

ONE

OCEAN NETWORK EXPRESS

COOLvantage

with ONE



Ensuring Freshness on Delivery

ONE Is A Global Reefer Carrier

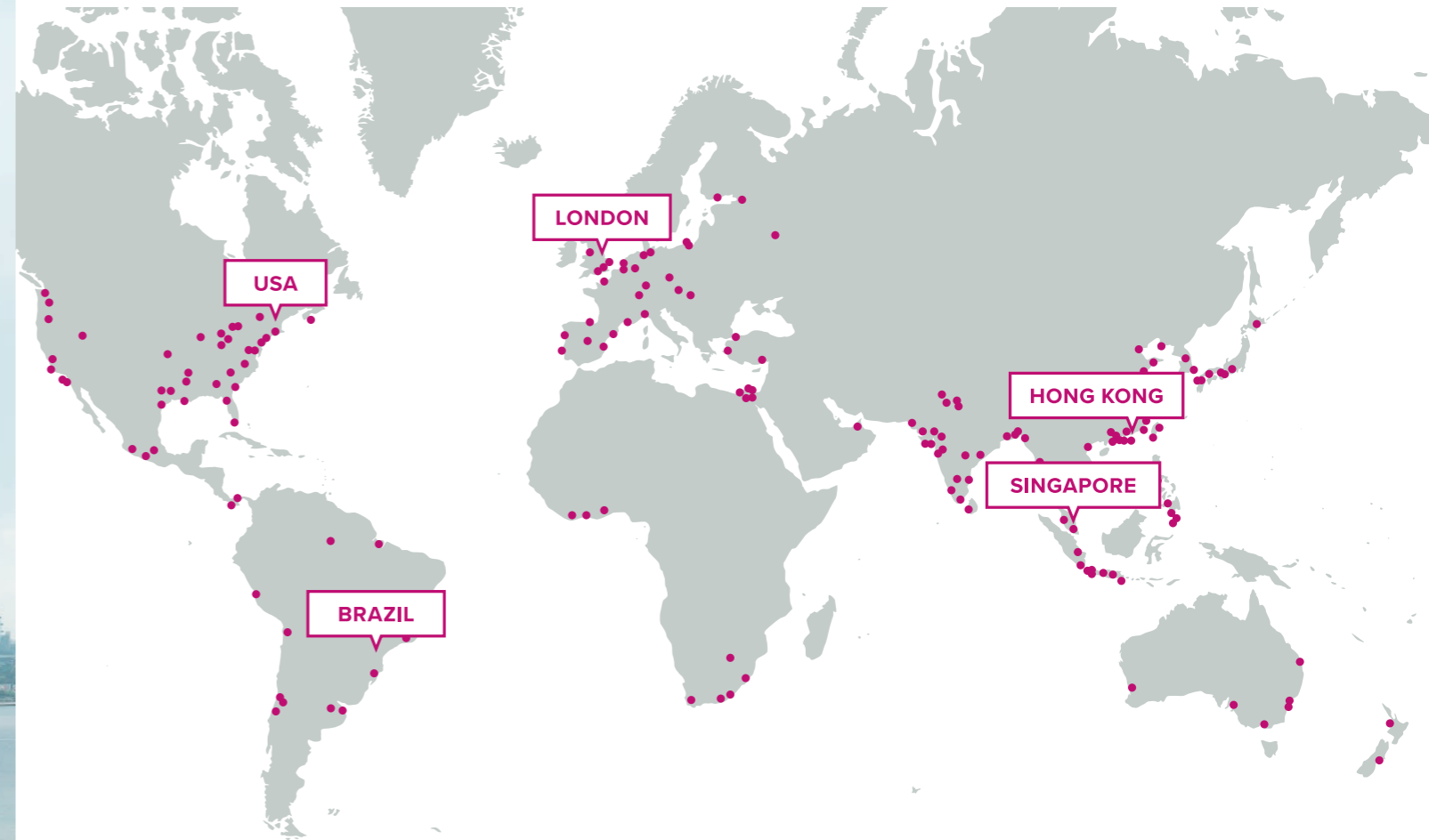
ONE emerged from the legacy of three leading Japanese liner companies, namely MOL, NYK and 'K' Line. These companies pride themselves on their service-oriented culture which is now embedded in ONE's DNA. The integration allowed ONE to inherit the three top liners' combined fleet of reefer containers making it one of the top 3 reefer carriers in the world (Over 250,000 TEU) and also giving it a strong market presence in major reefer markets such as

