



Update on Group A bauxite that can cause vessel instability

The International Maritime Organization's *[review]*(<http://www.imo.org/en/MediaCentre/PressBriefings/Pages/22-bauxite-CCC.aspx>) of research on bauxite that can cause vessel instability is to result in a new IMO circular and future IMSBC Code amendments.

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In 2015 following the BULK JUPITER casualty, in which 18 seafarers lost their lives, Gard asked the question in our article [Loading of bauxite and other cargoes that may liquefy](#) whether we know enough about cargoes such as bauxite which are prone to liquefaction to be able to carry them safely. We now know a lot more thanks to two years of thorough and interesting research conducted by the Global Bauxite Working Group (GBWG). At the request of the IMO the GBWG was formed to conduct research on the behaviour and characteristics of seaborne traded bauxites and to inform the IMO in relation to the safe shipping of bauxites. The GBWG consists of representatives from various industry players such as miners, shipowner and operators, and alumina refinery operators.

The GBWG's comprehensive report was subject to a third party peer review by Imperial College, with a funding contribution from the International Group of P&I Clubs, and is recommended reading for those involved in the carriage of bauxite. A copy can be obtained by contacting the IMO on email media@imo.org

The [CCC.1-Circ.2%20-%20Carriage%20Of%20Bauxite%20That%20May%20Liquefy.pdf](#) provided temporary carriage instructions for bauxite pending the above research. Bauxite was and remains listed in the Code as Group C (non-hazardous) cargo. However, following the BULK JUPITER casualty and other research brought to the IMO's attention at the time, it was recognised that some fine particled bauxites may pose a liquefaction danger if shipped with a moisture content above the transportable moisture limit (TML). In other words, some bauxites should be carried as Group A cargo (which may liquefy). Members and clients should bear in mind that the Code's Appendix 3 provides that:

2.1. Many fine-particled cargoes if possessing a sufficiently high moisture content are liable to flow. Thus any damp or wet cargo containing a proportion of fine particles should be tested for flow characteristics prior to loading.

Interestingly, the GBWG research concluded that Group A bauxite does not undergo liquefaction in the way it is described in the Code (section 7.2.1). Rather, it undergoes a process described as "dynamic separation" which after cargo compaction during the voyage can lead to the formation of a liquid slurry (water and fine solids) above layers of more solid bauxite. In that broader sense it is still a cargo which may liquefy. The slurry may lead to a dangerous free surface effect, which in turn can cause vessel instability.

The IMO is in the process of finalising an updated circular on the carriage of bauxite which should be available shortly. Until such time the [CCC.1-Circ.2%20-%20Carriage%20Of%20Bauxite%20That%20May%20Liquefy.pdf](#) remains in effect. Draft new test methods and relevant schedules for bauxite cargoes (Groups A and C), which we expect to be contained in the new circular, will then be scheduled for adoption in a future update of the IMSBC Code.