SAFETY ALERTS

CARGO DECLARATION FORMS – BULK CARGOES THAT MAY LIQUEFY

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^ Surveyor sampling bulk cargo

The club issued *Standard Cargo – Bulk Cargo Liquefaction (Iron Ore Fines and Nickel Ore)* in February 2011 and since then the situation has not improved; in fact it appears to have got worse. Dry bulk cargoes that are prone to liquefaction, such as iron ore fines and nickel ore, are continuing to be mis-declared by shippers as Group C cargoes (which neither liquefy nor possess chemical hazards) under the International Maritime Solid Bulk Cargoes (IMSBC) Code. This is a serious and potentially major hazard to the safety of crew and ship. The correct classification for cargoes under the IMSBC Code that are liable to liquefy is found under Group A.

The countries where shippers have been known to mis-declare or wrongly classify dry bulk cargoes include, but are not limited to:

- Indonesia
- China
- Philippines
- India
- Brazil
- Ukraine
- Venezuela

Since the beginning of this year, the club has seen an increase in irregularities relating to iron ore fines being loaded in Brazilian ports. Cargoes with high moisture contents are presented for loading and on the cargo declaration forms are wrongly classified as Group C cargoes. As a result, ships have suffered cargo liquefaction in their holds, with the moisture contents in excess of the transportable moisture limit (TML) and reaching it's flow moisture point (FMP). This has been confirmed at the discharge ports.

Ports in Brazil such as Ponta da Madeira and Santana are of particular concern, especially for iron ore fines declared as 'sinter feed ore' with no certificates of moisture content or transportable moisture limit presented before loading. 'Sinter feed ore' has since been identified as iron ore fines and can be considered as a Group A cargo (liable to liquefy).

Recent cases of owner's challenging the shipper over the veracity of the cargo declaration form have resulted in the cargo being re-classified as a Group C cargo. Furthermore, independent surveyors acting for owner's interests have been refused access for pre-loading surveys and subsequent authorisation for the survey denied by shippers. Examples of this have occurred in Brazil, Indonesia and the Philippines. Owners should consider clausing their charter parties to include that all statutory provisions of the IMSBC Code be followed and that owners stipulate their right to have an independent surveyor in attendance.

^ Liquefied sinter feed ore

Shippers in Brazil are now under pressure to reclassify their cargoes correctly according to the provisions of the IMSBC Code. The Code must be complied with at all times. Masters must be on their guard to ensure that the cargo to be loaded is correctly classified.

Certificates of moisture content must be issued for Group A cargoes, and the interval between sample or testing and loading should not exceed seven days. Certificates of transportable moisture limit must also be issued, with the interval between sample or testing and loading not exceeding six months. However, if it is suspected that the moisture content may have increased since the time of testing or that the flow moisture properties of the cargo may have changed, possibly resulting from heavy rainfall or inefficient stockpiling, additional testing should be carried out to confirm the safety and suitability of the cargo to be loaded.

FREQUENTLY ASKED QUESTIONS ABOUT CARGOES THAT MAY LIQUEFY (GROUP A UNDER IMSBC CODE)

1. **What should I do if there is insufficient data provided on the cargo declaration form and on moisture content and transportable moisture limit certificates?**

   Under the terms of the IMSBC Code, the shipper should provide the master with appropriate information on the cargo far enough in advance of loading to enable precautions to be put into effect for proper stowage and safe carriage of the cargo. If the shipper provides what is suspected to be an inaccurate or falsified cargo declaration form or certificates of moisture content and

transportable moisture limit, the cargo should not be loaded until it can be verified that it is safe to load and that the certification is in accordance with the IMSBC Code.

The master should contact the company along with the P&I club and local correspondent to assist in providing support and, if necessary, arrange for a cargo surveyor to attend the ship and assist the master. If there are any doubts as to the safety and suitability of the cargo, the shipper should be requested to provide accurate certification, which may involve retesting the cargo for moisture content and transportable moisture limit.

The master is reminded that under the provisions of Safety of Life At Sea (SOLAS), cargo should not be loaded if there are any concerns that the ship might be affected by the condition of the cargo.

2. What should I do if I spot significant water on the surface of the cargo in the ship's hold or on the stockpiles on shore?

Consider to stop loading cargo. The presence of water on the surface of the cargo could indicate that the moisture content is in excess of its transportable moisture limit. Inform the shipper of the condition of the cargo and that you have observed water. Contact your P&I club and local correspondent for assistance. Arrange for a cargo surveyor to attend and to check the condition of the cargo. Instruct the surveyor to take samples and arrange for retesting of the cargo by an independent laboratory to determine if the cargo is in excess of its transportable moisture limit and has reached its flow moisture point. If retesting determines that the cargo is in excess of its TML (thus presenting a serious risk of liquefaction) the remaining cargo should not be loaded. On no account should the ship sail with any cargo which has excessive moisture and which exceeds its transportable moisture limit. It can take as little as one or two cargo holds of liquefied cargo to capsize a ship and that not all holds need liquefied cargo to have a negative effect on positive stability.

