Cost Effective Maintenance

PMX 145

PMX 145 Biocide for Diesel Fuels

PMX 145, is a non-hazardous antimicrobial agent that delivers high performance and is specifically designed to tackle microbial contamination in diesel fuels.

This product showcases remarkable activity and broad-spectrum effectiveness, functioning efficiently at minimal application levels against common fuel contaminants such as bacteria and fungi. Moreover, the active components in PMX 145 are non-persistent in the environment, enhancing its environmental compatibility.

PMX 145 is the perfect application when non-dangerous goods are required for treating all diesel fuels for fuel preservation.

DOSING INSTRUCTIONS

1 :4000 standard ratio

Curative Treatment: For heavily fouled systems, treatment levels of 1: 2000 PMX 145 should be used.

This dosage may need to be repeated periodically to maintain control of these microorganisms. Grossly contaminated systems may require physical cleaning to remove debris. Tank debris can be removed after 6 hrs

Regular dosing 1:4000 PMX 145 will ensure the fuel distribution system remains free from microbial growth.

Exceeding the recommended dosing is not recommended no further benefits will be obtained

Road Vehicles: PMX 145 can be added directly to the vehicle tank.

Marine Vessels: Where manual cleaning is not an option PMX 145 can be added directly to tanks. Filter change and debris removal may still be required.

Storage Tanks: To optimise the distribution of PMX 145 addition into a flowing fuel stream is preferred.

Either slug or continuous feed dosing can be used.

PMX 145 is not surface active. It will therefore encourage rather than inhibit water separation.

6 hours after PMX 145 has been introduced, heavily contaminated debris can be removed from the bottom of the tank.

General Recommendations:

Whatever method of addition is employed appropriate precautions should always be taken. Avoid any dermal contact. Suitable protective clothing should be worn (including rubber gloves and safety goggles/face shields).

TESTING INFORMATION

Laboratory testing

PMX 145

Microbiological growth in distillate fuels can be a problem and in recent months the manifestation of such growths in fuel with resultant filter blockage has been quite prevalent.

Microbial colonies propagate at the fuel-water interface, and if water can be totally eliminated, the problem of microbial growth can also be eliminated. However, total elimination of water is difficult to attain in practice.

One of the active components of PMX 145 Biocide is picric acid, a recognised anti-microbial agent (phenol coefficient = 6). At the recommended level of treatment fuel treated with PMX 145 Biocide contains only about 5 ppm of picric acid — a safe level for handling, and not requiring certification by Australian health authorities.

Published independent laboratory tests on simulated samples and actual filters **used in the field** show that picric acid concentrates in any water present in the fuel and/or filter and can attain levels to prevent microbial growth.

The picric acid then becomes a biostat in the fuel tank and filter, preventing the growth of colonies in the fuel system. The level of picric acid extracted from filters submitted for analysis was in the range 75 ppm to 300 ppm, depending on the water content of the filter.

A report of a controlled laboratory study conducted in North America which involved making up three aqueous picric acid solutions containing 88, 176 and 294 ppm of acid, and testing for biocidal effect. These concentrations correspond to the probable range of picric acid encountered in practice and the results are summarised below.

Samples of distilled water were inoculated with bacteria and treated with varying amounts of picric acid. These results are also shown below.

