 3 Khapra Beetle Countries

Afghanistan	Indonesia	Qatar
Algeria	Iran	Rwanda
Angola	Iraq	Saudi Arabia
Bahrain	Israel	Senegal
Bangladesh	Ivory Coast	Sierra Leone
Benin	Jordan	Somali Republic
Botswana	Kenya	Sri Lanka
Burkina	Korea, Republic of (South Korea)	Sudan
Burundi	Kuwait	Swaziland
Cambodia (Kampuchea)	Laos	Syria
Cameroon	Lebanon	Taiwan
Central African Republic	Lesotho	Tanzania
Chad	Liberia	Thailand

Comoros	Libya	Togo
Congo	Madagascar	Tunisia
Cyprus	Malawi	Turkey
Djibouti	Malaysia	Uganda
Egypt	Mali	United Arab Emirates
Equatorial Guinea	Mauritania	Uruguay
Eritrea	Morocco	Venezuela
Ethiopia	Mozambique	Vietnam
Gabon	Myanma (Burma)	Yemen
Gambia	Namibia	Zaire
Ghana	Niger	Zambia
Guinea	Nigeria	Zimbabwe
Guinea Bissau, Rep.	Oman	
India	Pakistan	

Conditions for import also vary in relation to the kind of container used to ship the produce. Fumigation of the empty containers is a requirement where there is a risk of insect infestation as a result of previous cargo carried in the container. Infestable residues often accumulate in spaces behind linings of containers particularly if they have been damaged at any time. These spaces provide favourable habitats for insects to shelter and breed.

Consequently, containers with wall linings must be fumigated prior to loading with exposed infestable agricultural produce. Flat-top, open-sided, insulated containers and those without wall linings do not require fumigation.

Containers with permanent wall linings have an air space between the lining and the steel wall of the container. The permanently immunised wooden floor and internal linings of these containers eliminate infestation in the timber, but the space behind the wall lining is an ideal place for stored product insects to survive in residues of agricultural products. To overcome the issue of insect infestation behind wall linings, AQIS requires lined FCL containers to undergo a precautionary fumigation with methyl bromide prior to loading with exposed infestable agricultural products.

- **FCL containers from countries where Khapra beetle occurs (see Table 3)**

All containers with exposed infestable agricultural produce imported into Australia must be unpacked for inspection of the produce and the empty container, unless the following pre-shipment conditions are complied with. These conditions vary in relation to the risk of introducing the serious exotic insect pest of stored produce, Khapra beetle (*Trogoderma granarium* Everts).

FCL containers of exposed infestable agricultural produce may be delivered to metropolitan premises at ports of entry registered by AQIS for that purpose.

If a container is carrying more than one kind of agricultural commodity, then FCL delivery would only be permitted to an approved quarantine premises in the metropolitan area, if the container was packed at one location and is covered by Phytosanitary certification for each commodity line in the container.

<u>Containers: open-top, open-sided, insulated and those without wall lining require:</u>

- a packer's declaration indicating the container was unlined, insulated, open-top, open-sided, in sound condition and, prior to loading, was cleaned to achieve freedom from contamination by soil, plant and animal residues and insects; and

- an official international Phytosanitary certificate for the agricultural produce immediately prior to loading with the added endorsement that it was free from Khapra beetle (*Trogoderma granarium* Everts) and was grown in the country issuing the certificate.

Containers: with wall lining require:

- a packer's declaration indicating the container had wall lining in sound condition and prior to loading was cleaned to achieve freedom from contamination by soil, plant and animal residues and insects;

- an official Government certificate of fumigation of the empty container, immediately prior to loading, under a gas-tight sheet with methyl bromide. To ensure effective treatment correct fumigation procedures must be used (see Appendix IV); and

- an official international Phytosanitary certificate for the agricultural produce immediately prior to loading with the additional endorsements that it was free from Khapra beetle (*Trogoderma granarium* Everts) and was grown in the country issuing the certificate.

Correctly certified containers and contents may be delivered to approved quarantine premises for unpacking and holding of the goods under quarantine until inspected and cleared by a quarantine officer. The container may be released after unpacking.

- **FCL containers from countries where Khapra beetle does not occur**

These countries include all countries other than those listed in Table 3.

FCL containers of exposed infestable agricultural produce may be delivered to metropolitan premises at ports of entry.

If a container is carrying more than one kind of agricultural commodity, then FCL delivery would only be permitted to a metropolitan premise if the container was packed in one location and is covered by Phytosanitary certification for each commodity line in the container.

Containers: open-top, open-sided, insulated and those without wall lining require:

- a packer's declaration indicating the container was unlined, insulated, open-top, open-sided, in sound condition and, prior to loading, was cleaned to achieve freedom from contamination by soil, plant and animal residues and insects; and

- an official international Phytosanitary certificate for the agricultural produce immediately prior to loading with the endorsement that the produce was grown in the country issuing the certificate.

Containers with wall lining require:

- a packer's declaration indicating the container had wall lining in sound condition and prior to loading was cleaned and free from contamination by soil, plant and animal residues and insects;

- a certificate of fumigation of the empty container, immediately prior to loading, under a gas tight sheet with methyl bromide. To ensure effective treatment, correct fumigation procedures should be used - (see Appendix IV); and
- an official international Phytosanitary certificate for the agricultural produce immediately prior to loading with the endorsement that the produce was grown in the country issuing the certificate.

2.2.2(b) Timber articles in FCL containers

General-purpose FCL containers carrying timber articles, including newly manufactured furniture, antique furniture and timber packing but not household and personal effects, may be fumigated with methyl bromide before shipment under gas tight sheets. To ensure effective treatment, correct fumigation procedures should be used (see Appendix IV).

Overseas fumigation certificates for household and personal effects and removalist goods are acceptable, provided the treatment certificates are accompanied by detailed inventories. Some items may remain subject to quarantine.

To facilitate the immediate release of fumigated FCL containers carrying timber articles and/or packing an additional grouping CF (container fumigated) should be added to the manifest quarantine code. This grouping indicates the container and contents have been treated according to AQIS requirements. Treatment certificates must be presented to Quarantine before containers carrying timber articles are released.

2.2.3 Restricted goods and incorrectly documented cargoes

FCL containers carrying restricted goods or incorrectly documented cargoes must be inspected either by tail-gate examination or by directing to an approved break-bulk depot for unpacking and inspection. Prohibited goods carried in FCL or LCL containers will be ordered into quarantine for destruction or export.

2.3 Release of LCL containers

Provided the exterior of the container is free from contamination, all LCL containers entering Australia will go to a quarantine controlled area for unpacking and all necessary treatment. To facilitate release and minimise any requirement for expensive remedial treatment in Australia, exporters are urged to pack goods in a manner, which excludes the risk of insect infestation and disease.

Where wooden packing is used with these containers, the wood should be treated off shore. Where an offshore treatment is not applied, the wooden packing must be either treated, re-exported or destroyed on arrival.

2.4 Release of Imported Empty Containers

The external surfaces of empty containers are inspected by quarantine at the wharf/terminal during unloading operations. The interiors may be contaminated with plant and animal material and are also inspected by quarantine or a third party. If contamination is found in/on the container it must be cleaned or treated before it can be delivered.

2.5 Special procedures for handling dunnage

Timber dunnage, which may be low quality timber, represents a high quarantine risk and accordingly is subject to special procedures for handling, storage and treatment.

At break-bulk depots all timber dunnage must be stacked in an approved place from where it can only be re-used as packing in export containers. The approved storage area must be cleared at least once every two weeks and all dunnage destroyed or fumigated. Dunnage which has been fumigated or inspected and certified as permanently immunised (see Appendix I) can be released from

quarantine.

No container with timber dunnage is allowed to proceed outside the metropolitan area at the port of entry unless there is an official certificate or declaration from the shipping agent or exporter to the effect that the timber has been treated by an approved method (see Appendixes I and II).

Due to the problems associated with adequately treating large sized timber dunnage (dimensions greater than those specified in Appendix II) it must remain under AQIS supervision until destroyed or exported.

2.6 Fumigation of empty pallets from Papua New Guinea and other Pacific Islands

Empty pallets from Papua New Guinea and other Pacific Islands are fumigated with methyl bromide because of the risk of introducing the serious agricultural pest Giant African Snail.

3. DOCUMENTATION

3.1 Packing Declarations

Packing declarations have replaced the requirement for shipping companies to provide quarantine codes on manifests and/or bills of lading. Importer/importer representatives must ensure that correct and concise barrier information is provided. This barrier information is usually presented as a packing declaration, and must be provided for all containerised cargo consignments.

A packing declaration may be provided as a separate document or the declarations may appear on packing lists, commercial invoices or preferential tariff certificates only. When packing declarations are presented on these documents, they must adhere to all packing declaration requirements.

Packing declarations are required for FCL (Full Container Load), LCL (Less than a Container Load) and FAK (Freight All Kinds) containers.

3.1.1 Packing Declaration Requirements

Ideally, a container number should be included on the packing declaration; however, other acceptable forms of consignment identification include a bill of lading number, commercial invoice number, preferential tariff certificate number or a packing list number only.

There must be a direct numerical link between the container number and these other formats of consignment identification.

In addition, the packing declaration must be dated OR state the vessel and voyage number, signed OR contain a chop or block stamp incorporating a stamped signature, and on letterhead OR contain a company stamp or seal.

A declaration for each of the following must also be provided:

(i) Straw Packing Statement

Each packing declaration must contain a statement about the use of straw packing. Straw includes straw, cereal packing, rice hulls and other unprocessed plant materials used as packing. It must

state whether straw has or has not been used in the packing of the container's concerned.

