

Seafood & Perishable Cargo Transport by Air Requirements

Virgin Australia Cargo will accept perishable cargo in accordance with IATA's Perishable Cargo Regulations. As a commodity, perishables require specific attention due to its nature as wet cargo, horticultural products (fruits and vegetables and/or flowers and plants in general) and animal products. Perishables will only be accepted if the following requirements are met:

- a) **Perishables (wet cargo)** must be properly packed in strong waterproof(ed) containers, in the case of wet cargo (fish/seafood, leather, meat, etc.), to prevent leaks or spills that can damage the aircraft, other cargo or passenger luggage.
- b) **Horticultural** product packages (fruits, vegetables, flowers, etc.) must be strong enough to support a stack of at least 4 boxes without collapsing at the bottom. The packaging must be resistant to the moisture that these products generate.
- c) **Live animals** destined for human consumption (mud crabs, lobsters, fish etc.) must comply with relevant IATA's Live Animal Regulations (LARs). Consignments must be waterproof(ed) to reduce the risk of spills or leaks.

Packaging

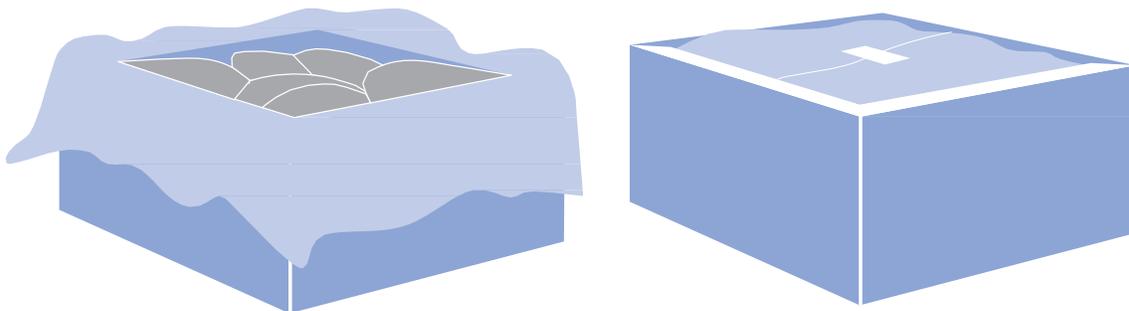
It is the shipper's responsibility to package all perishable shipments in such a manner to prevent any leakage or spill of contents. To maximize freshness and quality, the product must be able to withstand a minimum of **48 hours** in transit until pickup, without refrigeration. For the best final destination temperature, Virgin Australia Cargo recommends shippers freeze or chill seafood thoroughly before packaging.

There are many different types of perishables, and they all have different characteristics to be considered when packing for air transport.

The following mandatory principals apply to any perishable (particularly seafood & live fish) items presented for uplift by Virgin Australia Cargo.

- I. The container must keep the content in good condition and mitigate the effects of time, such as normal wear and tear caused by transportation.
- II. The container must be manufactured to protect its contents against its own fragility, as well as changes in the environment (e.g., temperature, humidity, etc.).
- III. The container(s) must be strong enough to support a stack of up to 4 containers with boxes of the same weight for at least 24 hours without the lower containers collapsing.
- IV. Containers containing seafood must be waterproof or made waterproof using a polyethylene sheet of at least 0.1 mm of thickness and contain enough absorbent material (absorbent mat etc) to soak up **any** liquid that may escape from seafood or cooling materials.

Place the absorbent material in the bottom of the container before, then lining the inside with the polyethylene sheet liner.



Expanded polystyrene boxes prepared to transport seafood packed with wet ice.

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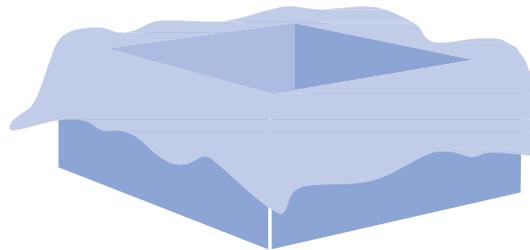
- V. When transporting seafood from or within Australia, shippers are advised to use seafood transport approved containers **marked with the 'Seafood Air Transport Approval' stamp**.

This ensures the container has been tested by an approved seafood shipping tester (N.A.T.A) and specifically designed for the safe transport of seafood by air, further reducing the risk of aircraft damage and corrosion due to content spill or leakage.