North and South Americas, South Africa, Europe, the Mediterranean, Intra-Asia and Oceania. ONE's overall fleet size based on capacity is now 1,550,000 TEU, making ONE the 6th largest container shipping company in the world (as of May 2018) with 7% global market share. ONE commands a fleet of 240 vessels including 31 super-large ships, such as the world's largest 20,000 TEU container-ships. They will carry your cargo in a global network that reaches more than 90 countries.



Worldwide Network

ONE has diversified market coverage with a strong focus on schedule integrity and a reputation of on-time performance, all of which are critical to the transportation of refrigerated cargo.



The Holding Company

- ▶ Japan

Operating Company

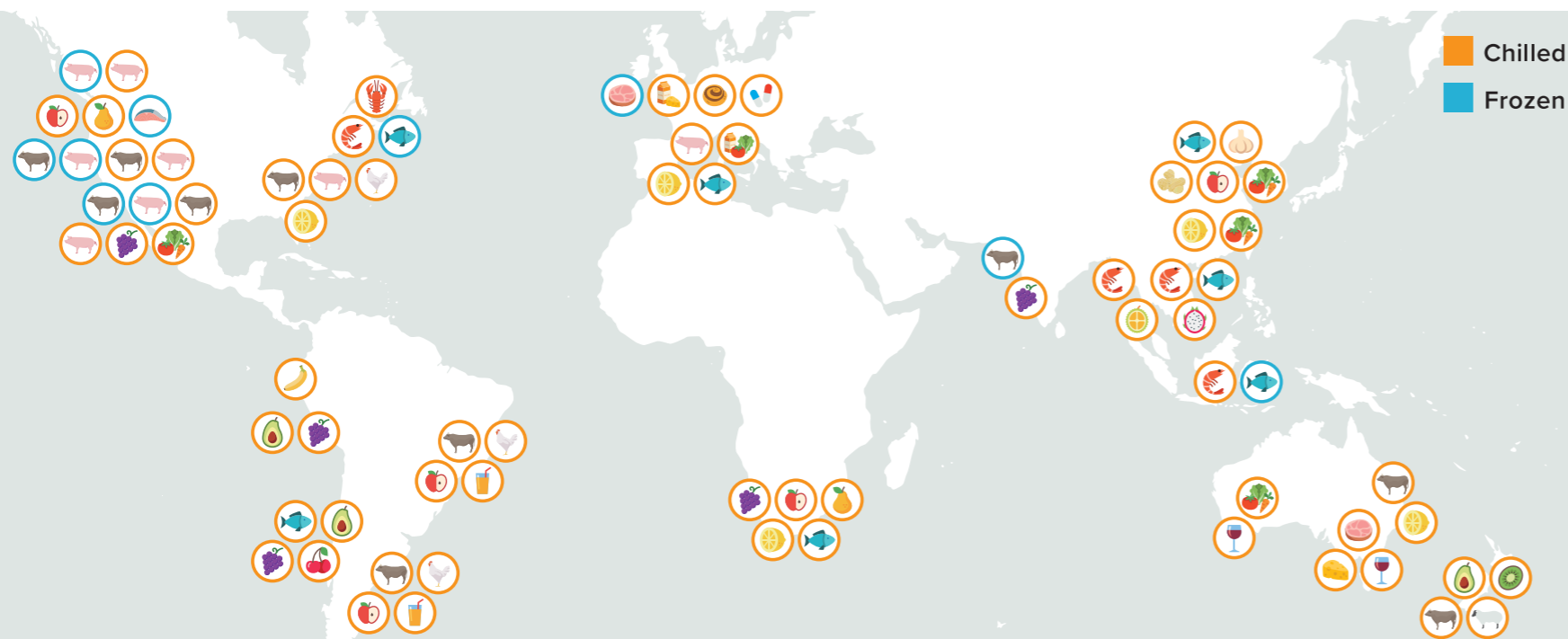
- ▶ Singapore

Regional Headquarters

- ▶ Hong Kong
- ▶ United States of America
- ▶ Singapore
- ▶ Brazil
- ▶ United Kingdom