An example of an AQIS approved packing declaration has been included in Appendix VI for importer's information.

(ii) Timber Packing Statement
Each packing declaration must contain a statement about the use of timber packing. Timber includes crates, cases, dunnage, pallets, skids and any other timber used as a shipping aid. It must state whether timber has or has not been used in the packing of the container's concerned.

If timber has been used, a valid treatment certificate must also be presented (see Section 3.4).

(iii) Bark Statement
Each packing declaration must contain a statement as to whether or not the timber within the container has bark on it. Bark is the external natural layer covering trees and branches. This material is distinct and separable from processed timber.

A bark statement must be present on any packing declaration that has timber declared.

3.1.2 Exemptions from Packing Declarations

Annual Packing Declarations
Importers regularly importing the same or similar commodities from the same packer/supplier using the same packing materials may apply to AQIS to be exempted from providing a packing declaration for each consignment.

Exemptions in this circumstance will only be granted when the company provides an acceptable Annual Packing Declaration (see Section 3.2)

Hard Frozen Containers
Refrigerated FCL/FCX containers whose cargo has been endorsed as hard frozen are exempt from packing declarations. For this exemption to be granted, the temperature must be continuously maintained at a minimum of -18°C (0°F) for a period of not less than seven days.

Statements such as 'Goods maintained at -18°C (0°F)' must be clearly evident on either the bill of lading or the delivery order, which are issued by the relevant shipping company.

The issued date on the bill of lading will be considered to be the start of the seven-day period.

ISO Tank Containers
ISO tank containers are used to carry bulk amounts of liquid or chemicals, such as fuel additives, glue additives etc. No straw or timber packing would ever be used in such containers and it is highly unlikely that the bladder would become soiled in any manner. They are exempt from standard packing declaration requirements.

3.2 Annual Packing Declarations

Annual packing declarations may be used by companies who consistently import the same or similar commodities from the same packing source or supplier using the same packing materials.

The concessions granted through the use of annual packing declarations are intended to reduce the

need for importer's agents to have in their possession a unique packing declaration for every container or consignment of containerised cargo. Annual packing declarations are issued for a period of one year, after which time the importer may re-apply to AQIS for renewal.

The importer/importer's representative may apply to AQIS for endorsement of Annual Packing Declarations. The original Annual Packing Declaration must be endorsed, and to be valid must have an AQIS stamp, along with the signature of the approving AQIS officer, and an expiry date.

Annual packing declarations must be signed OR contain a chop block or block stamp incorporating a stamped signature, dated OR state both the vessel and voyage number, and on letterhead OR contain a company stamp or seal.

In addition, annual packing declarations must include a statement relating to the use of straw packing, timber packing and a statement relating to bark as outlined in Section 3.1.1 (i), (ii) and (iii), and a cleanliness declaration as outlined in Section 3.3.

Where packers/suppliers use timber packing in their consignments they are required to supply a treatment certificate for each container in which timber has been used (see Section 3.4).

An example of an annual packing declaration has been included in Appendix VI for the information of importers.

3.3 Cleanliness Declaration

A cleanliness declaration is required for all containerised cargo imported into Australia. This declaration, made by the packer/supplier, indicates that the container has been cleaned and/or inspected prior to packing and found to be free from contaminants.

A cleanliness declaration may be provided as a separate document or it may appear on packing lists, commercial invoices, preferential tariff certificates, and packing declarations only. When cleanliness declarations are presented on these documents, they must adhere to all cleanliness declaration requirements.

Cleanliness declarations are not required for LCL (Less than a Container Load) or FAK (Freight All Kinds) containers, as the container's barrier concerns will be addressed at the unpacking sites.

Overseas Government endorsed cleanliness declarations which appear on government endorsed documentation must contain all the cleanliness declaration requirements to be acceptable.

3.3.1 Cleanliness Declaration Requirements

A container number should ideally be included on the declaration. However, other acceptable forms of consignment identification include a bill of lading number, commercial invoice number, preferential tariff certificate number or a packing list number only.

There must be a direct numerical link between the container number and these other formats of consignment identification.

The cleanliness declaration must also be dated OR state both the vessel AND voyage number, and it must be signed by the packer/supplier OR container a chop or block stamp incorporating a stamped signature.

The cleanliness declaration must include an acceptable cleanliness statement. It must state whether the container has been inspected or cleaned prior to loading and found to be clean or cleaned or free

from contamination.

Examples of cleanliness declarations appearing on a Packing Declaration, and an Annual Packing Declaration, have been included in Appendix VI for importers information.

3.4 Certification of treatments used for timber packing

Treatment of packing timbers is not mandatory, but if untreated timber is used containers must be unpacked at a break-bulk depot to permit inspection. Immediate release of a container with packing timber is not permitted unless the timber has been treated by an approved method (see Section 2.2.2(b) and Appendices I and II).

All containers destined for country unpacking addresses must receive a tailgate inspection as stipulated in Section 2.2.1.

Treatment certificates must be presented to AQIS on request. Provision of treatment certificates does not necessarily mean a container will be granted immediate release. AQIS reserves the right to inspect any containers entering Australia.

Appendices I, II and IV includes information relating to AQIS approved treatments, including a general format for treatment certificates of timber packing treated before use in a container. Appendix II and the details required on the certificate where a container has been fumigated Appendix IV.

Overseas Government endorsed treatment certificates, which appear on government endorsed documentation must contain all the relevant treatment information to be acceptable.

AQIS has registered a limited number of overseas companies including Italian Fumigation Companies or operators to carry out approved pre-shipment treatments. Generally, commercial certificates are accepted as valid until they are found to be unreliable due to detection of live insect infestation or other quarantine problems associated with certified timber. When this occurs, acceptance of certificates from that source will be withdrawn.

Importers are invited to contact AQIS officers at the addresses given in Section 5 for more information on the acceptability of certificates for overseas treatments.

3.5 Quarantine Entry requirements for containers carrying goods subject to Quarantine

A Quarantine Entry (QE) must be lodged by the importer or his authorised agent for any container that is subject to quarantine.

Quarantine action may be required for a number of reasons, including untreated timber packing, uncertified timber packing, straw packing country destination or incomplete manifest information. Customs brokers who are connected to the Australian Customs service (ACS) COMPILE and electronically lodge QE information will receive information relating to the consignments quarantine status, via their COMPILE entry message advice.

3.6 Container Manifests

Due to the changes that have been implemented by AQIS, the barrier information that is required by AQIS is now received via different avenues (refer to packing declaration). However, certain

information is still required from shipping companies or in some cases freight forwarders on the consignments that are arriving on an overseas vessel.

This information can be presented by the responsible parties either as an electronically reported manifest (this refers only to electronic manifest providers and the appropriate Sea Cargo Automated (SCA) vessels), a full paper manifest or a manifest summary which must indicate the following information:

- name of discharging vessel
- container number including prefix
- whether FCL, LCL, FAK or Empty
- brief description of the goods; and
- indication if the container has any pre-treated timber components.

3.7 Follow-up inspection

To check the authenticity of documentation, AQIS has adopted a system of follow-up inspection. Where a quarantine infringement is detected all subsequent containers from that source arriving at Australian ports may be diverted to break-bulk depots for unpacking until AQIS is satisfied that all quarantine requirements have been met.

3.8 Quarantine fees

Under provisions of the *Quarantine Act 1908*, AQIS is obliged to charge fees for inspection, supervision of treatment and travelling expenses. Fees are subject to periodic review and incorporated within the legislation.

4. QUARANTINE PROCEDURES FOR AIR CARGO CONTAINERS

Containers used by the air transport industry are designed to meet specific airworthiness standards and are usually constructed from metal with no exposed timber. These containers are normally unpacked at approved break-bulk depots at airports where Australian Customs Service and AQIS operate.

4.1 Cleanliness of Containers

Soil contamination on containers must be removed by cleaning.

4.2 Quarantine requirements for immediate release

For immediate release of air cargo containers to unpacking addresses in the metropolitan area of the port of entry, AQIS must have the following information:

- declaration by exporter or consignor that the container is not carrying untreated timber packing or straw;
- adequate description of goods to satisfy AQIS that they are not subject to quarantine; and
- container is not contaminated with material of plant or animal origin.

5. FURTHER INQUIRIES

Inquiries may be directed to the addresses listed below. For information on specific operational aspects within approved ports, inquiries should be directed to the Manager, Import Clearance, AQIS at the relevant port.

NATIONAL OFFICE - CANBERRA
National Manager
Cargo Management, AQIS
GPO Box 858
CANBERRA ACT 2601
Telephone: (02) 6272 5523
Fax: (02) 6272 5226

NEW SOUTH WALES
Locked Bag 6
MASCOT NSW 2020
Telephone: (02) 9364 7222
Fax: (02) 9364 7340

VICTORIA
PO Box 1006
TULLAMARINE VIC 3043
Telephone: (03) 8318 6700
Fax: (03) 8318 6701

QUEENSLAND
PO Box 778
BRISBANE QLD 4001
Telephone: (07) 3246 8755
Fax: (07) 3839 9313

SOUTH AUSTRALIA
GPO Box 63
PORT ADELAIDE SA 5015
Telephone: (08) 8305 9700
Fax: (08) 8305 9820

WESTERN AUSTRALIA
Department of Agriculture WA
PO Box 1410
CANNING VALE WA 6970
Telephone: (08) 9311 5333
Fax: (08) 9455 3052

AUSTRALIAN CAPITAL TERRITORY
PO Box 7193
Canberra Mail Centre ACT 2610
Telephone: (02) 6272 5131
Fax: (02) 6239 7351

TASMANIA
Department of Primary Industry & Fisheries
PO Box 347
NORTH HOBART TAS 7002
Telephone: (03) 6233 3352
Fax: (03) 6233 3307

NORTHERN TERRITORY
Department of Primary Industry and Fisheries
GPO Box 2268
DARWIN NT 0801
Telephone: (08) 8999 2311
Fax: (08) 8999 2049

In overseas countries information may be obtained through offices of AUSTRADE, which are associated with Australian Diplomatic Missions.

