UK P&I CLUB

Bulletin 28 - 12/97 - Butadiene Loadings - ex Brindisi (Italy)

We have been advised of several incidents where cargoes of Butadiene, ex Brindisi have been rejected at the intended discharge port due to excessive dimer content.

The dimerisation of butadiene is an unstoppable process, its rate being said to be purely under thermal control. Practically speaking, the rate of dimerisation can be held at an insignificant level if the temperature of the cargo can be held at a level below zero degrees Celsius.

Whilst gas ships are very good at maintaining cargo temperatures, they are sometimes required by the cargo suppliers (Enichem in Brindisi is one) to receive onboard, an initial warm quantity of cargo that has been residing in the shoreline for some considerable time.The vessel is required to cool the received cargo down, often to fully refrigerated temperatures (minus 5 degrees Celsius at atmospheric pressure) at the quickest rate possible to prevent further significant dimer formation.

At Brindisi the shoreline is several kilometers long and of course the summer ambient temperatures can be very high indeed. The shoreline contents, which amount to approximately 65 tonnes of butadiene, increases in dimer content to unknown concentrations and is loaded on board the vessel. Eventually cooler (semi refrigerated) cargo from shoretank storage reaches the vessel and the high dimer shoreline cargo is diluted with low dimer cargo from shore tank storage.

We understand that cargoes that are ostensibly on specification with respect to dimer content at Brindisi upon completion of loading, are sometimes found to be off specification after, say, a transit of the North Atlantic to the US.

*Invariably where there has been a dimer problem on discharge the ship has been held **fully responsible!***

There is concern that the dimer content of the cargo bulk, upon completion of loading at Brindisi, has been understated in analysis conducted by Enichem due to the difficulty in obtaining representative samples immediately following admixture of the high and low dimer content portions of the cargo. Certainly very high dimer butadiene becomes more viscous and oilier as a result of its elevated dimer content and whilst in the long term it is completely soluble in the cargo bulk, there is some concern that the loadport Certificates of Quality (used by claimants to establish a prima facie case) can, in some shipments, understate the real situation and that the cargo did not have enough allowance between shipment and receiving dimer specifications to successfully undertake the voyage.

In summary, we believe gas ship owners should be wary at Brindisi and any other ports where warm butadiene cargo is supplied. Masters should always note protest of the fact that warm cargo was initially supplied and diligently record a quantity/temperature record of the initial cargo. If the ship has a sample cylinder onboard we would recommend that a sample is taken at the liquid manifold upon commencement of loading (a first pumpings sample) and retained on board in a deep freeze until it is apparent that all is well at the discharge port. This sample will be invaluable in the event of "off specification" dimer content being declared at discharge port. Alternatively if no sample cylinder is available onboard owners might consider instructing a local surveyor to draw and retain this sample on their behalf.

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Source of information: David Jones CWA Consultants through K.S.Lumbers