

## Is your cargo too wet?

Many fine particle cargoes are liable to flow if sufficiently wet.



## Gard warns Members to remain vigilant about liquefaction risk

Gard has recently been notified of new incidents where solid bulk cargoes classified as Group A, liable to liquefy, have been loaded with moisture content in excess of the transportable moisture limit (TML). Gard reminds Members to remain vigilant when loading such cargoes and to have a low threshold for contacting the Club if they have any concerns or questions.

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In the first case, the vessel was loading copper concentrates in Peru. The cargo was partially loaded when the Master observed pooling of free water in the holds and cargo spatter; i.e., cargo splashing up on the sides of holds when dropped from grabs. Both of these are considered red flags when loading Group A cargo. Re-testing revealed the moisture content exceeded the TML when loaded, and the values on re-testing were not in accordance with the cargo declaration. Investigations are ongoing however we note that the wet season in Callao is from December to April, with February and March experiencing the heaviest rain.

The second incident involved a Gard-entered vessel which loaded Iron Ore Fines from Ponta da Madeira, Brazil, bound for Praia Mole. The vessel took 2 days to load the nominated quantities with several rain interruptions during the operations. The cargo holds were closed during heavy rain, however the vessel continued loading during light rain. According to the master, the vessel developed a list to port 3 days into the voyage despite continuously pumping the cargo bilges throughout the voyage. Upon arrival at Praia Mole, the cargo in four of seven cargo holds had liquefied.

The wet season in Brazil is typically December to April. From January to March 2022, torrential rains have been reported in various areas of Brazil, causing flooding, evacuations and state of emergency. Due to the frequency of iron ore shipments originating in Brazil, the Club recommends heightened vigilance for ships which have loaded recently or are fixed to load Group A cargoes from Brazilian ports.

## **Recommendations**

- Before loading Group A cargo, the Master should be familiar with the IMSBC individual cargo schedule
- The cargo declaration, TML certificate and moisture declarations must be available in advance of loading. Any anomalies should be questioned and brought to the Club's attention.
- The cargo should be available for inspection by the Master or other ship representatives before loading.
- Can tests may be performed however the results should not be interpreted as "pass or fail" as the cargo would require detailed analysis and interpretation. Such field tests are only one indication that the moisture content may be in excess of TML and not a confirmation of cargo safety.
- Group A cargo should not be loaded in precipitation. Moisture content must be tested within seven days of loading or *any time there is a change in moisture* such as recent exposure to rain.

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- During loading, indications of excessive moisture may include signs of moisture pooling or splatter on the bulkheads.
- In case of any doubt about the safety of the cargo or reliability of certificates, we encourage a low threshold for contacting the Club for assistance.
- During the voyage, the crew should regularly check the condition of the cargo. Any sign of cargo liquefaction such as flattening, shifting, free surface water, or vessel instability should be taken as requiring urgent assistance not limited to seeking safe anchorage.

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