APPENDIX 1: TREATMENTS APPROVED FOR PERMANENTLY PRESERVING TIMBER, EXPOSED TIMBER COMPONENTS OF CONTAINERS, AND TIMBER PACKAGING AND DUNNAGE.

Preservative treatments that are approved by AQIS for permanently preserved timber, exposed timber components of containers, timber packing and wooden articles are those that are capable of excluding insect infestation from timber for the operational life of the container or timber product.

To be acceptable to AQIS, preservative treatments are required to protect timber against the conditions and biological hazards to a minimum level of H2 as defined for Hazard Class H2 in Australian Standard AS 1604 Timber Preservative Treated Sawn and Round. Preservative treatments must also remain resistant to leaching and chemical change over time.

Note: All references to Australian Standard AS1604 should be interpreted as meaning the latest version of that standard.

Whilst there is no specific requirement for the pre-treatment of timber, immediate release will only be given to containers that have been treated to AQIS specifications. Exposed timber components of untreated containers must be inspected by AQIS before the container is released.

1. PRESERVATIVE PENETRATION

In some timbers, it is not always possible to achieve the required levels of preservative penetration. In these cases alternative, more permeable timbers should be used.

The preservative penetration of the zone required to be penetrated, as specified below, must not be less than the levels stated for each preservative.

1.1 The zone required to be penetrated for solid timber

Full penetration by the preservative, of the cross-section of a piece of treated timber is desirable.

When this cannot be achieved, the following minimum preservative penetration pattern must be achieved in at least nine out of ten specimens.

a) If the species of timber used is of natural durability class 1 or 2 (as defined in AS 1604) the preservative shall penetrate all of the sapwood. Preservative penetration of the heartwood is not required.

b) If the species is of natural durability class 3 or 4, (as defined in AS 1604) the preservative must penetrate all the sapwood, AND IN ADDITION, one of the following requirements will apply:
   i) where the lesser cross-sectional dimension is greater than 35mm, the penetration shall not be less than 8mm from any surface. Where the lesser cross-sectional dimension is equal to or less than 35mm, the penetration shall not be less than 5mm from any surface
   OR
   ii) unpenetrated heartwood will be permitted, provided that it comprises less than 20% of the cross sectional area of the piece AND does not extend more than halfway through the piece from one surface to the opposite surface AND does not exceed half the dimension of the side in the cross-section on which it occurs.

1.2 The zone required to be penetrated for laminated veneer products

Products (plywood and laminated veneer lumber or LVL) with veneers treated before or after gluing will be analysed for preservative penetration according to the requirements for solid wood. This penetration is generally easier to achieve by treating veneers before gluing but this can negatively impact upon glue bond quality. An alternative method of protection is by glue line treatment, but the thickness of the veneer shall be no greater than that proven to be effective and approved by AQIS. Current approvals allow for individual veneers to be no greater than 1.8mm Thickness. Thicker outer (face) veneers may be used if completely impregnated using methods additional to glue-line treatment.

2. PRESERVATIVES FOR TREATING TIMBER

The preservatives that have been approved for treating timber for use in cargo containers and timber packaging may be classified as water-borne preservatives, and non water-borne preservatives.

2.1 Water Borne Preservatives

2.1.1 Copper chrome arsenic (CCA) preservatives

These preservatives are mixtures of various compounds of copper, chromium and arsenic. Preservatives of this type must be formulated from either salts or oxides of bivalent copper, hexavalent chromium and pentavalent arsenic. In the formulated preservative and the solution used to treat the timber, the ratio of these active elements shall fall within the following limits

- Copper: 23-25% Chromium 38-45% Arsenic 30-37%.

The minimum concentration of CCA-type preservative in the zone required to be penetrated shall be 0.320% mass/mass (elemental copper + elemental chromium + elemental arsenic) based on the oven dried mass of the wood. This shall be deemed to be the minimum legal requirement.

Calculation of charge retentions relies on a number of assumptions. These are listed in the example below. Minimum charge retention for each CCA preservative may be calculated as follows:

a) Each elemental concentration of copper, chromium and arsenic is converted to the form in which it appears in the formulation; ie

- %Cu to % Cu formulation eg %Cu to %$CuSO_4 5H_2O$
- %Cr to % Cr formulation and eg %Cr to % $K_2Cr_2O_7$
- %As to % As formulation eg % As to % $As_2O5._2H_2O$

b) Formulation concentrations are then added to provide a Total Formulation Value (TFV); ie %$CuSO_4.5H_2O$ + % $K_2Cr_2O_7$ + % $As_2O_5.2H_2O$ = %TFV

c) The % TFV is then multiplied by the wood density/100. In the absence of more detailed information, 500 kg/m^3 may be assumed as the wood density value for pinus timbers and 1000 kg/m^3 assumed as the value for hardwoods, therefore;

- %TFV x wood density/100 = piece retention

In general, piece retention is about 60% of charge retention and so Charge retention = piece retention x 1.6.

The CCA preservatives that appear in Table 2.1.1 are currently approved for treating sawn timber and veneer.

Table 2.1.1: Currently approved CCA preservatives *

Preservative	**Minimum Preservative retention in the Penetration Zone**
	% mass/mass based upon the oven dried mass of the treated wood
Ascu A	0.32
Bicurith C	0.32
Boliden K 33	0.32
Celbronze PT	0.32
Celcure A	0.32
Celcure A (oxide)	0.32
Celcure AN	0.32
Celcure A(P)	0.32
Celcure A Paste	0.32
Celcure C	0.32
Celcure C72	0.32
Celcure K33	0.32
Chemicca Impretect C	0.32
Chemicca Impretect C Oxide	0.32
Chemonite	0.32
Copas LC/A	0.32
Cryptogil C	0.32
Cryptogil CP	0.32
Cryptogil CO	0.32
Cryptogil COP	0.32
Cryptogil COP2	0.32
Duralin K33	0.32
Fujisolute	0.32
Fujisolute CCA type B	0.32
Greenwood	0.32
Impretect C	0.32
Injecta CCA-C	0.32
Injecta K33	0.32
Injecta K33-C	0.32
Injecta Osmose K33-C	0.32
Kemira K33 type B	0.32
Kemira K33 type C	0.32
Kemwood CCA -C	0.32
Kemwood K33 type B	0.32
Kemwood K33 type C	0.32
Lahontuho K33	0.32
Laporte CCA type 1	0.32
Laporte CCA type 2	0.32
Laporte CCA type C	0.32
Malenit CCA	0.32
Mekure T1	0.32
Mekure T2	0.32

Neo Malenit	0.32
Nissan CCA	0.32
Nissan CCA type C	0.32
Osmose CCA Oxide	0.32
Osmosalts	0.32
Osmose K33	0.32
Osmose K33 type C	0.32
Oxcel	0.32
Pentagreen	0.32
Permawood type B	0.32
Permawood type C	0.32
Permawood CCA	0.32
Permawood CF	0.32
Quantum CCA – 60%	0.32
Quantum CCA Oxide	0.32
Rentokil CCA type C	0.32
Rentokil K33	0.32
Sarmix 3	0.32
Sarmix Oxcel	0.32
Sarmix Oxcel C	0.32
Sarmix Oxcel C-680	0.32
Supa Timber PM	0.32
Superwolmanzout- CO	0.32
Tanalith C	0.32
Tanalith CA	0.32
Tanalith CO	0.32
Tanalith CCA Oxide C	0.32
Tanalith CP	0.32
Tanalith K33	0.32
Tanalith NCA	0.32
Tanalith Oxide CO	0.32
Tanalith Oxide C	0.32
Tanalith Oxide C 3310	0.32
Tanalith U	0.32
Timpro CCA type 1	0.32
Toyosol type 1	0.32
Toyosol type 3	0.32
Treatim CCA	0.32
Wolman CCA	0.32
Wolman CCA - B	0.32
Wolman CCA - C	0.32
Wolman CCA type O	0.32
Wolman CCA type S	0.32
Wolmanzout CO	0.32
Woodlast	0.32
Yoneda	0.32

Note 1:Basilit C, Basilit CCA type A, Basilit UA, Basilit CCA type B and Basilit UA No. 132 are no longer manufactured. However containers whose timber components were previously treated

with these products will be accepted without inspection in Australian ports, provided all other conditions are complied with.

2.1.2 Copper chromium boron (CCB) salts

From 1st November 1999 AQIS no longer approves the use of CCB chemicals. The minimum requirement for quarantine use is Hazard level 2 as per Australian Standard AS 1604. CCB's do not meet this requirement.

2.1.3 Copper chromium fluorine (CCF)

The minimum concentration of copper, chromium and fluorine in the zone required to be penetrated shall be 0.56% mass/mass (elemental copper + elemental chromium + elemental fluorine) based on the oven dried mass of the treated wood.

Preservatives of this type shall be formulated from either salts or oxides of bivalent copper and hexavalent chromium. In the CCF formulated preservative and the solution used to treat the timber, the ratio of these active elements shall fall within the limits:

- Copper: 30% minimum, Chromium 50% minimum, Fluorine 5% minimum.