The below logo **MUST** be stamped on containers that meet these requirements.



- VI. When using types of containers for wet products, other than polyurethane or expanded polystyrene, such as fiberboard, pressed cardboard, corrugated cardboard, thermally laminated metallised polyester to corrugated cardboard or waxed cardboard, to transport fish/seafood, the requirements must also be complied with Section (e) above.



- VII. The thickness of polyurethane or expanded polystyrene boxes used to transport fish/seafood **must** comply with the following table.

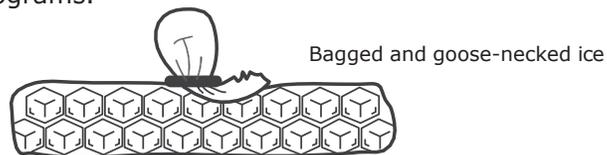
Weight per Box	Thickness
> 10 kg.	20 mm or more
10 to 20 kg.	20 mm or more
20kg+	30 mm or more
i.e As per Approved Seafood Shipping containers	

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VIII. In the case of seafood, further steps are required to ensure suitable packing. In addition to the use of a polyurethane inner lining (**0.1mm+ thickness**) and absorbent materials, the following additional measures are required to ensure leakage does not occur during transport:

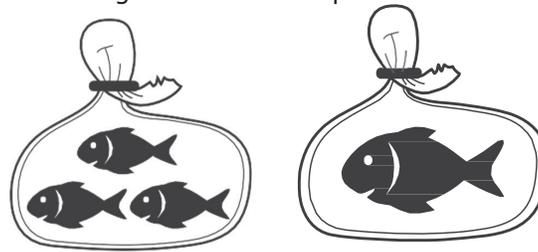
- i. Where wet ice is used as the coolant (**not the preferred method by Virgin Australia Cargo**)

Place the desired amount of ice, **no greater** than one (1) kilogram per bag, into a polyethylene bag, 0.05-0.1mm, thickness. Let air out, gather, twist and gooseneck the top. Tie with elastic band or twine etc. Prepare further ice bags as required. The quantity of ice should generally not exceed three (3) kilograms.



Bagging Fish - Drain excess liquid and blood from fish/seafood before placing in a polyethylene bag of -0.05 - 0.1 mm thickness.

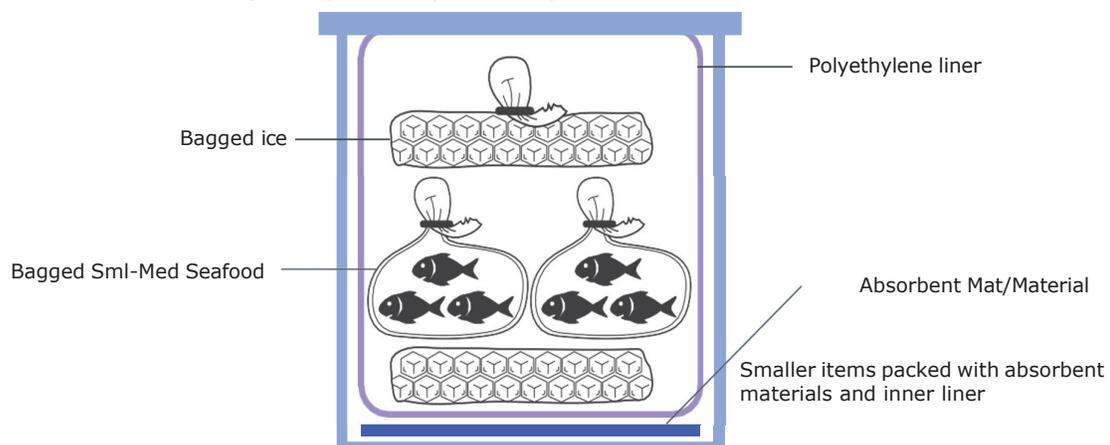
- Multiple small - medium sized items can be placed in a single bag. <Less than 5kg each. Each single bag contents not to exceed 5kg total weight.
- Larger items, such as whole **kingfish, tuna, coral trout or mackerel**, are to be bagged individually. 5kg+ each.
- Let out air, gather, twist and gooseneck the top then tie with elastic band or twine.



