

Circular From NORTH

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Familiar Findings in Bulk Carrier Safety Report

Earlier this year Intercargo released their report on bulk carrier casualties covering the period of 2008 to 2017.

During the period under review, 53 bulk carrier casualties on vessels over 10,000 dwt were reported. Incident numbers peaked in numbers in 2011 but since then the numbers have steadily declined. Two casualties were reported in 2017: Stellar Daisy and Emerald Star. Both resulted in the loss of life and the vessel.

Year	Handysize 10K-34999 dwt	Handysize 35K-34999 dwt	Supramax 50K-34999 dwt	Panamax 60K-34999 dwt	Capesize 80k+ dwt	Total
2008	4	0	0	1	0	5
2009	6	3	0	1	0	10
2010	1	1	2	0	2	6
2011	6	2	1	1	1	11
2012	1	0	1	1	0	3
2013	1	3	2	0	1	7
2014	1	1	0	0	0	2
2015	2	0	1	1	0	4
2016	0	1	0	0	2	3
2017	0	0	1	0	1	2
Total	22	11	8	5	7	53

Total losses - Number of bulk carriers incidents by size and year

Despite a reduction in the number of incidents overall, the report highlights that the most common cause leading to loss of life was cargo liquefaction. This resulted in the loss of 101 lives between the years 2012 to 2015 alone.

Liquefaction still kills

Liquefaction can occur with fine grained, moisture-laden cargo where the space between the cargo grains is filled with both air and water. When the vessel is at sea the cargo is subject to forces due to the vibration and rolling of the vessel. These forces cause the space between the grains to get smaller. The water in those spaces is subject to a compressive force, but as it is a liquid it cannot be compressed. This has the effect of reducing the friction force that holds the cargo in a solid state. Where enough moisture is present, the reduction in friction can be enough to cause the cargo to flow like a liquid. When this happens, the cargo shift leads to a loss of stability.

Safe actions might save lives

The Master should only accept bulk cargoes that may liquefy (IMSBC Code Group A) when the actual moisture content (MC) of the cargo is less than its transportable moisture level (TML).

Loading should not start unless the Master has received a declaration for the cargo from the shipper accompanied by certificates that provide the TML and the MC of the cargo. These results should be obtained from using the correct test method in a recognised laboratory. These requirements are outlined in section 4 of the IMSBC code.

During loading the crew must remain extremely vigilant. They should look for signs that the cargo has too much moisture in it to safely carry. Tell-tale signs include:

- Stockpile sat in water or has been subject to heavy rain fall.
- Splatter on the cargo hold bulkheads. Be aware that in some cases crane drivers deliberately lower the grab deeper into the hold before releasing the cargo to prevent obvious splattering.
- Visible signs of liquid in the cargo when in the hold.
- Failed can tests - the IMSBC code outlines the can test method in section 8. It is very important that regular can tests are conducted throughout.

Vigilance is vital

Group A bulk cargoes are carried worldwide every day and the vast majority of voyages pass without incident. However, the risk of loading a cargo unsuitable for carriage due to its moisture content remains and therefore ships' crews must remain alert to the dangers.

The best way to stay safe is to strictly follow the IMSBC Code at all times and be vigilant before and during loading as well as throughout the voyage.

Source of Information: North of England P&I Club