Currently approved CCF type preservatives are presented in Table 2.1.3.

Table 2.1.3: Currently approved CCF preservatives

Preservative	**Total active elements (TAE)**			**Minimum TAE Retention in the Penetration Zone % mass/mass**
	Copper	**Chromium**	**Fluorine**	
Korasit CKF	30% minimum	50% minimum	5% minimum	0.56

2.1.4 Ammoniacal Copper Quaternary 2100 (ACQ 2100) preservatives

Ammoniacal copper quaternary preservatives are a mixture of copper compounds and didecyldimethyl ammonium chloride (DDAC). In the formulated preservative and the preservative used to treat the timber, the composition of the active chemicals must fall within the limits as specified in AS1604.

- Cu 57 - 66%
- DDAC 33 - 44%.

The minimum concentration of this type of preservative in the zone required to be penetrated shall be 0.350% mass/mass (elemental copper + DDAC) based on the oven dried mass of the wood. This shall be deemed to be the minimum legal requirement.

Currently approved ACQ2100 type preservatives are presented in Table 2.1.4.

Table 2.1.4: Currently approved Copper + DDAC, Quaternary preservatives

Preservative	Copper	Quaternary Ammonium Compound	Minimum Preservative Retention in the Penetration Zone % mass/mass
Copper +DDAC (Laporte ACQ 2100 ACQ Type D Korasit KS, Lignosan G)	57-66%	33-44%	0.350
Copper + BAC (ACQ97, Celcure AC-500; Celcure AC-800 and Mitrex ACQ)	45-66%	33-54%	0.350

2.1.5 Boron and alkyl ammonium preservatives

These preservatives are a mixture of boric acid and dialkyldimethylammonium chloride (DDAC) and are approved for their DDAC content and not the borate component (which has not been shown to be equivalent to Hazard level 2 as per Australian Standard AS 1604).

Treated timber must contain not less than 44% of the minimum retention as DDAC. The minimum concentration of this type of preservative in the zone required to be penetrated shall be 1.56% mass/mass (elemental boron + DDAC) based on the oven dried mass of the wood. This shall be deemed to be the minimum legal requirement.

Currently approved boron and alkyl ammonium type preservatives are presented in Table 2.1.5

Table 2.1.5: Currently approved Boron + DDAC preservatives

Preservative	Boron	Alkyl Ammonium Compound	Minimum Preservative Retention in the Penetration Zone % mass/mass
Celbor P	13.6%	44%	1.56

2.1.6 Copper azole preservatives

Copper azole wood preservatives are a mixture of copper and triazole compounds. In the formulated preservative and the preservative used to treat the timber, the concentration of the triazole expressed as a percent of total active ingredients shall fall within the following limits:

- Tebuconazole 4.18% - 3.42%
- Cyproconazole 1.64 – 1.34%

The minimum concentration of this type of preservative in the zone required to be penetrated, shall be:

- 0.27% mass/mass (elemental copper + tebuconazole), or
- 0.38% mass/mass (elemental copper + Cyproconazole),

based on the oven dried mass of the wood.

Currently approved copper azole preservatives are presented in Table 2.1.6

Table 2.1.6: Copper azole preservatives

Preservative	Minimum Preservative Retention in the Penetration Zone %mass/mass
Tanalith® E	0.27
Tanalith® CY	0.38

*These are minimum charge loadings of commercial preservatives based on treated wood volume.

2.1.7 Cu-HDO and boric acid preservative (Bis-(N-Cyclohexyldiazeniumdioxy)-copper)

Cu-HDO wood preservatives are a mixture of copper compounds, HDO and boric acid. In the formulated preservative and the preservative used to treat the timber, the composition of the ingredients (must be expressed as a percent of total active ingredients) shall fall within the following limits:

- Cu 70-75%
- HDO 19-24%
- B 5-7%

The minimum concentration of this type of preservative in the zone required to be penetrated must be 0.255% mass/mass (elemental Cu+HDO+B) based on the oven dried mass of the wood. This shall be deemed to be the minimum legal requirement.

Currently approved Cu-HDO and boric acid preservatives are presented in Table 2.1.7

Table 2.1.7: Cu-HDO preservatives

Preservative	Minimum Preservative Retention in the Penetration Zone %mass/mass
Wolmanit CX-8	2.05
Wolmanit CX-10	1.64
Adolit KDA	1.64

2.1.8 Copper, Boron acid and Polymeric biocide preservatives

These preservatives are a mixture of copper compounds, boric acid and polymeric biocides. These active ingredients combine synergistically to give both insecticidal and fungicidal efficacy.

Currently approved Copper, Boron acid and Polymeric biocide preservatives are presented in Table 2.1.8

Table 2.1.8 ***Copper, Boron acid and Polymeric biocide preservatives***

Preservative	Copper	Boron	Polymeric biocide	Minimum Preservative Retention in the Penetration Zone % mass/mass
Copper + Boron + polymer betaine (Impralit KDS)	41%	33%	26%	1.2

2.2 Other than Water-Borne Preservatives

2.2.1 Permethrin

This preservative may be used by itself or with a fungicide and is usually dissolved in an organic solvent such as white spirits. The minimum concentration of this type of preservative in the zone required to be penetrated must be **0.020% mass/mass (permethrin)** based on the oven dried mass of the wood.

Currently approved preservatives containing permethrin are shown in Table 2.2.1

Table 2.2.1: Permethrin preservatives

Agro Plus	Protim LCWR
Arbezol Spezial	Vacsol N
Celpruf P	Vacsol N WR
Gorvivac 050	Vacsol NA WR
Kemvac B41	Vacsol NA wrl
Organotect	Vacsol QP
Protim AQ	Vacsol T
Protim Timberlife H3	Xylamon DVIL 313
Protim Trussguard H2	Xylosan forte
Protim 235WR	Supa Timber PM

2.2.2 Deltamethrin

This preservative may be formulated by itself or with a fungicide and is usually dissolved in an organic solvent such as white spirits. The minimum concentration of this type of preservative in the zone required to be penetrated must be 0.0020% mass/mass (deltamethrin) based on the oven dried mass of the wood or a minimum retention of 0.03kg/m^3. This shall be deemed to be the minimum legal requirement.

Formulation names for preservatives containing the active ingredient deltamethrin are not listed.

2.2.3 Cypermethrin

The minimum preservative retention of this type of preservative in the zone required to be penetrated must be 0.030% mass/mass (cypermethrin) based on the oven dried mass of the wood. This shall be deemed to be the minimum legal requirement.

Currently approved preservatives containing cypermethrin are shown in Table 2.2.3

Table 2.2.3: Cypermethrin preservatives

Preservative	Minimum Preservative Retention in the Penetration Zone %mass/mass of cypermethrin
Celpruf Z	0.03
Basilit CIS	0.03

2.2.4 Fenvalerate

A preservative which in addition to achieving adequate penetration has a minimum retention of 0.18 kg/m^3 fenvalerate*. (AQIS is in the process of assessing the efficacy data associated with this chemical to determine whether or not it will be phased out).

*The minimum charge loading of commercial preservatives based on treated wood volume.

2.2.5 TBTO (Tributyltin oxide)

A preservative which in addition to achieving adequate penetration has a minimum retention of 4.8kg/m^3 tributyltin oxide*. (FUNGICIDE ONLY no longer acceptable without insecticide if applied after 1 June 1999).

*The minimum charge loading of commercial preservatives based on treated wood volume.

2.2.6 Niedo - Woodgard

A preservative which in addition to achieving adequate penetration has a minimum retention of 12 kg/m^3 boric acid* equivalent plus 12kg/m^3 paraffin wax (Meets hazard level 1 only of AS1604 and will be phased out).

*The minimum charge loading of commercial preservatives based on treated wood volume.

2.2.7 Sumithion (Fenitrothion)

A preservative which in addition to achieving adequate penetration has a minimum retention of 0.42 kg/m^3 fenitrothion*. The following commercial formulation at a minimum charge retention indicated in brackets has been approved: Koshiace B (2.0 kg/m^3)*. (AQIS is in the process of assessing the efficacy data associated with this chemical to determine whether or not it will be phased out).

*The minimum charge loading of commercial preservatives based on treated wood volume.

2.2.8 Chlorfenapyr

Currently approved preservatives containing Chlorfenapyr for use in solid timber are shown in Table 2.2.8

Table 2.2.8 Chlorfenapyr

Preservative	Minimum Retention of Active Ingredient % mass/mass *
Meganium 2000 ST	0.005

2.2.9 Bifenthrin

Currently approved preservatives containing Bifenthrin for use in solid wood are shown in Table 2.2.9

Table 2.2.9: Bifenthrin

Preservative	Minimum Retention of Active Ingredient % mass/mass
Bistar (10% Bifenthrin)	0.0047

3 PRESERVATIVES FOR TREATING VENEER BASED PRODUCTS AND COMPOSITE BOARD PRODUCTS

Veneer based products such as plywood and LVL will be accepted if veneers are treated with preservatives described for solid wood, and meet those specified retentions and penetrations. An alternative method of protection is glueline treatment.

3.1 Glueline treatments of plywood

The insecticides listed below are approved for use as glueline treatments provided no veneer in the plywood sheet is more than 2.5mm thick. The formulations listed have been shown to be efficacious in high pH phenolic adhesives.

For approved preservatives the minimum retention of active ingredients required is given below as %mass/mass.

