

NAUTICAL NOTES

NOTE NO 13

16.05.00

Vegetable Oils Outturn

(These notes are intended to circulate technical information and we hope they encourage their inclusion in loss prevention initiatives with due acknowledgements)



NAUTICAL NOTE NO 13

Possibly not a good omen having a number like that at the beginning of a nautical note, but then it does apply to rather a fortunate outcome following a situation which could have resulted in an outright disaster. Lets set the scene first.

A cargo of vegetable oils had been transported from the Far East to Europe in winter time. The vegetable oils consisted of crude palm oil, palm kernel, palm styrene and coconut oil. There was no problem with contamination or carriage and the first indication of any problem was during the discharge of the styrene where it became obvious that we had a huge mountain of solidified palm styrene in the starboard aft tank. This was, in all likelihood, due to the larger area of the ballast tank in that region and the presence of transverse cofferdam on the aft bulkhead (including the surface area of heat exchange).

As soon as we discovered the problem, we stopped the cargo discharge and blew the line back (to ensure the line stayed clear in the extremely cold temperatures). We then introduced live steam to the outboard ballast tank, which was also a double bottom tank, and to the transverse cofferdam. We

started the (submerged) cargo pump on re-circulation with as much pressure as the system could take and kept this re-circulation up for some 12-15 hours. The decks became quite warm and all the ice melted in that area! In fact, as we discovered when we opened the tank lid for inspection, it had the desired effect with the palm styrene virtually all returned back to liquid form.

Once discharge was resumed, although we had some difficulties with the discharge line which we overcame quite quickly, we were able to discharge the whole cargo and sweep virtually everything out of the tank.

It is of vital importance during discharge of these sensitive cargoes that a close watch is kept and that cargo is stopped at sufficient level to allow re-circulation and heating to re-establish control before a situation arises that one cannot recover from. This happened later!

The Second Scenario

The next incident was entirely self-inflicted due to over enthusiasm and a particular lack of belief in the rules. Whilst it had been made clear that none of the double bottom ballast tanks



should be pressed up to reach the tank top, in fact this was done in one pair of ballast tanks, probably mistakenly, because one of the cargo tanks above was empty. Needless to say the effect on the cargo tank that was not empty was not noted until much later.

As cargo discharge progressed and we prepared for sweeping operations in the tank in question, nothing untoward was initially noted, pumping was normal, back pressures were normal; but as the cargo got down to a level where we could enter the tank for sweeping it became immediately apparent that something had gone horribly wrong. Hopefully the photograph will give some indication of the disaster.

Yes, the palm oil had gone solid. There was too little oil in the lines to drop back into the tank, there was too little to circulate and the shore had a non-return valve so we could not drop back from the shore tank into the ship. It,

therefore, became a very urgent sweeping job to get out what we could and to live with the rest. The ship eventually had to dig out the remains of the tank and wait for the claims to roll in.

It is incumbent on all involved in these operations to ensure that the rules on discharge are not broken due to a change of staff in the control room (and this ship had a very sophisticated control room) and that everybody not only understands, but believes in and follows those rules.

If you require any assistance on discharge supervision of vegetable oils or an expert view on an incident that has occurred, feel free to contact us in the usual way.

C F Spencer & Co Ltd
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