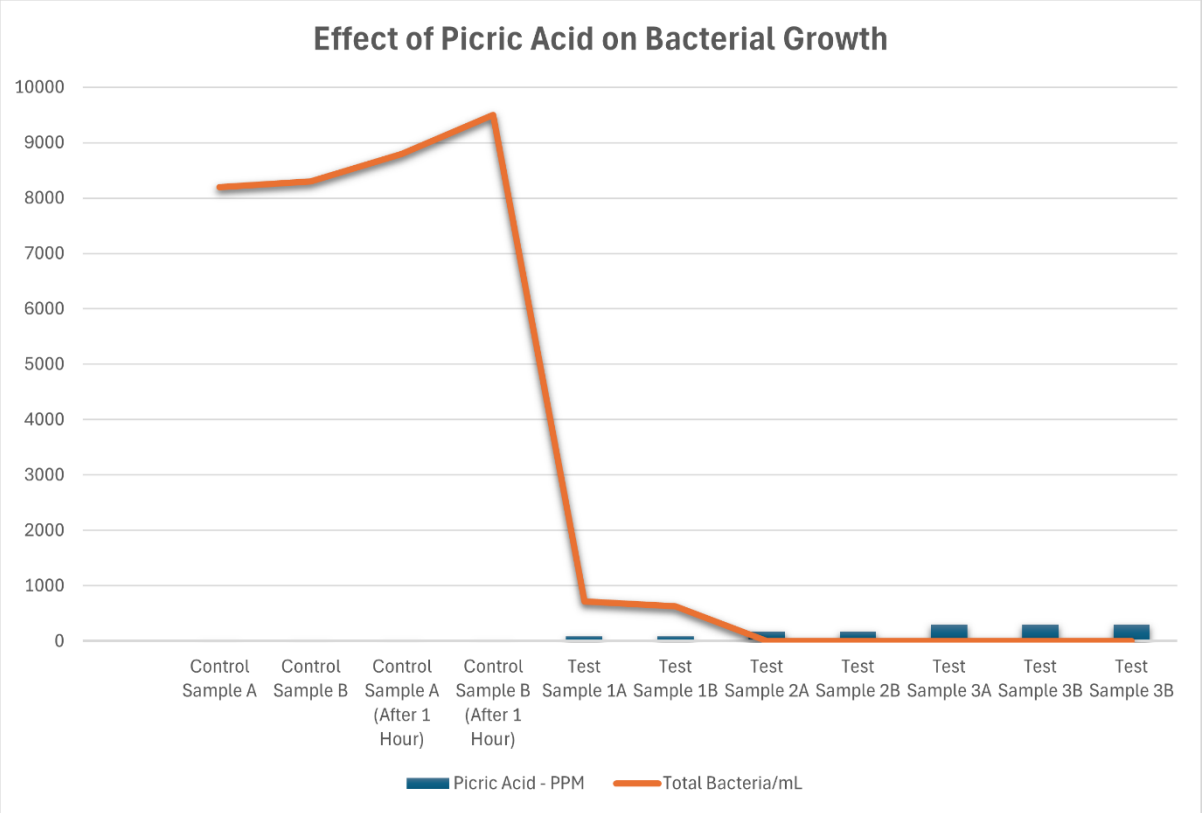
Laboratory Testing

Sample	Picric Acid - ppm	Total Bacteria/mL
Control sample A	0	8,200
Control sample B	0	8,300
Control sample A *	0	8,800
Control sample B *	0	9,500
Test sample 1A *	88	720
Test sample 1B *	88	630
Test sample 2A *	176	1
Test sample 2B *	176	3
Test sample 3A *	294	0
Test sample 3B *	294	1

- After one hour's contact, solution plated, incubated and reading taken.

The treat ratio recommended is 1:4000 or for severe infestation 1:2000.

Effect of PMX145 on Bacterial Growth



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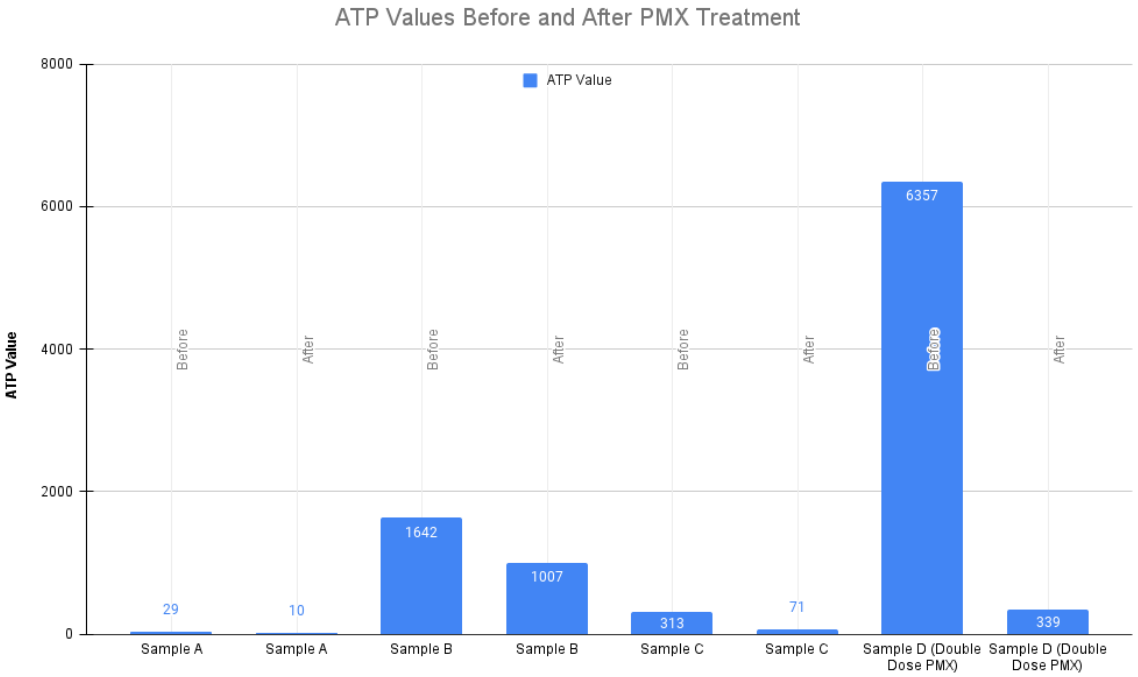
Laboratory Testing on Heavily Contaminated Fuels



Test Sample	PMX Dose	ATP Microbial Level
Sample A (Before)	1:4000 (Regular)	29
Sample A (After)	1:4000 (Regular)	<10
Sample B (Before)	1:4000 (Regular)	1642
Sample B (After)	1:4000 (Regular)	1007
Sample C (Before)	1:4000 (Regular)	313
Sample C (After)	1:4000 (Regular)	71
Sample D (Before)*	1:2000 (Double Dose)	6357
Sample D (After)*	1:2000 (Double Dose)	339

* Double dose of PMX used in sample
Testing completed within 48 hours for sample (after).

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Technical assistance

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PACKAGING

- 20 Litre Drum
- 200 Litre Drum
- 1000 Litre IBC

DISPOSAL OF STORAGE TANK EFFLUENTS

Waste Disposal

PMX145 active ingredient in the water phase & fuel phase. The exact concentration depends on the fuel/water ratio, at the time of use.

The total concentration of PMX145 can be toxic to aquatic species. Once the water and debris are removed from stored diesel fuel the liquid will have a dramatically reduced PPM and fluids can be disposed of through recommended practices.