Use the following equation to convert retention (%m/m) into retention (Kg/m3):

$$\text{Retention (Kg/m3)} = \frac{\text{Retention (\%m/m)} \times \text{Density of plywood (Kg/m3)}}{100}$$

An anticipated change in 2005 for container flooring is that the approved insecticides will need to be used in combination with a fungicide.

Phoxim based products were withdrawn from the AQIS approved list on 1 August 2003. For further information see AQIS Public Quarantine Alert PQA0263 available at: :http://www.aqis.gov.au/icon32/asp/ex_topiccontent.asp?TopicType=Quarantine+Alert&TopicID=7677.

However, AQIS has extended the termination date for Basileum SI-84 and Basileum SI-84 EC to 15 February 2004, pending the outcome of further testing.

3.1.1 Phoxim®

A preservative which achieves in addition to adequate penetration, a retention rate of 0.70 kg/m3 Phoxim* in the veneer.

Currently approved preservatives containing phoxim are shown in Table 3.1.1.

Table 3.1.1: Phoxim

Preservative	Minimum Retention Charge * Kg/m^3	Minimum Retention Charge * 1b/ft^3
Basileum SI-84	3.5	0.21
Basileum SI-84 EC	1.1	0.07

*These are minimum charge loadings of commercial preservatives based on treated wood volume. (AQIS is in the process of assessing the efficacy data associated with this chemical to determine whether or not it will be phased out.)

3.1.2 Chlorfenapyr

Currently approved formulations containing Chlorfenapyr for use in plywood are shown in Table 3.1.2

Table 3.1.2: Chlorfenapyr

Formulation	Maximum Veneer Thickness	Minimum Retention of Active Ingredient %m/m
Meganium 2000	1.8mm	0.009
Wolsit T-20	1.8mm	0.014
Tailileum 200	1.6mm	0.014

Note: For Meganium 2000 and Wolsit T- 20 efficacy tests were conducted on Keruing (*Diptocarpus* spp.) and European beech (*Fagus sylvaticus*). Accordingly these two formulations are only approved as a glueline treatment for plywood manufactured from hardwood substrates. Tailileum 200 has not been tested for European beech and therefore it is not approved for use with this species. As an approximate guide only, hardwoods suitable for manufacture of plywood for cargo containers are defined as timber with air dry densities of more than 550 Kg/m3. Certificates must state veneer thickness.

-

3.1.3 Imidacloprid

Currently approved formulations containing Imidacloprid for use in plywood are shown in Table 3.1.3

Table 3.1.3: Imidacloprid

Formulation	Maximum Veneer Thickness	Minimum Retention of Active Ingredient %m/m
Supraleum 150	1.8mm	0.02
Supraleum 75/OPP	1.6mm	0.01

- Note. Efficacy tests were conducted on Keruing (*Dipterocarpus* spp.) and European Beech (*Fagus sylvatica*) plywood. Accordingly, formulations of Imidacloprid are only approved as a glue line treatment for plywood manufactured from hardwood substrates. As an approximate guide only, hardwoods suitable for manufacture of plywood for cargo containers are defined as timbers with air dry densities of more than 550 kg/m3. Certificates must state veneer thickness.

3.1.4 Bifenthrin

Currently approved formulations containing Bifenthrin for use in plywood are shown in Table 3.1.4

Table 3.1.4: Bifenthrin

Preservative	Maximum Veneer Thickness	Minimum Retention of Active Ingredient %m/m
Bistar (10% Bifenthrin)	2.5 mm	0.013

Note. The formulation of Bifenthrin is only approved as a glueline treatment for plywood manufactured from both softwood (coniferous) and hardwood substrates. As an approximate guide only, softwoods suitable for manufacture of plywood for cargo containers are defined as timbers with air dried densities less than 550kg/m3. Certificates must state the veneer thickness.

3.1.5 Cypermethrin

Currently approved formulations containing Cypermethrin for use in plywood are shown in Table 3.1.5

Table 3.1.5: Cypermethrin

Formulation	Maximum Veneer Thickness	Minimum Retention of Active Ingredient %m/m
Radaleum FHP (Theta-cypemethrin formulation)	1.6 mm	0.045
Radaleum FAP (cypermethrin tetramethrin formulation)	1.6 mm	0.075
Radaleum HP (cypermethrin formulation)	1.6 mm	0.075
Tailileum 300	1.6mm	0.0.75

Note: Efficacy tests for the above Radaleum formulations were conducted on Radiata pine (*Pinus radiata* D. Don) plywood. Accordingly, the above Radaleum formulations of Cypermethrin are only approved as a glue line treatment for plywood manufactured from softwood (coniferous) substrates. As an approximate guide only, softwoods suitable for manufacture of plywood for cargo containers are defined as timbers with air dried densities less than 550kg/m3. The efficacy tests for the above Tailileum 300 formulation were conducted on Keruing plywood. Therefore it is only approved for use in hardwood substrates. Certificates must state the veneer thickness.

3.2 Veneer treatments applied before forming the plywood sheet

Plywood (or other laminated veneer product) formed from veneers treated with CCA, ACQ 2100, Tanalith E, permethrin, deltamethrin or cypermethrin containing formulations would be acceptable, provided the minimum retention specified for the zone required to be penetrated for each preservative is achieved, and the effectiveness of the preservative was not affected by the processing.

3.3 Glue treatments for particle and other composite board products.

The insecticides listed below are approved for the use as glue treatments for particle and other composite board products.

3.3.1 Phoxim®

A preservative which achieves in addition to adequate penetration, a retention rate of 0.70 kg/m3 Phoxim* in the veneer.

Currently approved preservatives containing Phoxim are shown in Table 3.3.1.

Table 3.3.1: Phoxim

Preservative	Minimum Retention Charge * Kg/m^3	Minimum Retention Charge * 1b/ft^3
Basileum SI-84	3.5	0.21
Basileum SI-84 EC	1.1	0.07

*These are minimum charge loadings of commercial preservatives based on treated wood volume. (AQIS is in the process of assessing the efficacy data associated with this chemical to determine whether or not it will be phased out.)

3.3.1 Chlorfenapyr

Currently approved preservatives containing Chlorfenapyr are shown in Table 3.3.1

Table 3.3.1: ***Chlorfenapyr***

Preservative	Maximum Veneer Thickness	Minimum Retention Charge %m/m *
Meganium 2000	1.8mm	0.07 %m/m
Wolsit T-20	1.8mm	0.07%m/m

APPENDIX II: NON PERMANENT TREATMENTS APPROVED FOR EXPOSED TIMBER COMPONENTS OF CONTAINERS, AND TIMBER PACKAGING AND DUNNAGE.

AQIS approved non-permanent treatments will kill insects present in the timber but give no protection against re-infestation.

Timber treated with non-permanent treatments must be packed in a container or shipped within 21 days of that treatment. The only exception is New Zealand. The timeframe between treatment and containerisation or shipment in New Zealand is 3 months. Fumigation with methyl bromide or sulphuryl fluoride are the only approved treatments for packed containers. All other treatments must be applied prior to containerisation.

The currently approved heat treatments that cover commercial bulk sawn timber imports, roundwood, logs and oversized timber not for processing need to be conducted by an AQIS approved source. Approved sources can be either those heat treatment providers that have applied directly to AQIS and have been granted approval or those treatment providers accredited under government programs that have been assessed as meeting AQIS requirements for timber heat treatment providers.

There are currently two approved timber heat treatments, kiln drying for quarantine purposes and a heat treatment of 56 degrees Celsius held for 30 minutes at the core of the wood being treated. Importantly kiln drying covering timber packing and timber articles can be applied from all sources. See Section 2 Heat treatment (below) for an explanation of the differences between kiln drying for quarantine purposes and the heat treatment of 56 degrees Celsius for 30 minutes, measured at the core of the wood.

AQIS accepts newly manufactured panel products (see Section 2.2) shipped within 3 months manufactured in Australia, Canada, Europe, Israel, Japan, New Zealand, United Kingdom or USA providing they have not been pre-used. Valid certification must accompany each consignment.

For countries not mentioned above, the timeframe between manufacture and shipment must be less than 21 days (with correct certification).

1. FUMIGATION

1.1 Methyl bromide fumigation (CH_3Br)

Some information on the properties of methyl bromide and procedures necessary for effective fumigation are given in Appendix IV.

Packing timbers, timber and wooden articles must be fumigated with methyl bromide at a concentration of 48 g/m³ for 24 hours at a temperature of 21°C under normal atmospheric pressure (NAP).

For each 5°C the temperature is expected to fall below 21°C the fumigator must add 8 g/m³ of methyl bromide. For temperatures above 21°C no dosage compensation is allowed by AQIS. Treatments undertaken below 0°C will not be accepted.

For example the acceptable range at NAP is:

- 48 g/m³ (3lbs/1000 cu ft) for 24 hours at 21°C (70°F) or above (standard dosage)

- 56g/m³ (3.5 lbs/1000 cu ft) for 24 hours at 16°-20°C
- 64g/m³ (4 lbs/1000 cu ft) for 24 hours at 11°-15°C
- **72g/m³ (4.5 lbs/1000 cu ft) for 24 hours at 5°-10°C#**
- **80g/m³ (5 lbs/1000 cu ft) for 24 hours at 4°C#**

 # To ensure best fumigation practice, some form of heating should be used when temperatures are below 10°C.

Methyl bromide under vacuum is acceptable if applied at:
- 64g/m³ for 4 hours at or above 21°C under vacuum (660mm vacuum)
- 64g/m³ for 5 hours at 4-20°C under vacuum (660mm vacuum).

