

Microbiological Contamination in Gasoil

SHELL MARINE FUELS

TECHNICAL BULLETIN

Microbiological Contamination

Introduction

Microbiological contamination occurs predominantly in distillate fuels like gasoil and marine diesel. Microbes are present everywhere, often being carried into fuel tanks by air. In fuel they remain dormant unless they come into contact with free water when they can begin to grow. Their growth then generates solid material at the interface between fuel and free water in a tank. The solid material can break up and disperse in the fuel during tank filling or because of the motions of the vessel at sea. This presents a significant threat to the safe operation of a vessel if the solid material in the tank passes into the fuel lines and filters, it may cause blockages starving the engine of fuel.

HOW TO PREVENT MICROBIOLOGICAL CONTAMINATION

- Growth cannot occur if the tank is free of water.
- Regular tank draining is absolutely essential and can save a lot of trouble later on.
- Buy your fuel from a reputable supplier only who regularly maintains his fuel tanks and who supplies only clean, dry fuel. NEVER take fuel that has been uplifted from another vessel - it may already be contaminated.
- Look after the fuel in your tanks - it is expensive and should not be stored and forgotten. To eliminate the possibility of microbes, remove all traces of water in your tanks by regularly (at least weekly) draining off any water that has collected in the bottom of the tanks.

WHAT TO DO IF YOUR TANKS ARE CONTAMINATED

- Draw off samples of the fuel and arrange to have them analysed by a laboratory for microbiological growth.
- Remove the remaining fuel from the tank.
- Manually clean out the solid matter, dry out the tank, and remove all contamination. This could involve high pressure water washing and/or hot washing/venting the internal surfaces of the tank. Replace the filters and clean through the fuel lines if necessary.
- Refill the tank with a charge of fresh fuel.
- In most cases, cleaning followed by regular tank draining to prevent further contamination should be sufficient to remedy the problems; in cases where there is some doubt (e.g. where it has been difficult to completely clean out the tank) it may be necessary to use a biocide. If required, add a quantity of biocide to the fresh fuel to ensure complete elimination of the microbes. A specialist contractor should dose the fuel because of the toxicity of most biocides.

If any further information is required, please contact your local Shell Marine Products