Experienced Leader In Perishable Reefer Market

- Combined experience of 3 legacy Japanese shipping companies with strong reputation and experience in shipping perishable cargo
- Young and state of the art energy efficient reefer fleet of more than 250,000 TEU ranks us among the top 3 Reefer carriers in the world. ONE also has one of the largest fleets of controlled atmosphere containers; which further enhance the effective of refrigeration system on the shelf life of fruits and vegetables.
- Dedicated global reefer team in GHQ and regional sales and customer service and support groups around the world.



Canada East coast / Halifax : Lobster, Shrimp, frozen fish

Canada West Coast / Vancouver : Chilled and Frozen Pork

Los Angeles : Frozen Beef/Pork, Chilled Beef/Pork, Grapes, vegetables

Oakland : Frozen Beef/Pork, Chilled Beef/Pork

Seattle / Tacoma : Apple, Pears, Frozen Salmon

USEC / Jacksonville : Citrus,
Savannah, Charleston : Poultry, Pork, Beef,

South America West coast / Peru : Avocado, Grapes,
Ecuador : banana,
Chile: Fish, Avocado, Grapes, Cherry

South America East coast / Brazil, Argentina : Beef, Poultry,
Apple, Juice concentrate

EUR (cluster as North Europe ports such as Hamburg/Rotterdam) :
Frozen meat, Dairy, Confectionary, Pharma

South Europe / Spain, Italy : Pork, Food stuff, Citrus, Fish

South Africa / Cape town, Durban : Grapes, Apple, Pears,
Citrus, Fish

Few Asian countries / West India : Frozen Beef, Grapes,
Thailand : Shrimp, Durian **Vietnam :** Shrimp, Frozen Fish,
Dragon fruit **Indonesia :** Shrimp, Frozen Fish

North / Central China : Fish, Garlic, Ginger, Apple, Vegetable

South China :
Citrus, Vegetable

Oceania, Australia / Brisbane : Beef, Citrus,
Melbourne, Sydney, Adelaide : Meat, dairy,
Wine,
Western Australia :
Vegetable, Wine

Newzealand : Avocado,
Kiwifruit, Beef, Mutton

High Quality Service



ONE has a laser-sharp focus on customer service. Our culture is based on the Japanese philosophy of “kaizen”, which is about continuous improvement. Kaizen to ONE means we review our processes and offerings regularly to ensure our customers receive excellent service and support.

ONE’s Global Reefer Business planning team, which is based at ONE’s HQ in Singapore, develops ONE’s global reefer marketing and business strategy through close monitoring of market demand and closely collaborating with the regional reefer steering desks located in different parts of the world. Our reefer experts in regional offices work closely with Global Reefer Business planning team to offer customized reefer solutions to our esteemed customers. ONE has also established a dedicated and experienced global reefer technical team in ONE HQ in Singapore to provide round the clock technical assistance to reefer shipments as and when required.

Modern And Well-Maintained Reefer Fleet



With a reefer container fleet over 230,000 TEUs, ONE has one of the largest and youngest reefer fleet in the world, equipped with the most advanced technologies designed to handle perishable cargo.

ONE reefer containers are maintained in tip-top condition to comply with the International Safety Management standards (ISM). Pre-trip inspections are mandatory under ONE's Global M&R Policy to ensure that our reefer containers are in good condition. Our reefer containers have precise temperature control with maximum variation of 0.5°C for chilled products and 1°C for frozen products. Temperatures can be adjusted on the spot or programmed in advance.

ONE reefer containers are also equipped with state of the art technologies including humidity control, controlled atmosphere (CA), cold treatment (CT) and bulb mode (flower bulb shipment).

