

## company profile

**Liquid Engineering** was established in 1991 and now markets a range of highly effective, environmentally responsible, non-hazardous products throughout Europe via our appointed distributors.

Our market covers industry, commerce and leisure and includes airports, County and Borough Councils, coach and bus operators, train companies, road haulage companies, marine operators – in fact, anyone, anywhere with an engine or a cleaning / treating task could benefit from the products on offer.

## our products

Our unique products are safe, easy to use and they really work, out performing competitor products that often rely on harmful chemicals. These truly remarkable products, some derived from substances that can only be found in Australia's incredible natural biota, are safe to handle and do not harm the environment.

Our product development strategy focuses on research and ensures environmental awareness is integrated into all areas of production and product application.

The product range covers various aspects of fuel and engine treatments, corrosion removal & treatment, cleaning and lubricating. Our most popular products are included within this guide, but do call us if you have a problem – we may have the ideal solution for you.

# Fuel Set

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 - water. You may not know you have a problem until your engine stops, your vehicle fails its MOT, or your fuel filter clogs up leaving you stranded. But it is easy to spot once you know how.

### Fuel Problems

Water, the source of most engine problems, is present in most fuel systems in small quantities, often as a result of 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 petrol and diesel engines.

Left untreated, water separates from diesel and provides an ideal growth environment for fungi to flourish. Fuel Bugs (Cladisporium resiniae) live and multiply at the fuel / water interface and feed off the hydrocarbons in the fuel. These micro-organisms will consume rubber gaskets, O-rings, hoses, tank linings and coatings in an effort to obtain their mineral content. Fuel Bugs pose a major threat to equipment and once established in the fuel they will double in population every 20 minutes. Eventually they form a mat of black, brown or green slime,

which poses a serious hazard to both equipment and storage facilities.



### **Diesel Bug forms a layer of thick sludge**

The Fuel Bug's destructive forces will: clog fuel filters, fuel lines and gauges; corrode pumps and injectors; cause washers, hoses and connectors to swell and blister; degrade the fuel; and cause poor fuel economy. Biocides will kill the Bug, but the sudden mass of dead cells that remain will clog filters and fuel lines. Biocides are also deadly poisonous, not pleasant to handle, store or use, and are highly toxic to the environment.



## beat the bug...

Prevention is better than cure. Regular dosing with Fuel Set will prevent moisture build-up in the tank and will kill off and disperse any 'Bug' contamination; but what should you do if you KNOW you have a problem?

- Assess the level of contamination. Water Detection Paste on a dipstick will give you an indication of how much water has settled at the bottom of the tank (for accessible tanks). For fuel storage tanks, our Tank Check system will allow you to take a sample that can be visually inspected or sent to Liquid Engineering for analysis.
- If water contamination has occurred, it is advisable to drain off or pump out as much water as possible, treat it with Fuel Set at double dose (2000:1).
- At the very first signs of Diesel Bug collecting in the fuel filter or water trap, double dose with Fuel Set. Continue to double dose with each subsequent refuelling until the problem is resolved.