



Ship Type: All ships

Trade Area: Western Europe, USA

## **Bulletin 45 - 05/98 - Polypropylene Contamination of Bunkers - Western Europe, Gulf and East Coast USA**

We understand this contamination, first noted in the middle of last year, still remains a threat in the Western Europe, Gulf and East Coast USA areas. A company known to us reports having come across 15 cases of such contamination which may not be detected using conventional sampling measures. Whilst none of the 15 cases has led to mechanical damage, handling problems have been severe and there have been frequent slowdowns caused by choked filters and several debunkering.

The problem stems from minute particles of polypropylene (varying in size from 30 microns to 650 microns and shaped from sand like to pea size, to strands up to 5mm in length) not being effectively removed by the purifiers due to it being of lesser specific gravity than the fuel oil.

The particles collect on the filter system screens and due to their nature and the temperatures found in booster systems the particles are not effectively removed from most types of self cleaning or backflushing filters. The result is choked filters

What is worrying is that standard fuel testing procedures are not picking this contamination up; it is only after the filters have become choked that the problem becomes apparent. This has occurred even after having met the parameters of ISO 8217-96.

The origin of this contamination is not known although it is thought to come possibly from the Baltic or Russian area.

### **Recomendations :-**

If bunkering in the Antwerp, Rotterdam, Amsterdam region it would be advisable to carry out pre - testing of bunker fuel, to determine whether polypropylene is present in the fuel. The method recommended to be used which has proved to be very accurate is FT - IR (Fourier Trans Infra Red).

Evidence would suggest that polypropylene is most likely to be present in the fuel if after bunkering problems the ship's hot filter before the engine becomes blocked and it is necessary to clean it every 1 - 2 hours or less. The reason for the blocked filter is the partial melting of polypropylene which forms a plastic coating in the filter mesh.

If this should occur the bunker reference sample taken from the ship's manifold at the time of bunkering, plus a sample of the collected sediment from the filter, should be despatched for FT - IR analysis, to determine if polypropylene is present.

### **Source of Information :-**

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