A reefer technical team is available onboard and onshore to provide round the clock assistance when required. ONE reefer experts (onboard and onshore technical team) monitor the performance of our reefer containers during the whole voyage to ensure they are functioning as per the set parameters (Supply/Return air temperature, humidity level, USDA probe temperatures etc).

Environmentally Conscious

ONE recognizes the business value of positive environmental practices in a globally changing regulatory landscape and providing ocean transport services that have a low environmental burden for our customers. As such, we commit to using best industry practices and accelerating our environmental response with new technologies. Carbon dioxide (CO₂) emissions from shipping currently represent around 3% of the total global greenhouse gas (GHG) emissions annually. The industry

as a whole contributes to poor air quality through emissions of nitrogen oxides (NO_x), sulphur oxides (SO_x) and particulate matter (PM). Reducing our GHG emissions along with other air emissions is ONE's priority and an integral part of our operations. In compliance with our proactive environmental protection policy, our state-of-the-art fleet reduces carbon (CO₂) emissions. All coolant used in our reefer containers are also CFC-free.



Unit Specifications

20 - foot refrigerated container

Sample Specification		
Exterior	Length (mm)	6,058
	Width (mm)	2,438
	Height (mm)	2,591
Interior	Length (mm)	5,456
	Width (mm)	2,288
	Height (mm)	2,263
Internal Capacity	(m ³)	28.2
Doorway	Width (mm)	2,290
	Height (mm)	2,221
Tare Weight	(kgs)	2,910
Maximum Payload	(kgs)	27,570
Gross Weight	(kgs)	30,480

40 - foot high-cube refrigerated container

Sample Specification		
Exterior	Length (mm)	12,192
	Width (mm)	2,438
	Height (mm)	2,896
Interior	Length (mm)	11,590
	Width (mm)	2,284
	Height (mm)	2,544
Internal Capacity	(m ³)	67.5
Doorway	Width (mm)	2,290
	Height (mm)	2,502
Tare Weight	(kgs)	4,520
Maximum Payload	(kgs)	29,480
Gross Weight	(kgs)	34,000

The above dimensions serve as samples only while actual container dimensions vary with different specifications

Key Technical Specifications

Key Features

TEMPERATURE RANGE	Normal Reefer : +30 Degree C to -30 Degree C. PRIMELINE and MAGNUM PLUS- +35 Degree C to -35 Degree C
VENTILLATION RANGE	0 TO 285 CBM/H
OPERATING VOLTAGE	360-500 VOLTS/ 50-60 HERTZ
DEHUMIDIFICATION	95% to 65%
REEFER MACHINE EQUIPPED WITH ADVANCED TECHNOLOGY FOR FAST COOL DOWN	
SUPERIOR INSULATION TO MINIMIZE HEAT LEAKAGE	



Freshest Food On Delivery

Light-Chilled

Temperature to Reduce Deterioration
+5°C to +25°C



Fruits



Vegetables



Films

Partial-Frozen

Partially Frozen
-3°C to -10°C



Meat

Chilled

Lowest Temperature Above Freezing
-3°C to +5°C



Fruits



Vegetables



Chilled Meat

Frozen

Completely Frozen
-10°C and below



Meat



Fish



Butter

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Figure 1. Perishable products require a specific storage temperature to preserve the quality.



ONE's Modern Reefer Fleet Features

Dehumidification

Dehumidification control lowers the relative humidity in a container during transportation. It is especially required for the transportation of items like bulbs to ensure dry packaging, prevent rot and reduce fungal development. It is necessary to lower the humidity because when higher levels of moisture are recorded in the surroundings, the bulbs may sprout early which can lead to mould. ONE reefer containers are capable of controlling the humidity within the range of 95% to 65%.

Enhanced Atmosphere

Ozone Enhanced Atmosphere is the active introduction of ozone into the internal atmosphere of the container to preserve the cargo. Regulated amounts of ozone are released throughout the voyage which decomposes the ethylene generated by the climacteric fruit and vegetables as they ripen and slowly decay.

