SYNOPSIS

On 18 January 2008, the Latvian registered cargo vessel *Sava Lake* was proceeding towards the Dover Strait when it was discovered that two of the vessel's able seamen were missing. During a search of the vessel, the bodies of the two missing crew were found at the bottom of the access ladder inside the forward store. The deaths were reported to the UK authorities, and *Sava Lake* diverted to Dover, where an investigation into the causes and circumstances of the accident was commenced by the MAIB in cooperation with the Maritime Administration of Latvia.

Sava Lake had loaded parcels of "steel turnings" in Copenhagen and Horsens, Denmark, before sailing for Leixoes, Portugal on 15 January. Prior to loading, the master of *Sava Lake* had received conflicting information about the properties of the intended cargo. Notwithstanding this uncertainty, the master accepted the cargo, which was in fact an IMDG Code Class 4.2 material, *ferrous metal turnings*. This type of cargo is liable to self-heat, and can therefore reduce the levels of oxygen within the cargo hold. Documentation held on board the vessel specifically prohibited *Sava Lake* from carrying this type of cargo.

The investigation found that:

- To clear the cargo hold ventilation trunking of any build up of cargo residues from the hold, or sea water from the deck ventilator, an earlier crew had cut the flexible bellow pieces that were fitted adjacent to the ventilation fan. This created a direct air path from the cargo hold into the forward store.
- Air in the hold, with oxygen levels of around 6% by volume, almost certainly migrated into the forward store, leading to the asphyxiation of the two ABs when they entered the unventilated space. The reason why the two men entered the forward store, without the knowledge of the vessel's senior officers, could not be established.
- Notwithstanding the nature of the cargo stowed in the adjacent hold, the ship's staff did not consider the forward store to be an enclosed space, therefore no precautions were taken before the store was entered.

Following the accident, brokers and shippers involved in the fixture of *Sava Lake*'s cargo introduced measures to ensure that information and cargo handling procedures required by the BC Code are closely adhered to in the future.

The MAIB has promulgated a flyer to industry in order to highlight the safety lessons that have been identified during the investigation. Additionally, recommendations have been made to the managers of *Sava Lake* which are designed to: produce improvements to the design of the vessel's cargo ventilation system; improve awareness of the cargo carriage restrictions imposed by the Dangerous Cargo certification issued to its fleet; and improve company procedures covering the identification and entry into enclosed spaces.

Recommendations have also been made to specific maritime and trade associations designed to ensure that hazardous or potentially hazardous cargoes are properly identified and described in cargo documentation.