Smaller item bagged and goosenecked ice

Larger items bagged and goosenecked singly

- ii. Place the prepared bag(s) (ice & seafood items), as shown below, in the prepared container and wrap the polyethylene liner (**0.1mm+ thickness**) over the top, securing with adhesive tape. The gooseneck tie(s) of the inner packages **will be** uppermost in the package. Additional packing material (i.e. packing shapes/peanuts, cushions) is to be placed in and around the item(s) to limit movement within the package during handling.



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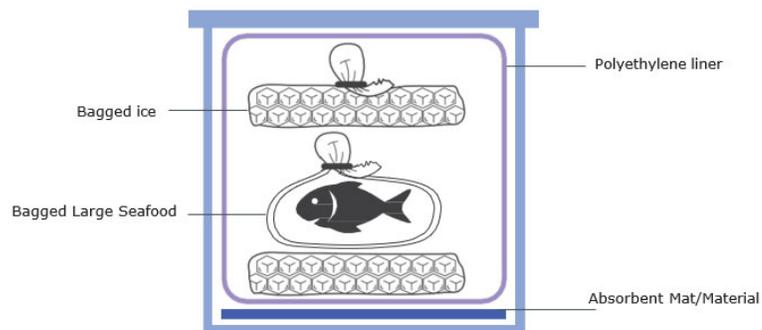
- iii. Large whole fish, such as whole Kingfish, Tuna, Coral Trout and Mackerel, are often shipped frozen in 'Tuna Coffins' Given their size, weight and solid state, these shipments are at increased risk of breaching their containers during handling (breaking through EPS boxes), increasing the risk of spillage/leakage and product loss.

To reduce this risk, individual whole fish weighing 5kg+ each, fresh or frozen, are to be packed one item per plastic bag, following the same steps as described above (multiple large fish can be placed in the container, bagged individually).

Individual whole fish weighing <5kg each may be packed together in a single bag, so long as a single bag does not exceed 5kg total

Shipping **whole fish** with individual weights greater than 5kg in Polystyrene / EPS cartons is **NOT** recommended due to the risk of contents punching through or breaching the containers during 'business as usual' operations. Should breakages occur, future lodgments from the shipper may be rejected until alternative packages are utilised – i.e. Fiberboard or Plastic-board.

Additional packing material (packing shapes/peanuts, cushions) is to be placed in and around the item to limit movement within the package during handling, further reducing the risk of breaches during transport.



Notes: Larger, single items packed with absorbent materials and inner liner

- iv. When shipping Live Crab, Lobster (Crayfish), Abalone, Eels, Shellfish, Mussels etc, some changes to packing standards are acceptable given the 'live' nature of this product and the need for ventilation.

Ventilation holes are permissible in each end and/or near the centre of the top position in such a way that fluid escape is not possible when handled and stowed correctly.

The product liner: polyethylene liner (0.1mm+ thickness). When packing Live Crabs, Lobsters, Abalone, Eels, Shellfish, Mussels etc, the liner may be omitted if the live species requires ventilation and adequate absorbent material is included. Protection of the inside of the box may be necessary by way of wood-wool, thickened flooring or EPS 'shapes' if the species is likely to dig into or damage the container floor.

Absorbent Material: Absorbent material capable of absorbing and holding at least 250ml of sea water must be included. The distribution of the absorbent material must be at least 50% below the product and at least 20% above.

- Place the required quantity of absorbent material in the base of the box.
- Put the inner polyethylene liner in the outer container with the open end facing upwards.
- After ensuring that the items are well drained, stack them, it is recommended that crabs are positioned such that claws are uppermost.
- Loosely fold over the top of the inner liner (if used). Do not seal.
- Seal the lid of the box with adhesive plastic tape and tape twice around the width of the box at 1/3 spacing and once around the ends, taking care not to block any ventilation holes.
- Ensure all appropriate handling labels are attached

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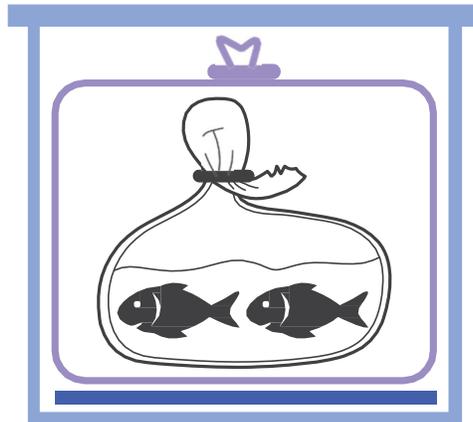
Notes:

Correct labelling is particularly important. Packages should be marked "Live Mud Crab", "Live Lobster" or "Live Eel" etc., as appropriate on at least two opposing sides and must have labels on two but preferably four sides that clearly and obviously state the correct orientation of the package during transport.