Controlled Atmosphere (CA)

CA is a technology that extends the storage period of fruits and vegetables by adjusting the oxygen and carbon dioxide concentrations inside the hold. Depending on the type of vegetables and fruits, there should be a suitable balance of oxygen and carbon dioxide concentration. By keeping the concentration balanced during the transportation period, the quality of the cargo is maintained.

Cold Treatment (CT)

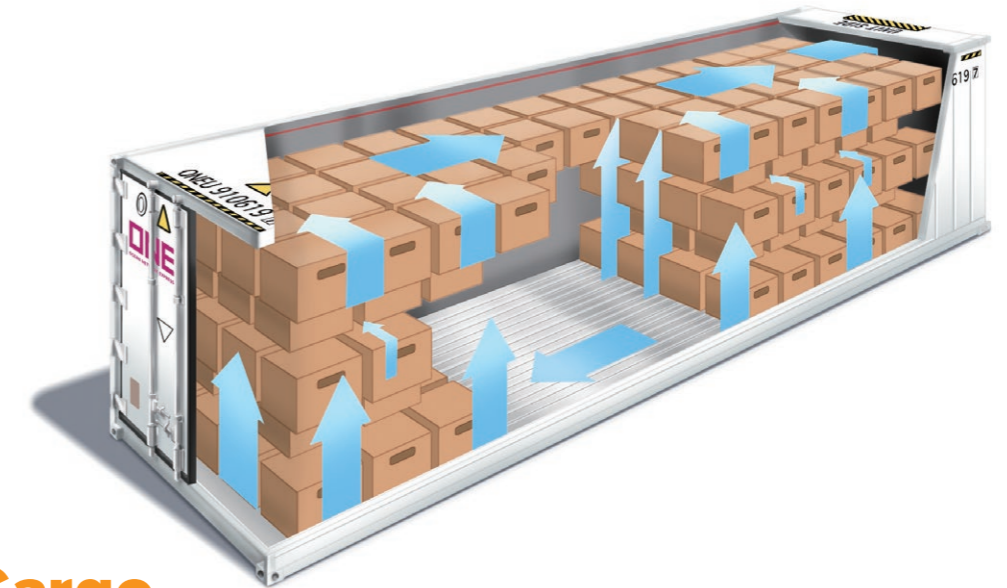
In cold treatment, an uninterrupted and sufficiently low temperature is maintained for a pre-determined duration in order to kill any insects and larvae that may be hidden in perishable goods. Temperature probes are also installed and connected to the reefer unit controller. They measure and record the internal temperature of the cargo at specific locations inside the reefer container.

Pre-Loading Guideline

Before Loading Checklist

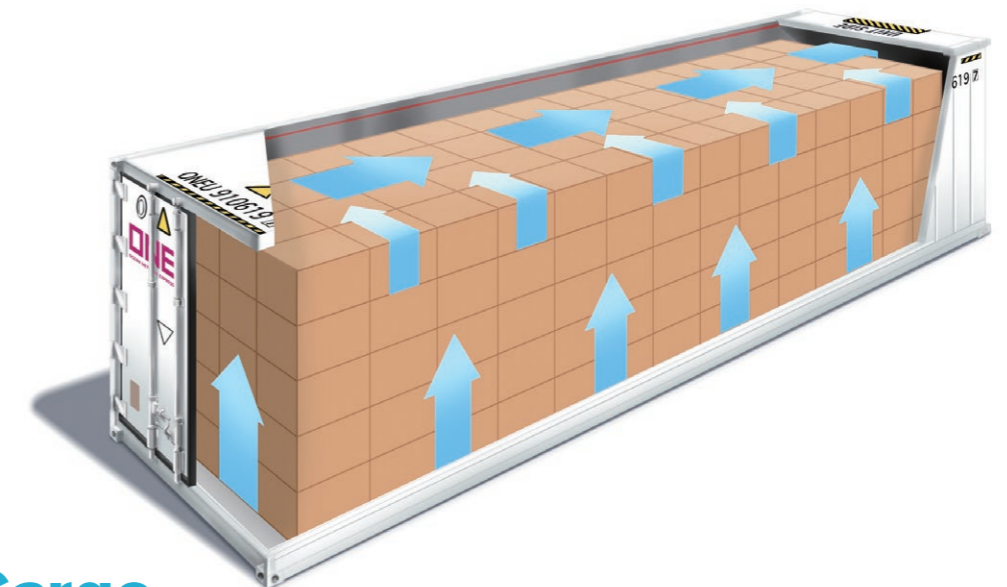
- ❑ Inspect the reefer container to ensure equipment is in good condition.
- ❑ Check and clean T-floor to ensure air channel is clear from the panel to the door.
- ❑ Pre-treat the products.
- ❑ Pre-cool the products to carriage temperature range.
Note: hot stuffing may damage both the equipment and cargo itself.
- ❑ Do not pre-cool the container, except when goods are being loaded at a cold facility where there is a sealed connection to the container loading bay.
- ❑ While reefer cargo is generally classified according to the storage temperature as shown in figure 1 on P10, specific reefer set-points vary according to the exact cargo commodity type.

