

FUEL SET

Fuel System Conditioner

FuelSet Information Booklet



The Fuel Treatment for all Engines



Fuel Set is a complete, concentrated fuel conditioner with extensive benefits

Just one product really can do all this!

Whether you run a car, boat, truck, train, coach, or even generator, the one unknown quantity running through your engine is fuel. Control the fuel and your engine will operate as it was designed to, at its peak performance.

Oil companies do their best to supply top quality fuel, but they can't control what happens to it - or what it does to your engine - after the point of delivery.

Fuel Set is a complete fuel conditioner providing comprehensive protection of the fuel system, which in turn reduces running and maintenance costs.

With the ability to work with all fuels*, Fuel Set has particular advantages whenever water may occur due to contamination or condensation, and when fuel remains in the tank for some time. The non-hydrocarbon, non-toxic, non-flammable formula that absorbs the water present in fuel, enabling it to pass through the combustion process in a pure combustible state. No more rough spots or misfiring.

Fuel Set also dissolves sticky contaminants (waxes, gums and varnishes) from injectors and carburettors and helps remove carbon deposits. It works wherever there is a combustion process - even your lawnmower or oil-fired boiler. This keeps the fuel system operating at peak efficiency, resulting in cleaner exhaust emissions, improved fuel economies and smoother running.

Fuel Set also has great advantage in marine and off-road applications, where a recent EU directive requires the use of ULSD (Ultra Low Sulphur Diesel), containing biofuel. Biofuel attracts water from condensation which can lead to all sorts of problems, but Fuel Set can address these issues at source, by dealing with the water contamination.

**Excludes aviation fuels*

Features:

- Eradicates the diesel bug [Cladisporium Resinae]
- Treats all fuels*: diesel, petrol, two-stroke, gasoil and heating oil
- Non-toxic and environmentally responsible
- Dilutes with fuel at a very economical 4000 : 1 ratio (500ml treats 2000L)
- Reduces harmful exhaust emissions and black smoke
- Totally removes water from fuel systems
- Cleans injectors and jets - removes gums, waxes, resins and acids from fuel systems
- Removes carbon build-up from combustion chambers, exhaust ports and turbines
- Prolongs the life of catalytic converters and stops the smell
- Extends filter life. Reduces expensive maintenance and downtime
- Restores lost fuel economy and improves performance
- Non-toxic, non-flammable, non-biocide, non-corrosive, biodegradable and pH neutral
- Suitable for all internal combustion engines - cars, coach, bus, train, road haulage, marine, agricultural etc.



Non-toxic

Fuel Set does not resort to highly toxic biocides. The detergent nature of Fuel Set helps disperse clumps of dead bug, significantly reducing clean-up time in the aftermath of fungal infestation. Regular dosing protects against this costly and annoying problem.

Water

Water also reacts with chemicals in fuel at the point of combustion, which causes gums, resins and contaminants to separate and foul fuel systems, especially injectors. Absorbing the water into the fuel/Fuel Set mixture allows any water to be burnt off harmlessly into the atmosphere.

Filters

Fuel Set prolongs the fuel filter life and maintains fuel in the best possible condition. Water can seriously degrade certain types of fuel filters.

Injectors/Carburettors

Engine parts - fuel pumps, injectors and jets - operate withing fine tolerances. It is easy to understand how contaminants cause power loss, increased fuel consumption, higher exhaust emissions and general deterioration of fuel systems and engines.

Carbon/Sump Oil

Fuel Set improves the efficiency of lubrication oils by removing and preventing carbon deposits from combustion chambers, exhaust ports/passages and turbines. Uncontaminated lubricating oil promotes extended engine life. Fuel Set is effective in removing contaminants such as waxes, gums and carbon, resulting in smoother running, more complete combustion and much improved fuel efficiency.

Application

When used in an economical 4000:1 mix ratio, Fuel Set will maintain clean and sterile conditions throughout the fuel system.

So, what is Diesel Bug?



Blocked filters, stuck injectors, internal corrosion, reduced horsepower and even engine failure can be caused by a microscopic fungus, *Cladisporium Resinae*, that is present to varying extents in all fuel oil. This fungus commonly known as the 'bug', thrives in fuel storage tanks, using the hydrocarbons in the fuel as a food source and dissolved oxygen in any water for respiration.