- v. When shipping live fish / aquatic animals, water must be contained within a polyethylene bag of at least 0.1mm thickness. Gathered at the top, twisted and goosenecked then tied with elastic band or twine.

Place the prepared bag(s), as shown below, in the prepared container (polyethylene lined and absorbent material) and wrap the polyethylene liner over the top, **goose neck and tie the liner (forming a double gooseneck)**. The gooseneck tie(s) of the packages should be uppermost in the package.

NOTE: When shipping live fish / aquatic animals the IATA Live Animal Regulations are to be consulted, and all packing requirements are adhered to. Failure to do so may see the shipment rejected at the CTO.



Live Fish - bagged and contained within inner liner and absorbent material

Labelling

Seafood and Live Fish consignments must be labelled correctly with the following details for acceptance:

- Orientation labels
- Perishable labels
- Dangerous Goods labels (if using dry ice as coolant)
- AWB label including details of;
 - o Name and address of shipper (as well as on the package)
 - o 24-hour phone number of the shipper (as well as on the package)
 - o Commodity specifics: such as tuna, mud crab, abalone etc (as well as on package)
 - o Live, Fresh, or Frozen – notated in 'handling Information' / 'Description of Contents' box on airwaybill (as well as on the package)
 - o Any additional information such as:
 - » 'in case of delay, please refrigerate, if available'
 - » 'Hold in cooler for pick up, if available'
 - o Weight for an individual item should be no greater than 60kg and 'heavy' labels applied for any single item with a weight of 20kg+
- Destination label (if issued by VAC)
- Live fish label – if applicable

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Taping

All Fiberboard and Expanded Polystyrene (EPS) seafood boxes must be taped to the following standard using minimum 40mm width tape – contrasting colour recommended.

- Lid circumference – ensuring good coverage across lid to container seam
- Twice around the width at approx. 1/3 spacing
- Once midway around the ends of the box



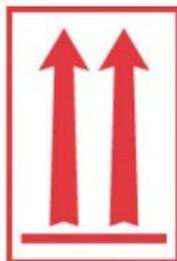
Example of labelling and marking of a package containing seafood, cooled using wet ice

All perishable cargo must contain the standard IATA label for “PERISHABLE” cargo, or the VirginAustralia Cargo equivalent label that communicates the perishable nature of the cargo.



The name of the product must be written on the outside of the package – Fresh, Frozen Seafood / Live Fish. This ensures better cargo handling.

All cargo containing liquid products, whether dangerous or not, must have orientation labels.



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Cargo containing dry ice as refrigerant must have the correct label for this product. The amount of dry ice contained in the package must be informed.



Example of labelling and marking of a package containing seafood, non-dangerous products cooled using dry ice.

Marking

Packages containing perishable goods must have, in addition to labels, the following markings:

- Name, address and telephone of the shipper and consignee
- When using dry ice as refrigerant, the package must inform the amount of dry ice in kilograms
- Name of the contents – Tuna, Mud Crab, Abalone etc.
- In the case of seafood, the following must be written on the outside of the package: "Frozen Seafood" or "Live Seafood." The latter must be treated in accordance with the Live Animal Regulations, even if they are destined for food production.
- 24-hour phone number of the shipper

Use of refrigerants

The use of refrigerants and insulation materials is key to the successful transportation of perishable goods. There are many types of refrigerants. The 3 most common are listed below.

Gel Pack (preferred)

Gel packs offer longer cooling periods without the risk of leakage if inadvertently damaged during the transport process. Gel packs are the preferred cooling method for Virgin Australia Cargo – particularly for Seafood shipments.

Wet ice (not preferred)

When using ice in cubes, it must be placed in polyethylene bags in amounts no greater than one kilogram per bag. Let air out and gather, twist and gooseneck the top. Tie with an elastic band, twine or waterproof duct tape.

