



ADERCO
FUELING INNOVATION
FOR THE NEXT GENERATIONS

Certified



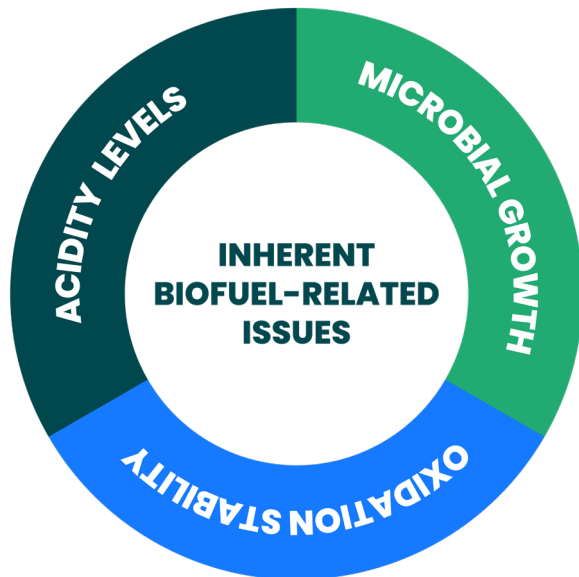
Corporation



BIOFUELS

*How Aderco's 2055G can
assist with the challenges
faced with BIOFUEL*

Keep your assets safe from fuel oxidation corrosive damage and microbial growth with Aderco 2055G

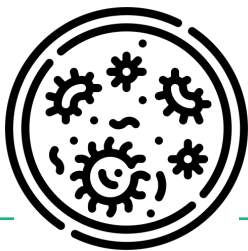


Biofuel is a type of fuel derived from renewable biological resources, such as plants or organic waste. More and more biofuels are being used, as they emit fewer greenhouse gases compared to fossil fuels.

However, **biofuel comes with its own set of challenges and limitations.**

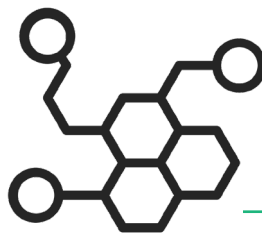
9% of the biofuel samples tested by Viswa in 2023 did not comply with ISO8217 specifications.

The most common off-spec parameters were Flashpoint and Water content.



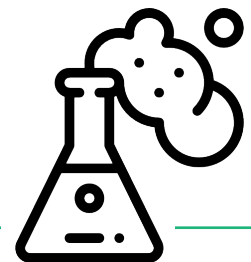
Microbial Growth

Bacteria and mould can form rapidly in biodiesel fuel when being exposed to condensed water [found within storage tanks] and microbial proliferation results in excessive sludge development, blocked filters and clogged pipes.



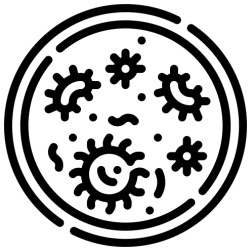
Oxidation Stability

Biofuels are prone to oxidation, which can lead to degradation and reduced performance over time. If allowed to oxidise, the higher acid levels in biofuels have a greater potential to induce corrosion in fuel supply systems.



Acidity due to Oxidation

The oxidation of biofuels can result in higher acidity levels, which can cause corrosion and reduced fuel supply system performance. In addition to encouraging the growth of specific microbes, it harms the storage tanks, pipes, and other fuel delivery infrastructure.



Microbial Growth

Due to the hygroscopic nature of biodiesel, condensed water is absorbed by the fuel leading to bacterial and mold growth. Microbial proliferation results in excessive sludge development, blocked filters and clogged pipes. Microbial development can be reduced or mitigated by draining tanks often and using an inhibitor such as **Aderco 2055G**.

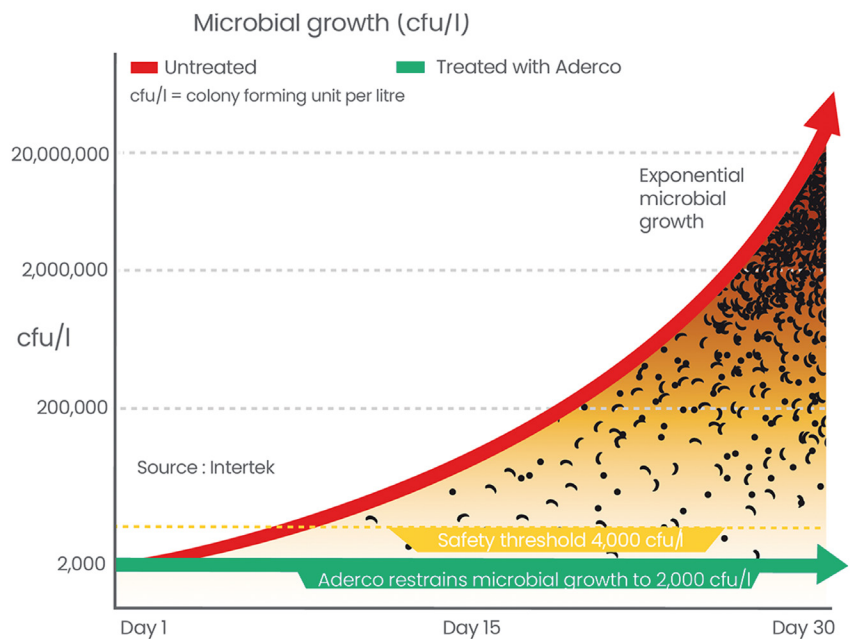
Microbial growth is measured in Colony Forming Units (CFUs) inhibiting the development of these colonies is critical. **Aderco 2055G** forms a selectively permeable barrier between water and fuel and allows only water to pass through and settle at the bottom of the tank. The creation of the barrier prevents microbes and bacteria from reaching and contaminating the fuel. Careful and regular draining of water facilitates the removal of these organisms.

