



## Microbes in Fuel

Left unattended, fuel in storage tanks can sometimes develop a dirty slime at the fuel/water interface. Apart from being unsightly it can block tank strainers and vehicle fuel filters. If left unattended it can spoil the fuel and contribute to tank corrosion.

This Fuel News describes what it is, how it grows and how to control it.

### WHAT IS IT?

It is mainly a fungal growth. Fuel is its main food source; it prefers kerosene or automotive diesel fuel to petrol. It is often described as looking like a "chocolate mousse". When the conditions are right, growth will occur at the fuel/water interface. Large mats of slime can form quickly and block filters. Reduced fuel stability and corrosion can also occur. The most prevalent fungus that grows in fuel is *Cladosporium Resinae*. Commonly called "clad" it caused widespread problems in the aviation industry before it was recognised and controlled.

### WHERE DOES IT COME FROM?

Fungi are natural soil inhabitants. Their spores, which are like very small seeds, easily become airborne and all fuels, will contain some. Spores by themselves cause no problems, but when they germinate and grow the problems begin.

### WHAT CONDITIONS PROMOTE THEIR GROWTH?

- Essentials
- water
  - Food source; a suitable fuel
  - correct temperature range (10°C - 40°C)

If any of the above is absent the spores will remain dormant until suitable conditions are present.

Petrol is not a good food source; its composition is rarely suitable and lead when present, acts as a poison.

### CONTROL

The key to fungal control is removal of water. The low points of tanks and pipework must be drained regularly. If all water is removed one of the essential conditions is absent and fungi cannot grow.

There are several options available to treat fungus, once it has been confirmed that this is the problem.

One option is to clean the tank thoroughly, preferably by steam cleaning. Any small residue of fungus or dirt remaining will help the fungus re-establish. A biocide may then be added as a preventative measure. Biocides are chemicals which act as a fungal poison, killing the existing fungus and preventing a recurrence of the problem.

Alternatively, treatment with a biocide may be all that is required. A biocide should only be added to a fuel tank after any free water and sludge has been drained off.

If fungal contamination is suspected, samples can be tested. It is important to draw samples from the fuel/water interface and the tank bottoms.

For expert advice contact the BP Technical Helpline or the biocide suppliers Fuel Treat on 1800 034 442.

Please use these chemicals in accordance with the manufacturer's instructions, and dispose of any fuel or tank washings properly.

**For further information, please call the BP Lubricants and Fuel  
Technical Helpline 1300 139 700 local call  
Or visit [www.bp.com.au/fuelnews](http://www.bp.com.au/fuelnews)**