Keeping Cargo Cool



Chilled Cargo

Chilled cargo is highly perishable premium food which can gradually ripen during shipment. In this illustration, the degree of air flow through the cargo is largely dependent upon the stuffing pattern at the door.



Frozen Cargo

If frozen cargo is pre-cooled to the correct carrying temperature, it is only necessary for air to circulate around the periphery of the load. A block stow, i.e., one that has no deliberate spacing between any of the packages or pallets, is all that is required. However, it is necessary to ensure that air can circulate under, over and to each side and end of the stow.

Chilled Cargo Stowage

- The key is to allow proper air circulation and flow-through so that heat, vapour, CO₂, and other gasses produced by the respiration process from chilled perishable products can be removed.
- Proper packaging such as packaging style and package material is necessary to support stacking weight and sustainability at various humidity levels.
- Any packaging accessory like shrink-wrap, slip sheets, foam trays and plastic bags which can block or obstruct air passage should not be used.
- Proper air passage on the package, including proper size/number/places of ventholes on cartons, is needed to allow refrigerated air to circulate through all the cargo in the container.
- Proper stuffing is required to allow refrigerated air to circulate through the package material and throughout the entire load.
- If the cargo cannot cover an entire floor, cardboard can be used to cover empty spaces to allow for smooth refrigerated airflow.
- There must be no stowage above the indicated red line on the container walls to avoid impeding return air flow.



Frozen Cargo Stowage

- As the frozen cargo should have been appropriately pre-cooled to the desired temperature before loading, air circulation should be aimed at blocking and preventing heat penetration from outside the container.
- The entire floor should be evenly loaded and covered.
- Proper corner support of cartons or pallets is needed due to the weight and loading pressure.
- Stowage must be kept below the red-line to avoid air circulation blockage. The key is to allow air circulation around the cargo.
- Ventilation and dehumidification must be set to "Off". Drain port must be "Closed".
- Solid block stowage, leaving no space between the packages or cartons, is preferred to avoid hot spot or short-circuiting.



Booking Check List

1. Specify origin and destination.
2. Provide a detailed description of the product being shipped, including commodity name, quantity, weight, cubic measurement, and type of packaging like boxes, drums and pallets.
3. Specify preferred equipment size: 20' or 40'HC.
4. Highlight preferred temperature settings in °F or °C.
5. Specify fresh-air exchange requirements in CFM or CMH.
6. Indicate modified or controlled atmosphere requirement: Gas composition (O₂ and CO₂ in %), type of scrubber, if required
7. Indicate shipment availability date at origin and required delivery date at destination.
8. Specify special handling requirements (for example, Genset, dehumidification percentage level and Cold Treatment).
9. Provide any documentation requirement, including legal requirements.
10. Inform booking office if container pre-cooling is required.



ONE Keeps Cargo Fresh

ONE has the expertise to provide tailor-made solutions for your reefer cargo. Please contact your local ONE sales representative for more information.





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2018.08