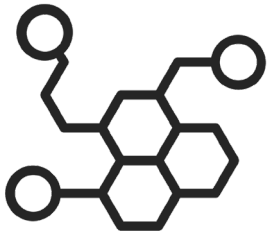
| TIME (DAYS) | BIODIESEL CFU*/L | BIODIESEL/2% WATER CFU/L | | BIODIESEL/2% WATER/2055G CFU/L | |
|-------------|--------------------|--------------------------|--------------------------------------|--------------------------------|----------------------------|
| 0 | <2x10 ³ | 4x10 ³ | U N S T A B L E | <2x10 ³ | S T A B L E |
| 6 | 4x10 ³ | >2x10 ⁷ | | <2x10 ³ | |
| 10 | | >4x10 ⁷ | | <2x10 ³ | |
| 14 | <2x10 ³ | >10 ⁷ | | <2x10 ³ | |
| 20 | | >5x10 ⁸ | | <2x10 ³ | |
| 24 | | >5x10 ⁸ | | <2x10 ³ | |
| 31 | <2x10 ³ | >5x10 ⁸ | | <2x10 ³ | |

* CFU: Microbial colony forming units.

- The microbial growth in biodiesel+2% water doubles after 6 days of test.
- The addition of Aderco 2055G to biodiesel with 2% water prevented the growth of bacteria all through 31 days.

All tests were conducted under Aderco test protocol by independent laboratories. Complete test documentation and case studies can be requested from Aderco Technical Department (technical@aderco.com).





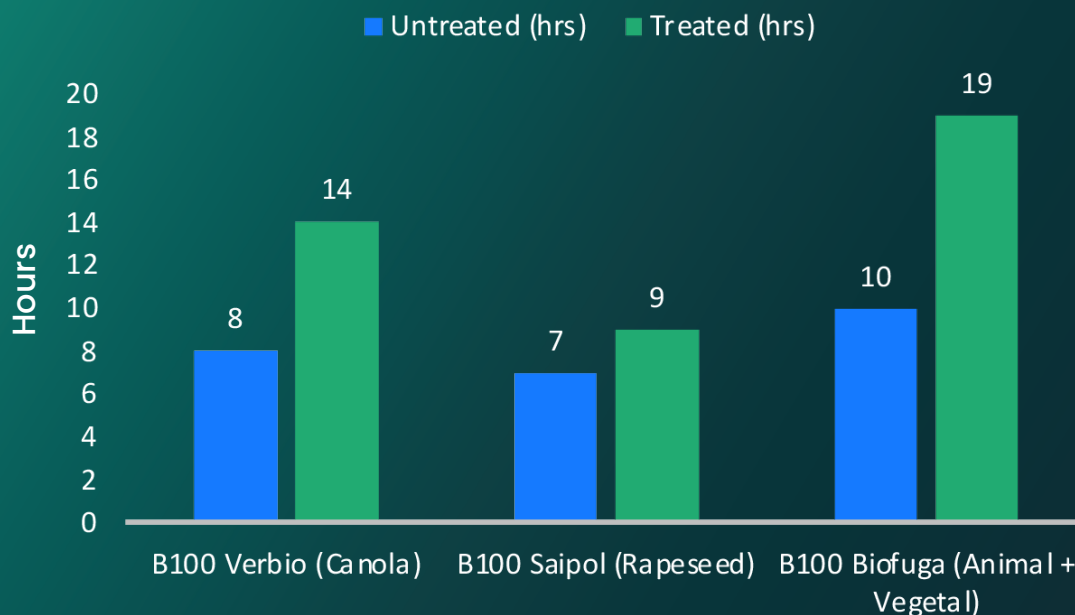
Oxidation Stability

The properties of biofuel may have an impact on the materials used and how they are stored. Biofuels are more sensitive to oxidation due to their molecular composition and can oxidise quicker than VSLFOs.

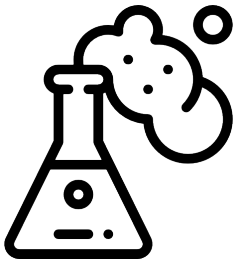
The higher acid levels in biofuels have a greater potential to induce corrosion in fuel supply systems if allowed to oxidise.

