

ABSTRACT

Fahreza Mawlana, 2017, NIT: 50134780. N, *“The Analysis On The Causes Of Liquefaction Occur On Nickel Ore Concentrates On MV. Hanjin Santana”*, Nautical Thesis, Diploma IV Program, Semarang Merchant Marine Polytechnic, Material Adviser (I): Capt. Agus Subardi, M.Mar., and as Methodologi and Writing Adviser (II): Nur Rohmah, S.E., M.M.

Nickel ore concentrates are one of the group A of solid bulk cargoes type which may liquefy if shipped at a moisture content in excess of their limit and it will become fluid under the stimulus of compaction and the vibration which occurs during a voyage. When the vessel stay in Kwangyang, South Korea as her discharging port, 700 MT of nickel ore concentrates which are located in no. 1 cargo hold became fluid. To discharge the liquefied cargoes, consignee must rent a bucket elevator to the port authority to replace ship's grab bucket which couldn't discharge liquid cargoes type. For that reason, analysis should be done to find out causes that make liquefaction occurred on nickel ore concentrates on MV. Hanjin Santana. Another purpose of this research is to find out the effort to prevent liquefaction on nickel ore concentrates.

This is a descriptive qualitative research with describing detailed of loading and discharging operation of nickel ore concentrates on MV. Hanjin Santana until the liquefaction were detected on the cargoes. In determining the priority of the problem to be solved, the researcher used a method which is called by USG (Urgency, Seriousness, Growth) method by giving a score from 1 to 5 on the causes of liquefaction occurred on MV. Hanjin Santana.

The research result showed the main cause that permitted liquefaction occurred on nickel ore concentrates on MV. Hanjin Santana is loading nickel ore concentrates in bulk which contained moisture content in excess of their limit and the effort to prevent the liquefaction of nickel ore is Duty Officer and Able-Bodied Seaman should take sample of the cargoes overall on each barge according to IMSBC code rules.

Keywords: Nickel Ore Concentrates, Liquefaction.