^ Bulldozer trimming sinter feed ore inside a cargo hold at Santana, Brazil

^ Water seen in the tracks of a bulldozer during trimming of sinter feed ore at Santana, Brazil

^ Signs of water in the cargo hold during loading of sinter feed ore at Santana, Brazil

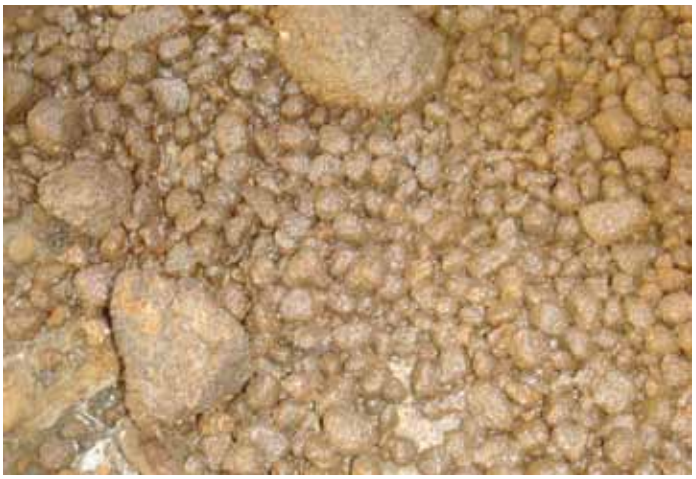
3. What should the cargo surveyor's duties include when assisting the master?

The surveyor should check the condition of the holds (charterers may have appointed a separate surveyor to check the condition of holds for suitability of loading). In particular, he should ascertain the cleanliness of the hold, including any residual moisture or water present. Holds should be clean and dry ahead of loading.

The surveyor should if possible check the condition of the cargo on shore and determine its suitability for loading, noting any moisture present or contamination and whether it accurately corresponds with the descriptions on the cargo declaration form and bill of lading. Cargo stockpiles for loading need to be clearly identified and related to the cargo documentation.

The surveyor should keep in close contact with the master and crew. The cargo plan should be closely monitored to ensure that the shoreside facilities are loading in accordance with the agreed plan.

The surveyor should take owner's samples of the cargo from various stockpiles on shore in accordance with the IMSBC Code procedures, in the event that it is necessary to double check the shipper's certification.



^ Sinter feed ore with high moisture content

If the cargo is wet or unrepresentative of the shipper's cargo declaration, samples taken by the owner's surveyor should be taken to an independent laboratory for retesting and confirmation of suitability to load.

The surveyor should pay particular attention to the prospect of rain and how this could affect the cargo to be loaded, including:

- advising the master to close the working cargo hatches when it rains for prolonged periods
- rechecking the cargo stockpile on shore to determine whether the rain has affected the cargo – has this changed the flow moisture properties of the cargo and increased the moisture content?
- additional testing if the cargo has become wet. It is essential that the cargo is retested to determine if it is safe for transport
- advising the master of any wet cargo – the surveyor may assist the master in conducting a 'can test'. This test should only be used to determine whether the condition of a cargo is **NOT suitable** for loading and should **never be regarded as an acceptance test or that the cargo is safe to load.**

^ Can test showing a sample of iron ore fines with signs of water

If cargo is to be loaded from barges:

- that the barges have proper certification for loading (cargo declaration form, moisture content and transportable moisture limit certification) in line with the IMSBC Code requirements
- that there is effective monitoring of barges, particularly relating to the stockpile from which the cargo originates
- be wary of barges going from ship to ship with a poor quality cargo until they find one that will accept it for loading
- be wary of barges arriving at ship's side at night, as the darkness may hide problems with the cargo that would be easily seen in daylight, such as dampness or poor grade quality

Appointment of a cargo surveyor does not relieve the shipper of his obligations under the IMSBC Code or local regulations.

KEY POINTS

- cargo declaration forms must be accurate and representative of the cargo to be loaded. This includes:
  - the correct bulk cargo shipping name (BCSN)
  - the cargo group (A and B, A, B or C)
  - IMO class and UN number if applicable
  - total amount of cargo to be loaded
  - stowage factor
  - trimming procedure
  - toxic or flammable gases which may be generated by cargo
  - cargo flammability, toxicity, corrosiveness and propensity to oxygen depletion
  - self-heating properties of the cargo
- if there is any doubt as to the validity or veracity of cargo declaration forms or certificates of moisture content or transportable moisture limited, the local P&I correspondent should be contacted for further assistance
- masters and ships' officers should have a good understanding and knowledge of the cargo to be loaded, including the ability to identify any signs of potential liquefaction problems
- the IMSBC Code has been mandatory since 1 January 2011 and must be complied with by both the ship and the shipper
- **the master has an overriding authority under SOLAS not to load any cargo and to stop loading, if there are any concerns that the ship may be affected by the condition of the cargo.**

When fixing the cargo or ship, chartering departments must identify the cargo accurately as per the IMSBC Code by providing the bulk cargo shipping name (BCSN) of the cargo. If this is not done, seafarers' lives could be at risk.

^ The International Maritime Solid Bulk Cargoes (IMSBC) Code

^ *Standard Cargo – Bulk Cargo Liquefaction (Iron Ore Fines and Nickel Ore)* February 2011