

# Safety Alert



SA 011

## Zinc Concentrate from Bar, Montenegro

The Managers are aware of a number of cases where Members have been offered bulk cargoes of zinc concentrate from Bar, Montenegro for discharge in China. However, tests of the material have found that the cargo is not safe for carriage due to the possibility of liquefaction.

Zinc concentrate is a Group A product which is listed in the International Maritime Solid Bulk Cargoes (IMSBC) Code under the schedule for "Mineral Concentrates".

The material from Bar, which has been variously described to potential carriers as zinc oxide, zinc ore and pyrites, is the by-product of a zinc processing plant in Kosovo which has been dumped in large spoil heaps over the years. Previously the product was unwanted as it was uneconomic to process it further. However, high metal prices and improved extraction methods have led to material from the spoil heaps being purchased for shipment.

The spoil heaps have never been protected from precipitation and tests in the past have shown the material to have a moisture content of up to 31%, exceeding the Transportable Moisture Limit (TML) by a considerable margin.

By way of example, a vessel due to load zinc concentrate at Bar was recently presented with cargo documentation in accordance with IMSBC Code requirements indicating that the product was safe to carry. However, can tests indicated otherwise and the visual appearance of the cargo was that of wet mud. Samples were then sent to an



**Typical appearance of zinc concentrate presented for loading in Bar, Montenegro**

independent laboratory in the United Kingdom which confirmed that the moisture content of the product was significantly higher than the TML and consequently prone to liquefaction.

It is understood that at least two shipments of this cargo have taken place to date. Although both vessels reached China, after opening the holds it was clear that liquefaction had occurred with completely flattened cargo surfaces. In one case there was 30cm of free water on top of the cargo. Although liquefaction had occurred, both vessels were very fortunate that the cargo did not shift. Other vessels have rejected the cargo completely and sailed from Bar in ballast.

It is rumoured that a drying plant may be installed at Bar at some stage in the future. In the meantime Members are advised to contact the Managers before fixing a vessel to load zinc

concentrate or zinc oxide from Bar for news of any developments.

Members already committed to such a fixture should notify the Managers without delay as it will be necessary to appoint a local surveyor to take samples of the cargo prior to arrival and arrange for them to be sent to a reliable laboratory so that an accurate determination of the TML and moisture content can be made. Since it appears that there are no laboratories in Montenegro equipped with a suitable flow table, samples will need to be sent to an independent laboratory elsewhere in Europe. This may take several days. However, based on past experience the tests are likely to show that the moisture content exceeds the TML and that the cargo cannot be loaded.

Members requiring further guidance are advised to contact the Loss Prevention department.