The air space above the fuel in a storage tank contains water vapour, which condenses on the surfaces of the cool walls and subsequently sinks to the bottom of the tank where it collects. The fuel/water interface contains both hydrocarbons and dissolved oxygen which provides the ideal environment for the 'bug', with each fungal cell dividing every twenty minutes. As the older fungi die their bodies accumulate, forming a slime that ultimately floats upwards into the fuel. From here the sludge is drawn into the engine, quickly clogging filters and narrowing fuel lines. But the damage does not stop there. A portion of the sludge adheres to the inner wall of the tank and fuel lines, producing corrosive Hydrogen Sulphide that causes metal defects and pitting to the injectors and fuel related components.

Biocidal treatment will kill any bacterial growth but creates a sudden mass of dead cells, which only adds to the problem. Also, biocides are generally poisonous and have to be handled with great care. On a more important note, they do not remove the water.

Fuel Set is the solution to this problem. When added to your fuel, this conditioner totally absorbs the water from the fuel system, thereby removing the environment where the bug lives. Any fungi present not only suffocate and die, but are dissolved in the treated fuel, passing through the filters to be burned off harmlessly. The 'bug' cannot re-infest when Fuel Set is present in your fuel.

What is Emulsified Fuel?



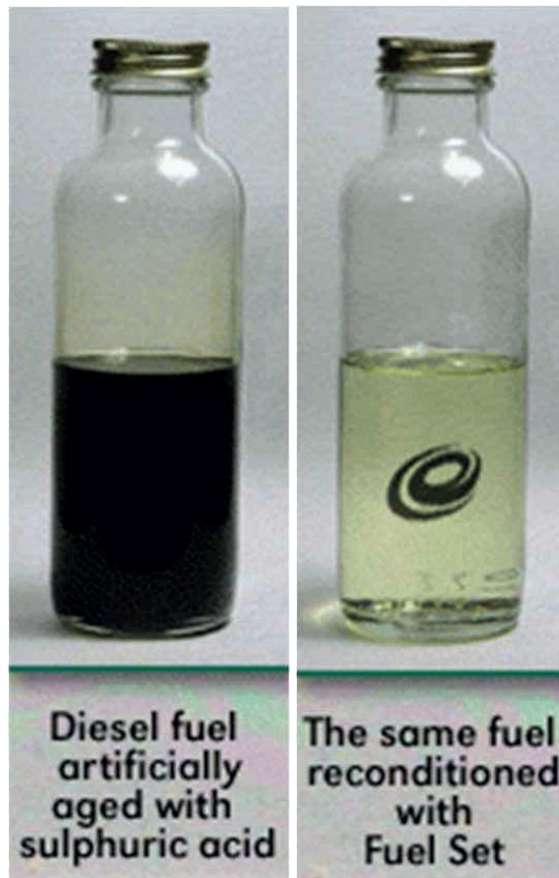
Water emulsion, or too much water held in suspension, can cause serious damage to fuel system components. The water content causes loss of lubrication resulting in worn fuel pumps and injectors.

Emulsified water also reacts with chemicals in the fuel at the point of combustion, which causes contaminants such as gum, wax and resin to separate and foul fuel systems, especially injectors. Emulsified water can seriously degrade certain types of fuel filters.

A water emulsion, left untreated, eventually separates from the fuel and becomes free water - a harmful contaminant in itself.

Regular use of Fuel Set eliminates the harmful effects of water in fuel systems and provides additional lubrication, protecting your engine from excessive wear and tear.

Is Stale, Aged Fuel Ok To Use?



Fuel Set has the ability to 'recondition' old or stale fuel without harm to engines, saving money and resources.

Over long periods fuel oxidises, and waxes, gums, varnishes, etc. separate and degrade the fuel. Old 'out of spec' fuel has the capacity to cause considerable damage to your engines, but simply disposing of it can represent a huge waste of money. You can tell when fuel is "off" when it starts to smell of varnish or nail polish.

Fuel Set can be used to slow down the oxidation process and keep fuel fresh.

NOTE: If fuel is not going to be used for some time, say over the winter months for example, or in stand-by generators, then it is advisable to double or triple dose with Fuel Set After Fuel Set application, fill tank to prevent condensation build up.

NOTE: If fuel is too old it may not be recoverable, always use the freshest fuel available in machinery to ensure it does not cause damage.

CONCENTRATED AND ECONOMICAL!

