

PROPERTIES AND LIQUEFACTION RISK ON BULK CARGO CARRYING BUKIT GOH, KUANTAN BAUXITE; IN ACCORDANCE WITH IMSBC CODE

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Abstract:

Bauxite is a raw material used in the production of alumina and, subsequently, aluminium. Like many metals, world demand for aluminium, and therefore bauxite, has grown substantially over the past 10 years in response to economic growth in emerging Asian economies. Bauxite is a relatively soft ore with a distinctive reddish brown colour. Bauxite ore from Malaysia exported to manufacturing country such as China to be process into aluminium. Basic properties of bauxite are determined for exporting purpose in which several international specifications need to be follow while handling bauxite in order to ensure those raw materials are passing the standard to be imported. Laboratory test had been done to bauxite samples from Bukit Goh in Kuantan to determine its basic and morphological properties. It is found out that moisture content of raw Bukit Goh bauxite is higher compared to processed bauxite where it has the average of 24.33% over 7.16% only on the processed bauxite sample. For particle distribution, it shows that the processed bauxite has less fine particle compared to raw samples with the average of 16.60% compared to raw with 38.50%. Result from FESEM test proves that the lesser fine particle attached to the processed bauxite ore. Referring to the IMSBC Code, it can be stated that raw bauxite samples from Bukit Goh does not pass the standard. This is due to the presence of bulky fine particles which tend to absorb water more than granular particles that may lead to liquefaction to occur. Liquefaction during cargo transportation is high risk especially when there are strong current at the sea. In order to ensure the bauxite is passing the standard, beneficiation process must take place where it include washing, wet screening and mechanical or manual sorting.

Keywords: : International Maritime Solid Bulk Cargoes (IMSBC) Code; Bauxite; Liquefaction

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