



FuelClear M15

FuelClear M15 is a liquid biocide that treats and prevents microbiological growth in hydrocarbon fuels. It is a broad-spectrum preservative and disinfectant for treatment of diesel, kerosene and heating fuels. **FuelClear M15** is designed to treat industrial volumes of fuel in marine, rail, automotive, offshore & storage applications.

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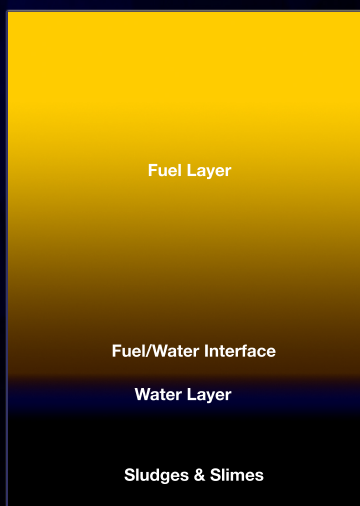
FuelClear M15 microbiocide from Fuelcare is a patented, high performance antimicrobial agent, developed specially to combat problems of microbial contamination and spoilage in hydrocarbon fuels. **FuelClear M15** is a broad spectrum preservative and disinfectant for the treatment of diesel fuels, kerosenes and heating oils, the active components being isothiazolone compounds.

As water finds its way into fuel storage tanks, often observed as fuel haziness, microorganisms breed, forming slime and emulsion that leads to filter blockage and corrosion of metal tanks. Once transported, the contaminated fuel contains the accumulated bacteria leading to blockage of downstream filters, pumps and injectors.



How does FuelClear M15 work?

Typical Fuel Tank Cross Section

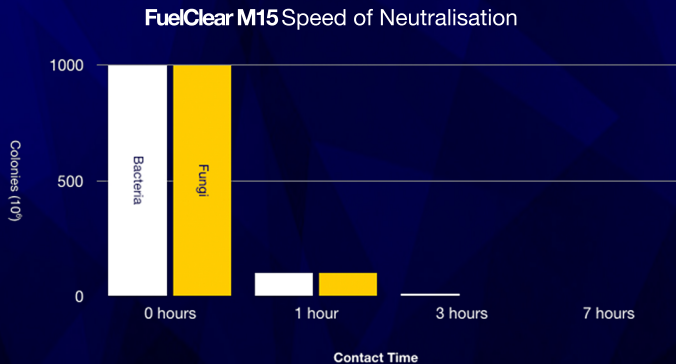


FuelClear M15 works by eliminating the often deep emulsion layer at the fuel/water interface. This will facilitate water removal by draining or by the fuel line separator. It is this emulsion that is often the critical problem when it enters the fuel line after fuel contents of a tank are disturbed or shaken.

Fuel treated with **FuelClear M15** will remain protected from contamination over extended periods of time. It will also resist contamination if re-inoculated from other sources during storage or transport. **FuelClear M15** has outstanding performance in a variety of applications & has wide ranging approvals and endorsements. The product can be used in various industries including marine, automotive, home heating and military fuels.

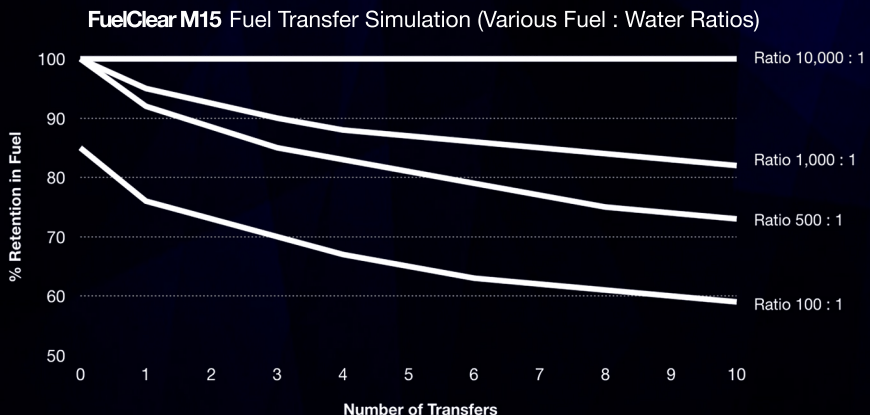
Performance of FuelClear M15

FuelClear M15 is effective at very low use levels against microbial species (bacteria, fungi, yeasts) commonly encountered in fuel systems. **FuelClear M15** causes immediate inhibition of growth on coming into contact with a microorganism. Growth inhibition rapidly becomes irreversible and results in cell death.



The time to achieve eradication varies according to the extent of the contamination and the type of microorganism present. Typically, as the graph indicates, within 24 hours of treatment the fuel will again be fit for use.

In further studies conducted over an 8 week period, contaminated fuels were treated with fuel biocides - see below. The fuel treated with **FuelClear M15** remained free from contamination for the duration of the trial. None of the competitive products evaluated could match this performance.



FuelClear M15 Technical Data

FuelClear M15 is normally dosed at the rate of approximately 300ppm, which corresponds to 0.3l per 1000 litres of fuel volume. If **FuelClear M15** is being dosed as a precautionary measure, when there is no evidence of microbial contamination, a lower dosage rate of approximately 150ppm (0.15l per 1000 litres) will be appropriate. In cases of severe contamination, however, a dosage rate of up to 1000ppm (1l per 1000 litres) should be used. The higher dosage rates in these circumstances will also help to improve filter fuel flow in the short term.

At 300ppm a minimum retention time of 12 hours should be maintained but this may be reduced at the higher dosage rates. In general, the higher the concentration of biocide, the shorter the contact time required for a more complete kill but in all cases 24 hours retention is sufficient. Where possible, water and sludge should be removed from fuel tanks before dosing **FuelClear M15** and also after the retention period. Contact Fuelcare for more information.

No Warranties are given; all implied warranties of merchantability or fitness for a particular purpose are expressly excluded. Use Biocides safely. Always read the label and product information before use. **FuelClear M15** is a Trademark of Fuelcare Ltd.

Fuelcare is a private British company that specialises in improving fuel quality. Our head office & laboratory based in Shrewsbury, U.K., is dedicated to fuel engineering. All Fuelcare staff are members of the Energy Institute & IASH (Stability, Handling & Use of Liquid Fuels).



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