The maximum thickness of the timber should not exceed 200mm and it should be stacked in a manner which allows adequate gas circulation between pieces. Correct fumigation procedures must be used (see Appendix IV).

1.2 Sulphuryl fluoride (SO_2F_2) (Vikane®)

Sulphuryl fluoride is used extensively in the USA and certain other countries as a fumigant to control insect pests of timber. It should not be used on living plants or foodstuffs.

However, it has an advantage over methyl bromide in that it can be used without any deleterious effects on photographic supplies, metals, electronic components, papers, leather, rubbers, plastics or wallpapers. It could be the preferred fumigant for timber packing associated with delicate electronic equipment where rubber is used as a component.

Dosages: Prescribed dosages of sulphuryl fluoride for the treatment of timber packaging are:
- 64g/m³ (4 lb/1000 cu ft) for 16 hours at 21°C (70°F) or above
- 64g/m³ (4 lbs/1000 cu ft) for 24 hours at 15.5°-20.5°C (60°-69°F)
- 80g/m³ (5 lbs/1000 cu ft) for 24 hours at 10°-15°C (50°-59°F)
- 104g/m³ (6.5 lbs/1000 cu ft) for 24 hours at 4.5°-9.5°C (40°-49°F)
- 80g/m³ (5 lbs/1000 cu ft) for 32 hours at 4.5°-9.5°C (40°-49°F)

® Registered trade name by Dow Chemical Company.
(AQIS is in the process of assessing the efficacy data associated with this chemical and may phase out its use as a quarantine treatment.)

2. HEAT STERILISATION

2.1 Heat or kiln sterilisation

The timber must under go a high humidity treatment in an enclosed chamber in which the dry bulb temperature is not less than 74°C (165°F) and the wet bulb depression is not more than 2°C (3.6°F) i.e. the maximum decrease allowed between the dry and wet bulb temperatures.

The core temperature of the timber must be maintained at a minimum 74°C (165°F) for the duration of the treatment. The duration of the treatment will depend on the thickness of the timber (see table below). The treatment duration begins when the temperature and humidity in the chamber have stabilised.

The 'thickness' of the timber is the distance between spacers in the stack, regardless of the thickness of individual boards.

All timber must have an average moisture content of less than 12 percent based on oven-dry weight or mass.

Thickness of Timber (mm)	Duration of Treatment (Hours)
0 - 25	4
26 - 50	6
51 - 75	8
76 - 100	10
101 - 150	14
151 - 200	18
Thickness unknown	see (1) below
Thickness greater than 200mm	see (2) below

1. If the thickness of the timber is not stated on the treatment certificate or is unknown, a verification inspection at an AQIS approved premise is required to ensure that the timber has at least one dimension less than, or equal to 200mm, and to verify that the stated duration of the treatment is adequate.

2. Timber with all dimensions greater than 200mm require an AQIS permit to import, and the permit conditions will mandate a treatment duration which exceeds 18 hours.

2.2 Newly manufactured processed panel products used as packaging

Newly manufactured panel products such as plywood, chipboard and particle board are acceptable for quarantine (both as bulk imports and packaging), without inspection or further treatment, provided they have been manufactured in Australia, Canada, Europe, Israel, Japan, New Zealand, United Kingdom or USA; and provided they have not been pre-used. Accompanying certificates are to state:

'The (name of panel product) packing/product in this consignment was manufactured in (name of country) within three months of shipment and has not been pre-used.'

Statements from countries other than those above must state:

'The (name of panel product) packing/product in this consignment was manufactured in (name of country) within 21 days of shipment and has not been pre-used.'

3. PERMANENTLY IMMUNISED TIMBER

3.1 Treatments approved in Appendix I

All treatments approved in Appendix I for permanently immunising the exposed timber components of containers have been approved for packing timbers, wooden articles and timber products.

4. CERTIFICATION OF TREATMENT

Examples of Certificates are shown in Appendix VI of this booklet.

To permit release of containers with timber packing or timber goods, correct certification of the treatments cited above is essential.

Treatment certificates must be on letterhead, OR contain a company stamp or seal, AND must contain the treatment provider's address, be signed OR contain a chop or block stamp incorporating a stamped signature, and dated.

In addition, the treatment must be applied by an AQIS acceptable treatment provider and include a description of the timber packing being treated (crates, cases, pallets, skids, dunnage and/or timber shipping aid).

Details showing that an approved treatment was used and that correct procedures were implemented in applying the treatment must also be included.

Valid treatment certificates must include the following information for each treatment certificate.

4.1 Fumigation

Methyl Bromide Fumigations

Critical information that must be included on all offshore methyl bromide fumigation certificates.

name of fumigant.....
date of fumigation.....
place of fumigation.....
dosage: concentration .....g/m3 Duration.....hours
minimum ambient temperature of the goods.....degrees C
fumigation performed under gas tight sheet Yes No (circle answer)
If no, pressure decay value for 200-100 Pascals.....seconds
container number (or number link).....
name of exporter.....address.....
name of consignee.....address.....
type and description of cargo.....
number of pieces.....
shipping mark or brand.....
treatment provider signature.....date.....
(If the fumigation was under vacuum, the pressure reading has to be at least 660 millimetres of mercury and indicated on the accompanying certification)

Additional declarations
There are two additional statements that can be added to an offshore methyl bromide fumigation certificate to clarify the way the consignment was fumigated. These are:

Impervious surfaces statement

"This consignment HAS been verified free of impervious surfaces/layers* that may adversely effect

the penetration of the fumigant prior to fumigation"

* Impervious surfaces/layers may include plastic wrapping or laminated plastic films, lacquered or painted surfaces, aluminium foil, tarred or waxed paper etc.

Stickering statement (spaces placed between layers of timber to allow methyl bromide fumigation to penetrate)

"The consignment was stickered at 200 mm intervals" (ie stickered prior to treatment)

4.2 Heat Sterilisation

This is to certify that the timber described below was treated on .....(date)..... in accordance with AQIS requirements.
Temperature - dry bulb temperature: ..... °C
- wet bulb depression: …… °C
Duration: ..... hours
Timber thickness: ..... mm
(Thickness of timber stacks when treated)
Final moisture content…….%
container number (or number link).....
type and description of cargo.....
number of pieces.....
shipping mark or brand.....
Treatment Provider Signature: .....

4.3 Permanent Immunisation

This is to certify that the timber described below was treated on ..... (date) in accordance with AQIS requirements.
Name of preservative treatment: .....
Name and chemical composition of preservative: .....

Charge retention in the wood .....%mass/mass
Type of wood (species) .....
Method of application .....
Treatment Provider Signature: .....

4.4 Panel Products

Dependent on the country of origin:
'The ..... (name of panel product) packing/product in this consignment was manufactured in ..... (name of country) within 3 months of shipment and has not been pre-used.'
OR
'The ..... (name of panel product) packing/product in this consignment was manufactured in ..... (name of country) within 21 days of shipment and has not been pre-used.'

APPENDIX III: TESTING PROCEDURES FOR RECOMMENDED IMMUNISATION TREATMENTS

Methods used for sampling and analysis shall be in accordance with Australian Standards AS 1604 and AS 1605.

Full penetration of a cross-section of sawn timber is desired but when this cannot be achieved all sapwood must be fully penetrated and not less than five out of six specimens shall show at least 6mm penetration from all faces. Alternatively at least one third of the total cross section shall be penetrated including all sapwood.

In plywood there shall be evidence of penetration of preservative into every distinguishable veneer in the assembly when examined on a section cut parallel to the grain of the face veneer and 300mm from the edge of the sheet, measured perpendicular to the grain of the face veneer.

It is recognised that the requirement for testing plywood would destroy the sheet. This test would only be required where quarantine officers found the plywood infested with timber insects. For routine testing, manufacturers of plywood may adopt sampling methods other than those outlined but it is their responsibility to ensure the treatment applied meets the prescribed standard.

The evidence of a colorimetric test for copper or zinc will be accepted as proof of penetration for a metal chrome arsenic preservative. Where a metal is not present in an approved arsenical preservative a test for arsenic will be required.

If the retention of any preservative, for any treatment containing arsenic, is to be proven by analysis, then at least 80% of wood samples from the outer 6mm of the timber must contain at least 1.12 kg/m³ as $As_2O5_2H_20$. Any sample taken from the whole cross-section at least 0.75 kg/m³ as $As_20_52H_20$.

For treatments containing tributyltin oxide no individual specimen of wood shall contain less than 3.20 kg/m³ of tributyltin oxide.

For preservatives where no colorimetric test is available penetration is to be proved by chemical analysis.

For plywood, no sample should be below 75% of the specified minimum retention.

APPENDIX IV: FUMIGATION WITH SPECIAL REFERENCE TO CONTAINERS

1. FUMIGANTS

Fumigants are pesticides in a gaseous state. Their effectiveness is determined largely by the:

?	dosage of the fumigant	NOTE:
?	duration of exposure	Details of these factors must be included on
?	temperature	fumigation certificates

Fumigants only control existing infestations in timber; they do not provide any residual protection against subsequent reinfestation. Consequently timber treated by fumigation must be packed in a container or shipped within 21 days of treatment.

Fumigants approved by AQIS for preshipment treatments are methyl bromide and sulphuryl fluoride with the former being most widely used.

1.1 Methyl bromide (CH_3Br)

Packing timbers, timber and wooden articles must be fumigated with methyl bromide at a concentration of 48 g/m³ for 24 hours at a temperature of 21°C under normal atmospheric pressure (NAP).

