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Reefer container: Meat damaged due to wrong temperature settings

The container vessel had loaded cargo in a South American port, to be discharged in Europe. Several reefer containers with meat were also loaded. The containers had been filled with superior chilled meat at a cargo temperature of around 0°C. The containers were set to chilling mode with a set point temperature of -1.4°C.

Freezing mode

However, one of the containers was switched to freezing mode with a set point of -18°C and remained at this setting throughout the entire month's voyage to Europe

Confusion re reefer list

On the bill of lading it was stipulated that the container should be kept chilled at a temperature of -1.4°C. However, during the loading operation the agent supplied an initial reefer list which had two separate entries for this container, one where it stated that the container should be chilled and another where it said it should be frozen. This mistake was discovered by the crew, and the agent then updated the reefer list confirming the set point temperature as -1.4°C for the container.

Frozen meat

One month later the vessel discharged the containers in Europe. When the cargo receivers inspected the meat, they found it to be frozen. The meat should have been chilled as it becomes damaged when it is frozen.

According to the container unit's records the temperature in the container fell a couple of days after departure. This caused the meat to freeze. Over a sufficiently long time, even a reefer container will achieve solid freezing of the entire cargo. In this case, there was clearly sufficient time.

Each piece of meat was packed in a heat-sealed vacuum plastic liner bag. When the cargo receiver inspected the meat it had turned dark red and slightly brownish and the vacuum bags contained a considerable quantity of blood.

The meat which was initially of superior quality could now only be used for lower end products and had to be sold for a loss.

What can we learn?

- The crew should check that the container set temperature complies with the shipper's specified carriage instructions.
- If the delivery or return air temperatures are incorrect, it is important to confirm with the shippers that any adjustment to the correct set temperature will not lead to cargo damage during the voyage.
- The crew should keep clear and accurate records. Document each stage of the voyage from loading through to discharge as well as obtaining date-stamped photographs of incidents which occur during the voyage.
- Another concern is miscommunication between the charterers and owners, where multiple entries are made in the voyage instructions for the same reefer container with different corresponding temperatures which have been sent by the shipper/charterer to the owner/Master. Unless these entries are detected, incorrect instructions can be applied.