Dry ice (solid carbon dioxide)

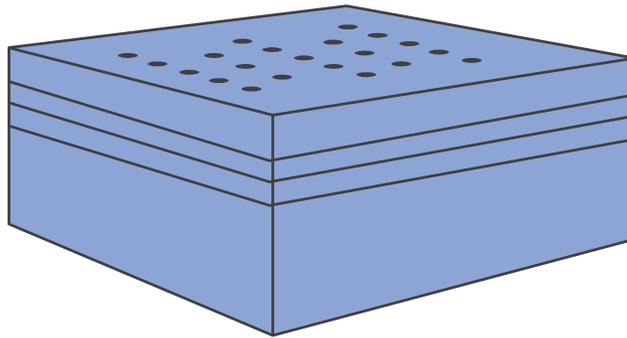
This product, as previously mentioned, is considered dangerous, and therefore must comply with the procedures established in IATA's Dangerous Goods Regulations

Restrictions on the use of dry ice include:

- packages cooled with dry ice must not be stored next to live animals or fertilized eggs
- the amount of dry ice is limited based on the aircraft's ventilation levels (please contact the Virgin Cargo Control Centre on (07) 13 82 87 (Press 9) to confirm limitations)
- it is not appropriate to use dry ice with fresh fruits and vegetables, except when duly secured in ULD so that the gas flow from the dry ice can be controlled

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When dry ice is used as refrigerant a few openings should be considered in the packaging to permit the release of the carbon dioxide gas. If the packaging is closed hermetically the carbon dioxide gas will build-up an internal pressure that can break the package. This may cause damage to other cargo within the aircraft compartment, and the ensuring noise could cause anxiety to passengers and to the crew members on board. In the case of expanded polystyrene boxes must have openings or perforations that allow sufficient carbon dioxide output.



Note: when using wet ice, it is not necessary to perforate the container.

Insulating Materials

In addition to the use of refrigerants, it is possible to use many types of insulating material to keep perishable goods refrigerated:

- a) Using a reflective cover, such as a thermal blanket, will limit the action of direct sunlight on the cargo during transportation to the aircraft parking spots or during loading.
- b) Flexible reflective insulating material can be used as cover. This material is highly insulating.

Heat Packs: Will not be accepted for travel with VA Cargo.

Special Conditions

Shipments of perishables packed with solid carbon dioxide (dry ice) require prior approval, since dry ice is classified as a dangerous good and the amount of dry ice onboard an aircraft is limited.

Use of intensely refrigerated liquefied gases requires prior approval and its transportation in both passenger and cargo aircraft is subject to IATA's Dangerous Goods Regulations.

Shippers Seafood Carriage by Air Check-sheet and Declaration, Acceptance and Handling

A Virgin Australia Cargo 'Check-sheet and Declaration' is required to be completed by the shipper prior to the Cargo Terminal Operator accepting the consignment for transport with Virgin Australia Cargo.

The completed acceptance checklist will be held on file at the originating port for a period of three (3) months.

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Shippers Declaration

The Check-sheet and Declaration must be completed and given to the CTO on delivery of the consignment. To secure a copy of the Check-sheet and Declaration contact the Cargo Control Centre on (07) 13 82 87 (Press 9).

Acceptance and Handling of Fruits and Vegetables

Fruits and vegetables must be considered "wet cargo," since they generate large amounts of water vapor.

Containers with evidence of damage or breakage on corners, the back or sides will be rejected until the package is repaired.

Containers with signs of liquids leaking from the inside will also be rejected.

Meats will be accepted in waterproof and leakproof packages or that are made waterproof by using polyethylene sheets. They must be clearly marked on at least two sides of the package with 'Meat or Meat Products'.

They must comply with the sanitation regulations of both the export and import countries.

Container / Packaging Approvals

Should a customer shipping seafood or perishables by air transport wish to utilize a new or specific type of packaging which contains properties not specifically outlined in this document, written approval from Virgin Australia Cargo is required. Contact Cargo Control Centre on (07) 13 82 87 (Press 9)

To seek approval, please provide, in writing the following information.

- Request for use of the specific container / packaging type, including the intended contents;
- Technical data sheet or information, including photos;
- Accompanying Certificate of Test Performance from a N.A.T.A Accredited tester ensuring testing completed to relevant Australian Standards. This should cover essential test items such as (but not limited to) Vertical Impact Test (Drop Test), Stack Test, Cobb Testing, Leak Test (Polystyrene / EPS boxes).
- Ensure that any approved containers carry the approved container logo stipulating maximum container weight.



Carrier liability

Virgin Australia Cargo do not assume financial liability for spoilage, thawing, or freezing due to delays in transit, unless there is clear evidence of mishandling or negligence.