For each 5°C the temperature is expected to fall below 21°C the fumigator must add 8 g/m³ of methyl bromide. For temperatures above 21°C no dosage compensation is allowed by AQIS. Treatments undertaken below 4°C will not be accepted.

To ensure best fumigation practice, some form of heating should be used when temperatures are below 10°C.

Under the AQIS Methyl Bromide Fumigation Standard, the use of dilutants such as carbon dioxide (CO2) is acceptable provided the fumigator calculates the required dosage rate on the Methyl bromide content only.

Where a mixture (eg 80% Methyl bromide and 20% Carbon dioxide) is used, the fumigator must apply more of the solution to achieve the required dosage than if a full strength solution (100% Methyl bromide) is used. There is no change to the required dosage recorded on the fumigation certificate other than to indicate that the dosage refers to the Methyl bromide component of the mixture only.

Methyl bromide is **absorbed by oils, fats and finely ground materials**. It is also known to **react with materials containing sulphur**, including foodstuffs, proteins and paints, to produce objectionable discolouration or odours, which may persist even after prolonged aeration. Methyl bromide is odourless so small concentrations of chloropicrin (tear gas) are sometimes added as a warning agent.

However, chloropicrin is very phytotoxic and must not be used for the fumigation of live plants, fruits, vegetables and seeds. The gas is regarded as a safe fumigant for seeds providing the moisture content is not excessively high and fumigation is not repeated.

When methyl bromide is to be used for fumigation of FCL containers, importers may need to consider unpacking for full inspection, as an alternative, if there are items which may suffer such

damage.

Where there are concerns about possible deleterious effects of methyl bromide, an alternative treatment may be sought.

The following materials, commodities and articles are among those which should **not** ordinarily be fumigated with methyl bromide:

- butter, lard and fats unless in airtight cans, nuts with high oil content, avocado fruit, soybean flour, whole wheat flour, other high protein flours, baking powders;
- bone meal, charcoal, cinder blocks;
- furs, felts, horsehair articles, feather pillows, rug pads, high rag content writing papers and other high sulphur papers;
- iodised salt, salt blocks containing sulphur or its compounds;
- leather goods, particularly kid, photographic chemicals, (not camera film or X-ray film);
- photographic prints and blueprints, silver polishing papers;
- rubber goods, particularly sponge rubber, foam rubber and reclaimed rubber, including pillows, mattresses, rubber stamps and upholstered furniture;
- woollens, especially angora, soft yarns and sweaters, viscose rayon fabrics;
- sulphur-based paint and oil artworks; and
- disposable medical appliances.

Plastic wrapping <u>inhibits</u> the penetration of the fumigant.
Highly painted, varnished or glazed timber products are believed to <u>inhibit</u> the penetration of the fumigant.

1.2 Sulphuryl fluoride (SO_2F_2) (Vikane ®)

Sulphuryl fluoride is used extensively in the USA as a fumigant to control insect pests of timber. It should not be used on living plants or foodstuffs.

It has an advantage over methyl bromide in that it can be used without any deleterious effects on photographic supplies, metals, electronic components, papers, leather, rubbers, plastics and wallpapers. It could be the preferred fumigant for timber packaging associated with delicate electronic equipment which use rubber components.

*® Registered trade name of Dow Chemical Company.
(AQIS is in the process of assessing the efficacy data associated with this chemical and may phase out its use as a quarantine treatment.)

2. FUMIGATION OF CONTAINERS

Containers are not completely gas tight, they all leak to varying degrees. The leakiness is affected by such factors as construction, age, state of repair, and packing. It is further affected by extraneous factors such as fluctuations in temperature and pressure, exposure to winds and movement during transportation and lifting. The degree of leakiness of containers determines their suitability for fumigation.

Insulated containers in a good state of repair are suitable for fumigation and do not require to be covered with gas tight sheets.

General-purpose containers even when new, may be too leaky to permit effective fumigation without supplementary sealing of floors, seams and door seals.

Because of the gas tightness limitations of general-purpose containers, they must be fumigated on impervious surfaces with doors ajar and under gas tight sheets.

However, operational constraints in overseas ports suggest that this requirement is not always possible and that methods can be employed to bring some GP containers to an acceptable standard of gas tightness.

Where a container can be made sufficiently gastight, monitoring of gas concentrations in the container is acceptable as an alternative method.

This method should only be applied to containers which are fumigated for timber contents (packing or goods). A standard of 30 percent or more of the original fumigant concentration is required, when measured after 24 hours. If this standard is not reached then the container should be re-fumigated under gas-proof sheets.

Loaded containers may be fumigated to treat the exposed timber components of containers, timber packaging or the cargo. If the packaging timbers or cargo are to be fumigated, they must not be sealed in gas-impermeable materials such as plastic, aluminium foil and tarred or waxed papers.

The container must be packed to provide air space for circulation of the fumigant. Cartons, crates and bagged cargo should be on pallets or skids to keep them off the floor.

An axial type fan with a capacity of at least 71 m^3/min (2500CFM) must be used to circulate the fumigant. The fan must be placed at the open door, positioned to blow over the floor towards the front of the container. The fan should run for 15 minutes after the introduction of the fumigant.

If several containers are fumigated under the same sheet, additional fans are necessary. For every container under the sheet a fan of 71 m^3/min (2500CFM) capacity should be used.

The fumigant must be introduced into the container as a hot gas.

To achieve this, vaporisers of suitable heating capacity must be used. This is particularly important when fumigating commodities that absorb large amounts of fumigant, and for treatments conducted at low temperatures. Gas concentrations should be monitored at intervals during the fumigation and, if necessary, additional fumigant added to maintain the required concentration.

After completion of fumigation, the container should be ventilated until the fumigant can no longer be detected. Inadequately ventilated containers pose grave threats to the health of staff involved in their unpacking.

In special circumstances containers may be fumigated and shipped under gas without ventilation.

If this is done, safety procedures specified by relevant authorities and shipping companies must be complied with. Containers bearing warning labels that they have been shipped under fumigation will not be inspected by the Australian Quarantine and Inspection Service, until they have been ventilated and certified free of gas.

Certificates of fumigation must contain full details of fumigation as illustrated in the example at the end of this Appendix.

3. DOSAGE FOR CONTAINER FUMIGATION

3.1 Methyl bromide (CH_3Br)

The dosage of methyl bromide to meet the requirements of AQIS for containers carrying exposed infestable agricultural products and other products are as follows:

(a) **Unlined/insulated/open-top/open-sided (empty):** For carriage of exposed infestable agricultural produce unlined/insulated/open-top/open-sided containers do not require fumigation. A certificate of cleaning prior to packing the container will be accepted.

(b) **Lined general purpose containers (empty):** Prior to packing with exposed infestable agricultural produce fumigation is required as a precautionary treatment against Khapra beetle infestation behind container linings. The dosage of methyl bromide is as follows:

- 80 g/m³ (5 lb/1000 cu ft) for 24 hours at 21°C (70°F).

Additional fumigant should be added at the rate of 8 g/m³ (8 oz/1000 cu ft) for each 5C° (10°F) the minimum ambient temperature during fumigation is below 21°C (70°F).

(c) **General purpose and insulated/refrigerated containers (packed):** If timber packaging (crates, pallets, dunnage, skids, etc.) is used in FCL containers the dosage of methyl bromide is as follows:

- 48 gm³ (3lb/1000 cu ft) for 24 hours at 21°C (70°F).
- Additional fumigant should be added at the rate of 8 g/m³ (8 oz/1000 cu ft) for each 5°C (10°F) the minimum ambient temperature during fumigation is below 21°C (70°F).
-

3.2 Sulphuryl fluoride (SO_2F_2) (Vikane ®)

Dosage of sulphuryl fluoride to meet the requirements of AQIS, **for general purpose and insulated/refrigerated containers (packed), if timber packaging (crates, pallets, dunnage, skids, etc.) is used in FCL containers is as follows:**

- 64 g/m³ (4 lbs/1000 cu ft) for 16 hours at 21°C (70°F)
- 64 g/m³ (4 lbs/1000 cu ft) for 24 hours at 15.5°-20.5°C (60°-69°F)
- 80 g/m³ (5 lbs/1000 cu ft) for 24 hours at 10°-15° C (50°-59°F)
- 104 g/m³ (6.5 lbs/1000 cu ft) for 24 hours at 4.5°-9.5° C(40°-49°F)
- 80 g/m³ (5 lbs/1000 cu ft) for 32 hours at 4.5°-9.5°C (40°-49°F)
-

Note: Sulphuryl fluoride is not suitable for fumigation of empty containers for carriage of exposed agricultural products. (AQIS is in the process of assessing the efficacy data associated with this chemical and may phase out its use as a quarantine treatment.)

4. CERTIFICATION OF TREATMENT

To permit release of fumigated containers correct certification of the treatments cited above is essential.

Treatment certificates must be on letterhead, OR contain a company stamp or seal, AND must contain the treatment provider's address, be signed OR contain a chop or block stamp incorporating a stamped signature, and dated.

In addition, the treatment must be applied by an AQIS acceptable treatment provider, and include details showing an approved treatment was used and correct procedures were implemented in applying the treatment.

Valid treatment certificates must include the following information.

4.1 Details of Treatment

Critical information that must be included on all offshore methyl bromide fumigation certificates.

name of fumigant.....
date of fumigation.....
place of fumigation.....
dosage: concentration .....g/m3 Duration.....hours
minimum ambient temperature of the goods.....degrees C
fumigation performed under gas tight sheet Yes No (circle answer)
If no, pressure decay value for 200-100 Pascals.....seconds
container number (or number link).....
name of exporter.....address.....
name of consignee.....address.....
type and description of cargo.....
number of pieces.....
shipping mark or brand.....
treatment provider signature.....date.....

