



Technical Circular

No.: 127/2017

Date: 10th October 2017

To whomsoever it may concern

Subject: Carriage of Ammonium Nitrate Based Fertilizer (non-hazardous).

- Ammonium Nitrate based fertilizer (non-hazardous) is described as a Group C cargo in the International Maritime Solid Bulk Cargoes (IMSBC) Code.
- Ammonium Nitrate based fertilizers (non-hazardous), under normal conditions, are stable materials. Under abnormal conditions, however, they can give rise to certain hazards; the main being the enhancement of fire, thermal decomposition with release of toxic fumes and under extreme conditions, explosion.
- The IMO's Sub-Committee on Carriage of Cargoes and Containers (CCC), at its fourth session (11 to 15 September 2017) noted the accidents involving the carriage of Ammonium Nitrate based fertilizer (non-hazardous).
- The gas clouds produced during the above mentioned accidents were large enough to envelop the ship, and cover the sea area surrounding the ship. The vapour emitted was highly toxic. Such condition could affect the safe abandonment of the ship and hinder rescue and firefighting efforts. In such events, cargo decomposition may last for multiple days and the temperatures in cargo holds may reach in excess of 500 °C.
- The best protection for seafarers is awareness of the decomposition process to allow it to be identified at an early stage. Regular monitoring of the cargo temperature throughout the voyage is crucial to detect beginning of decomposition
- Following is recommended in case of decomposition or fire involving this cargo:
 - Provide maximum ventilation to remove the gases resulting from decomposition. Timely opening of cargo hatches can prevent the build-up of pressure and help cool the cargo, impeding the development of cargo decomposition.
 - Wear, as necessary, protective clothing and self-contained breathing apparatus;
 - Application of water is most effective where injection pipes are used to deliver water to hot spots. Water spraying may not be sufficient to control the decomposition;



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- Flooding of the cargo space may be considered, giving due consideration to the ship's stability and structural strength; and
- The ship's gas firefighting installation will be effective.
- Ship owners, ship operators, and masters are advised to be guided by above and take extreme care and appropriate action, taking into account the provisions of relevant IMO instruments and the information above when handling and carrying Ammonium Nitrate based fertilizer (non-hazardous) in bulk.

Enclosure:

1. IMO Circular CCC.1/Circ.4 dated 22 September 2017.

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