With a 4000:1 mix ratio, Fuel Set is the most economical and effective way to protect both your engine and fuel system. Many of our customers have found that they achieve far more miles per gallon with Fuel Set in their car /coach / boat / lorry that the savings made in the first week more than pay for the cost of the product - in effect, it pays for itself!

You'll need to double dose the first time you use Fuel Set, but after that you can use it at a 4000 : 1 mix ratio.



Don't worry if you add too much - Fuel Set cannot harm your engine.

Here's a quick reference guide on how much Fuel Set you'll need

Litres

Tank Size or amount of fuel top up	First Use of Fuel Set	On-going Maintenance Dose
5L	2.5ml	1.25ml
40L	20ml	10ml
60L	30ml	15ml
100L	50ml	25ml
200L	100ml	50ml
500L	250ml	125ml
1000L	500ml	250ml
2000L	1L	500ml
4000L	2L	1L
10,000L	5L	2.5L

Here's a quick reference guide on how much Fuel Set you'll need

Gallons

Tank Size or amount of fuel top up	First Use of Fuel Set	On-going Maintenance Dose
1 Gallon	2.5ml	1.2ml
5 Gallons	12ml	6ml
10 Gallons	22ml	11ml
20 Gallons	50ml	25ml
40 Gallons	100ml	50ml
100 Gallons	240ml	120ml
200 Gallons	460ml	230ml
400 Gallons	920ml	460ml
800 Gallons	1.8L	910ml
2000 Gallons	4.6L	2.3L



Remember Prevention is Better Than Cure



**To Stop Diesel Bug In Its Tracks, Keep Your Fuel Fresh
And Keep Engines At Peak Performance Use Fuel Set**

FUEL SET

Fuel System Conditioner

The Fuel Treatment for all Engines



Environmentally Responsible

The regular use of Fuel Set promotes clean and efficient combustion of fuels reducing emissions of particulate matter and unburned carbon hydrocarbons.

Under normal running conditions Fuel Set is burned away completely as carbon dioxide and water.

Fuel-Set also keeps your entire fuel system clean without using hydrocarbons, sulphur, phosphorous, nitrogen or metallic ingredients.

- Improves fuel economy
- Eliminates water in fuel
- Treats fuel bug
- No more black smoke

Regular Use of Fuel Set:

- ✓ Maintains and Cleans Fuel Tanks
- ✓ Improves Fuel Performance
- ✓ Improves Fuel economy
- ✓ Reduces Maintenance
- ✓ Prolongs the Life of Engine Parts
- ✓ Reduces Emissions
- ✓ Revitalises Stagnant Fuel
- ✓ Prevents Fuel Bugs and Fungal Growth
- ✓ Prevents Fuel System Corrosion
- ✓ Helps Prevent Diesel from Waxing Up in Freezing Conditions



The Fuel Treatment for all Engines

Many industrial or commercial problems can be seen or heard - rust, corrosion, friction, etc; but there is a silent, unseen enemy causing havoc in your fuel tank - and this is water. You may not know you have a problem until your engine stops, your vehicle fails its WOF or your fuel filter clogs up leaving you stranded.

WATER, the source of most engine problems, is present in most fuel systems in small quantities, often due to condensation. Water reacts with chemicals in the fuel at the point of combustion, forming acid compounds that cause gums, resins and other contaminants to separate and foul fuel systems, especially injectors. Effects include power loss, increased fuel consumption, oil contamination and general deterioration of fuel systems causing serious and costly damage to engines.

Water, left untreated separates from the fuel and provides an environment where fungi flourish.

Liquid Engineering FUEL SET absorbs water into the fuel allowing it to burn off harmlessly into the atmosphere.

Engine parts - pumps, injectors and jets - are machined to fine tolerances so it is easy to see how contaminants cause power loss, increase fuel consumption, oil contamination and general deterioration.



Specifications

- Appearance:** Blue/Green transparent fluid with pleasant odour.
- pH:** 7.0
- Dilution:** 1:4000, 10ml per 40 litres.
- Application:** Empty required dose into tank before filling with fuel. With stale fuel, diesel bug or water in tank use double dose until problem is eradicated. Regular dosing at 1:4000 will prevent problems.
- Flammability:** Flashpoint 67°C Under normal conditions of combustion it will burn to form CO₂ (carbon dioxide) and H₂O (water).
- Safety:** No Issues.
- Shelf life:** Indefinite – colour may change over time but this will not affect the performance.
- Store:** Keep above freezing point.



**Contact us today on 0800 387 678
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