

FLEET-TECH™ MICROBICIDE

FUEL TREATMENT FOR FUEL SYSTEM PROTECTION

The effective and long-term fuel system protection against Micro-organisms



- Kills all kinds of micro-organisms
- Quick-kill biocide effective for long-term fuel maintenance
- Soluble in both water and fuel phase
- 100 % bio-degradable
- Protects tanks from microbe influenced corrosion
- Approved for use in diesel & gasoline

The plugging of fuel filters is perhaps the most common and easily recognizable symptom indicating the presence of microbial contamination of fuel storage tanks. Unfortunately, by the time fuel filter plugging has occurred, contamination of the system has reached severe proportions. Although the growth of microbes occurs in the water phase of the fuel water interface, micro organisms can still find their way into vehicle fuel systems.

In most engines, the elevated temperatures of re-circulated fuel in the fuel system may kill some micro organisms.

However, the dead micro organisms will form debris that can quickly plug fuel filters. In some cases biological growth may flow downstream and eventually colonise on the engine's fuel filter medium.

Once the microbes have had a chance to settle on to the filter medium the flow of fuel will be significantly diminished eventually starving the engine of needed fuel.

The more serious effect of bacterial contamination is the corrosion of the fuel distribution and storage tank. This problem is often not detected until it is too late. As the microbial communities grow and flourish they create an environment ideal for tank corrosion. Metabolic by-products of the microbes can produce organic acids and hydrogen sulphide that accelerate the corrosion process.

Microbes require several conditions to survive and proliferate. Two of these are food and water. Fuel is the food for microbes.

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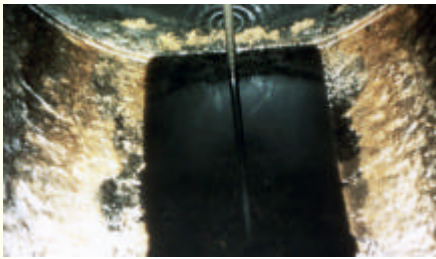
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Part-No.	Description	Litres
CC 2661M	Fleet-tech Microbicide	1
CC 2663M	Fleet-tech Microbicide	4

WATER CAN COME FROM MANY SOURCES

• Many fuels contain a degree of dissolved or chemically bound water, which can later condense out during temperature changes and form free microbiologically available water.



Contaminated fuel tank

- Atmospheric moisture may often enter storage systems through breather vents, floating tank tops, ineffective seals, etc.
- Today mobile equipment with state-of-the-art diesel engines is confronted with the problem of building up atmospheric moisture in the equipment's fuel tank. As these engines are equipped with high-pressure injection systems, the systems generate more heat which is dissipated via the return fuel to the fuel tank. When the vehicle is not in use the hot fuel cools down and atmospheric moisture enters the fuel tank, condenses and builds up a layer of water in the fuel.
- Some systems actually add water for ballast, vapour space elimination or measuring requirements.
- Other systems may actually purge delivery lines with various sources of water.
- Complete water removal may be very difficult to achieve due to tank design.

YOUR FUEL SYSTEM NEEDS PROTECTION

Chemical treatment, when used appropriately, is a very cost-effective method of controlling microbial growth. Chemical treatments, also known as microbicides, exist in three forms: water soluble, fuel soluble and universally soluble.

Fleet-tech™ Microbicide is a universally soluble biocide.

It combines the "best of both worlds", that is, Fleet-tech™ Microbicide is soluble in both the water and fuel phase.

Fleet-tech™ Microbicide is also effective at eradicating large populations of micro-

organisms in the water phase and also dissolving into the fuel phase in order to provide protection for vehicle fuel systems. Fleet-tech™ Microbicide effectively quick kills micro-organisms, bacteria, and fungi, in the following liquid hydrocarbon fuels and oils: diesel fuel, gasoline, aviation fluids, kerosene, heating oils, domestic fuel oils, and liquefied petroleum gases.

When used as directed in a properly maintained fuel tank system, 2 treatments



Colony of bacteria on fuel filter

per year can prevent microbial growth, improve the fuel quality, eliminate microbe influenced corrosion problems, and extend fuel island filter and vehicle filter life.

WHY USE FLEET-TECH™ MICROBICIDE

- The Fleet-tech™ Microbicide is effective at killing all types of micro-organisms (bacteria, fungi and yeast) that can thrive in fuel systems.
- The Fleet-tech™ Microbicide is effective for up to 6 months after a system is properly treated.
- The Fleet-tech™ Microbicide has an immediate (less than 24 hours) and significant biological reduction effect on diesel fuel storage tanks.
- Of the commonly available biocide types, the active ingredients in the Fleet-tech™ Microbicide are the most effective at immediate, long lasting protection of fuel storage systems that contain all types of common microbiological contaminants.

Good Fuel Housekeeping

It is recommended to drain accumulated water or pump water regularly from tank bottoms and sumps. Inspect filters and screens regularly and filter fuel to remove fungal debris. A good fuel tank maintenance program will reduce microbial growth and improve vehicle filter life.

Method of Addition

Fleet-tech™ Microbicide should be dispensed directly into a fuel tank, or flowing stream of fuel in a manner to ensure uniform distribution of the treatment in the fuel system. Slug dose or continuous feed methods are recommended.

TREAT RATE INFORMATION

Curative Dose

When the system is moderately fouled, add 1-2 litres of Fleet-tech™ Microbicide for every 10,000 litres of fuel in the system. This will provide 100 to 200 ppm of Fleet-tech™ Microbicide and 1.5 - 3.0 ppm active ingredient.

Repeat until control is achieved.

Shock Dose

For systems that are severely contaminated, it is recommended that 4 litres of Fleet-tech™ Microbicide be added for every 10,000 litres of fuel. These systems should be professionally cleaned to remove solids and debris.

Preventative Dose

Add 0.5 to 1.5 litres of Fleet-tech™ Microbicide for every 10,000 litres of fuel. This will provide 50 to 150 ppm of Fleet-tech™ Microbicide and 0.75 to 2.25 ppm active ingredient. Repeat every 4 - 6 weeks or when microbial contamination is detected. It is recommended that periodic surveillance be performed to facilitate the timely detection of microbial activity.