4. Additional declarations.

There are two additional statements that can be added to an offshore methyl bromide fumigation certificate to clarify the way the consignment was fumigated. These are:

Impervious surfaces statement

"This consignment HAS been verified free of impervious surfaces/layers* that may adversely effect the penetration of the fumigant prior to fumigation".

* Impervious surfaces/layers may include plastic wrapping or laminated plastic films, lacquered or painted surfaces, aluminium foil, tarred or waxed paper etc.

Stickering statement (spaces placed between layers of timber to allow methyl bromide fumigation to penetrate)

"The consignment was stickered at 200 mm intervals" (ie stickered prior to treatment).

Note: If the fumigation was conducted under vacuum, the pressure reading has to be at least 660 millimetres of mercury and indicated on the accompanying certification

APPENDIX V: DEFINITION OF TERMS USED IN THIS DOCUMENT

'**Approved'** means approved by the Director of Quarantine or an officer designated by the Director of Quarantine.

'**Approved place for performing quarantine'** means a place approved by a Quarantine Officer in writing as a place for performing quarantine.

'Container system unit' is a container (including a lift-van or tank but not including a vehicle):

(a) designed for repeated use as a unit of cargo-handling equipment in the transport of goods by ships or aircraft specially constructed, adapted or equipped for the handling and carrying of containers of the type to which the container belongs in the course of a transportation system, in which goods are transported to and from the ship or aircraft in containers of that type; and

(b) fitted with devices to permit its ready handling in the course of that system and includes normal accessories and equipment of such a container when used or transported with the container.

(c)

'**Container break-bulk depot'** is a depot approved by the Australian Customs Service and the Director of Quarantine for storing, breaking down or consolidating containerised cargo. It includes accommodation for Customs and Quarantine officers and facilities and equipment for examining, weighing goods and holding goods in secure custody and can include facilities for fumigation, disinfecting and destroying goods.

'FCL' full container lot.
'H/H' - house to house.
'P/H' pier to house. Consignor, shipper, or carrier packing to consignee'
'LCL' less than container lot.
'H/P' - house to pier.
'P/P' - pier to pier. Consignor, shipper, or carrier packing to depot

'**Exposed infestable agricultural produce'** - The word 'exposed' in the definition is interpreted to mean exposed to insect infestation. Inherently infestable commodities may be processed in ways which eliminate existing insect infestation and maintain them in that condition by packing in insect proof containers. These commodities should be considered as non-exposed. Agricultural produce considered as non infestable include such products as plant fibres, rubber, processed tea, vegetable oils, etc.

'Immediate release' - is quarantine release from a wharf/terminal or airport based on presentation of appropriate documents without any quarantine inspection/treatment other than the external inspection of the container undertaken during unloading.

'**Packer's declaration' -** is a certificate issued by the person or organisation responsible for packing a container.

'Quarantine control area' is an area where inspection, treatment and other quarantine action can be undertaken under quarantine control and includes quarantine stations, wharfs, terminals, container break-bulk depots and approved places for performing quarantine.

APPENDIX VI: EXAMPLES OF DOCUMENTS

Example of an Acceptable LCL Packing Declaration

Supplier Letterhead

LCL PACKING DECLARATION

[Boxe☐ to be marked with an X in the appropriate place.]

Container Number or Numerical Link (Shipping Marks/Invoice Number/Bill Number):

_____

_____

STRAW PACKING

(Straw packing includes straw, cereal, rice hulls, and other unprocessed plant materials.)

Q. Has **Straw Packing** been used in the consignment listed above?

A. YES ☐ NO ☐

TIMBER PACKING

(Timber packing includes: Crates, Cases, Dunnage, Pallets, Skids, and any other timber used as a shipping aid.)

Q. Has **Timber Packing** been used in the consignment listed above?

A. YES ☐ NO ☐

BARK

(Bark is the external natural layer covering trees and branches. This material is distinct and separable from processed timber.)

Q. If **Timber Packing** is used, is it free of **BARK**?

A. YES ☐ NO ☐

Signed: _____ Date: _____

Supplier Representative

Example of an Acceptable combined FCL/LCL Packing Declaration

Supplier Letterhead

FCL/LCL PACKING DECLARATION

[Box ☐ to be marked with an X in the appropriate place.]

Container Number or Numerical Link (Shipping Marks/Invoice Number/Bill Number):

_____

_____

STRAW PACKING

(Straw packing includes straw, cereal, rice hulls, and other unprocessed plant materials.)

Q. Has **Straw Packing** been used in the consignment listed above?

A. YES ☐ NO ☐

TIMBER PACKING

(Timber packing includes: Crates, Cases, Dunnage, Pallets, Skids, and any other timber used as a shipping aid.)

Q. Has **Timber Packing** been used in the consignment listed above?

A. YES ☐ NO ☐

BARK

(Bark is the external natural layer covering trees and branches. This material is distinct and separable from processed timber.)

Q. If **Timber Packing** is used, is it free of **Bark**?

A. YES ☐ NO ☐

CLEANLINESS DECLARATION FOR FCL'S ONLY

I also declare that the above container(s) has/have been cleaned and is/are free from material of animal and/ort plant origin and soil.

Signed: _____ Date: _____

Supplier Representative

Example of an Acceptable LCL Annual Packing Declaration

Supplier Letterhead

LCL ANNUAL PACKING DECLARATION

[Bo☐ to be marked with an X in the appropriate place.]

STRAW PACKING

(Straw packing includes straw, cereal, rice hulls, and other unprocessed plant materials.)
Q. Is **Straw Packing** used in consignments covered by this document?

A. YES ☐ NO ☐

TIMBER PACKING

(Timber packing includes: crates, cases, dunnage, pallets, skids, and any other timber used as a shipping aid.)
Q. Is **Timber Packing** used in consignments covered by this document?

A. YES ☐ NO ☐

BARK
(Bark is the external natural layer covering trees and branches. This material is distinct and separable from processed timber.)

Q. If **Timber Packing** is used, is it free of **Bark**?

A. YES ☐ NO ☐

VALIDITY STATEMENT

On behalf of _____(Supplier Name), I hereby declare that the information and statements above are true and correct. This declaration is valid for 12 months from the date below, for all consignments packed by this business for _____(Importing Business Name). I undertake to immediately advise AQIS of any change to the information provided.

Signed: _____ Date: _____

Supplier Representative

Example of an Acceptable Combined FCL/LCL Annual Packing Declaration

Supplier Letterhead

FCL/LCL ANNUAL PACKING DECLARATION

[Bo☐ to be marked with an X in the appropriate place.]

STRAW PACKING

(Straw packing includes straw, cereal, rice hulls, and other unprocessed plant materials.)
Q. Is **Straw Packing** used in consignments covered by this document?

A. YES ☐ NO ☐

TIMBER PACKING

(Timber packing includes: crates, cases, dunnage, pallets, skids, and any other timber used as a shipping aid.)
Q. Is **Timber Packing** used in consignments covered by this document?

A. YES ☐ NO ☐

BARK
(Bark is the external natural layer covering trees and branches. This material is distinct and separable from processed timber.)

Q. If **Timber Packing** is used, is it free of **Bark**?

A. YES ☐ NO ☐

VALIDITY STATEMENT

On behalf of _____(Business Name), I hereby declare that the information and statements above are true and correct. This declaration is valid for 12 months from the date below and I undertake to immediately advise AQIS of any change to the information provided.

CLEANLINESS DECLARATION FOR FCL'S ONLY

All container(s) packed by this business for _____(Importing Business Name) and covered by this declaration will be cleaned free from residues of previous cargo and will be free from material of animal and/or plant origin and soil before packing.

Signed: _____ Date: _____

Supplier Representative

Example of an Acceptable Fumigation Certificate

Treatment Provider Letterhead

The goods described below were treated in accordance with the fumigation requirements of the Australian Quarantine and Inspection Service.

Details of Treatment

Name of fumigant .....

Dosage .....g/m^3 or lbs/cu ft

Duration ..... hours

Minimum ambient temperature during fumigation .....

Numerical link .....

Description of cargo .....

Date .....

Treatment Provider Signature .....

Example of an Acceptable Heat Treatment Certificate

Treatment Provider Letterhead

Details of Treatment

This is to certify that the timber described below was treated on (date) ..... in accordance with AQIS requirements.

Heat Sterilisation Treatment

Temperature .....(C° or F°)

Duration ..... hrs

Timber Thickness ..... mm/inches

Numerical link .....

Date .....

Treatment Provider Signature .....

Example of an Acceptable Permanent Immunisation Treatment Certificate

Treatment Provider Letterhead

Details of Treatment

This is to certify that the timber described below was treated on (date) ..... in accordance with AQIS requirements.

Name of preservative treatment .....

Chemical composition of preservative (eg CCA) .....

Loading of preservative..... % mass/mass based upon the oven dried mass of the treated wood

Or

Kg/m^3 or lbs/cu ft (net dry salt retention. Only limited preservatives can be expressed in these terms after 1 November 1999) .....

Numerical link .....

Date .....

Signature of Treatment Provider.....

Example of an Acceptable Newly Manufactured Processed Panel Products Certificate

Manufacturer Letterhead

Details of Manufacture

The ...(name of the panel product)..... packing/product in this consignment was manufactured in ...(name of country) .... within the last (three months/21 days as appropriate) and has not been pre used.

Numerical link .....

Date .....

Signature of Manufacturer.....