



## **Soya bean claims due to self-heating on the rise in China**

Gard is again seeing numerous claims in 2017 relating to heat damage in soya bean cargoes loaded in South America, particularly Brazil, mostly for discharge in China. Due to the relatively high value of soya beans and large quantities shipped, owners may face multi-million dollar demands for security for claims.

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**Causes** Heat damage arises from microbiologically induced self-heating, which is principally caused by a combination of elevated moisture content and elevated cargo temperatures in parts of the cargo. Soya beans have a limited safe storage period before heat damage becomes increasingly likely. The higher the moisture and temperature levels and the longer the voyage the more prone soya bean will be to self-heating.

**Aggravating circumstances** As Gard reported in March this year (see [Brazil – Heavy rainfall has led to port congestion and risk of delays](#) ), the rainy season has been particularly heavy in parts of Brazil. Quite apart from the effect on the beans themselves, this has led to port congestion and delays.

Another factor that may be causing delays in discharge in China is a reduction from 13% to 11% in the rate of VAT charged on the import of agricultural products, including soya beans. This change came into effect from 1st July 2017 and to get the benefit of the lower rate receivers may have deliberately delayed discharging causing knock-on delays and making even more likely damage due to self-heating. Cargo experts appointed by Gard in one case were recently informed by agents in Rizhao that there were more than ten vessels at anchor with Brazilian soya beans on board, and which arrived around a month or so ago. See : <http://www.hellenicshippingnews.com/soybean-cargoes-piling-up-at-chinas-ports-as-imports-surge/>

## Recommendations

- Continue to be vigilant during loading and monitor the visual condition of the cargo so far as practicable (see [Heat damage in soya bean cargoes - the importance of inspections](#) ).
- Gard continues to see cases of blackened “bin burn” beans, which occur when over-moist beans are put into storage without sufficient aeration for long periods of time. Soya beans are pale yellow/brown by appearance and although sales contracts allow for several percentage points of damaged and discoloured beans, members should advise Gard if, on loading, portions of the cargo visibly differ from normal with parts of discoloured or black beans. Representative photographs are available in our previous article. See [Heat damage in soya bean cargoes - the importance of inspections](#)
- Cargo temperatures should ideally be taken during breaks in loading and, for the purposes of ventilation, on completion of loading. If significant temperature variations (say 5 to 10°C) and/or elevated temperatures are noted, this may be indicative of self-heating already underway.
- It is very important that proper ventilation practice during the voyage is recorded accurately, including times when ventilation is not conducted and reasons for not ventilating.

Ships facing potentially long delays before discharge commences should contact Gard. If cargo temperatures can be safely obtained at a depth of 1m that can be communicated to charterers/cargo interests so that mitigating steps can be considered. The temperature information will indicate whether self-heating is taking place. Gard can then arrange the attendance of a cargo expert to gather evidence of the condition of the cargo before discharge. The worst heat damage and greatest degree of heating occurs in the surface layers and temperature profiling will enable experts to better assess and defend claims by receivers

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