Aderco 2055G has a positive impact on oxidation and has the ability to delay the development of volatile by-products. Thus increasing the time period before the biofuel starts to oxidise.

RANCIMAT (AGING) TEST EN14112



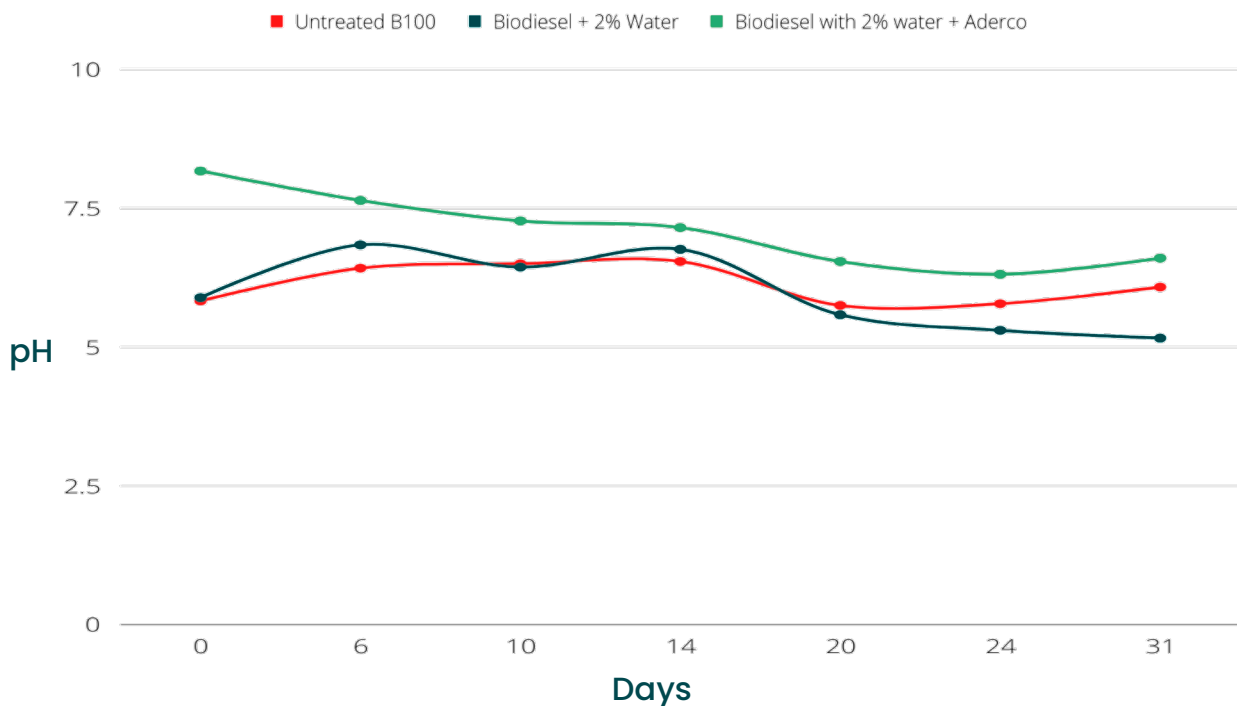
In a second test, three B100 fuels were tested for rancimat (aging). In the case of B100 Biofuga and B100 Verbio, the induction time of biodiesel is almost double in the presence of 2055G.



Acidity due to Oxidation

Once there is a presence of oxidative elements in biofuel, the fuel blend starts to become acidic which can increase in intensity if the fuel is left untreated. This can lead to corrosion in the storage tank and damage to the fuel system.

In advanced stages, this could lead to increased fuel acidity, which could result in corrosion in the fuel system and accumulation of deposits in pumps and injectors. Some hoses and gaskets could degrade, leading to loss of integrity and interaction with some metallic material such as copper, brass and lead, among others.



In general, the pH of the three samples decreases slightly with time and the water content in all samples remains stable during the test period (31 days). According to this result, **Aderco 2055G** decreases the acidity of biodiesel+ 2% water mixture. This is due to the basicity of **Aderco 2055G**, which negates the acidity developed in the fuel.

ADERCO 2055G will help maintain the stability and quality of biofuels

The main purpose of **Aderco 2055G** is to homogenise the fuel, clean and protect components, maximise the energy potential and minimise emissions. It is designed to solve fuel-related problems before, during and after combustion.



Why use Aderco 2055G?

ADERCO 2055G is the only multi-purpose, 100% vegetable based fuel treatment recognised as hydrophobic therefore repelling H₂O, preventing oxidation.

Continuous treatment with ADERCO 2055G solves biofuel related problems before, during, and after combustion as per feedback from our customers.

Reduces carbon deposits, prevents engine fouling, improves combustion efficiency and reduces harmful emissions

Keeps your tank clean, reduces the incompatibility issues with new fuels

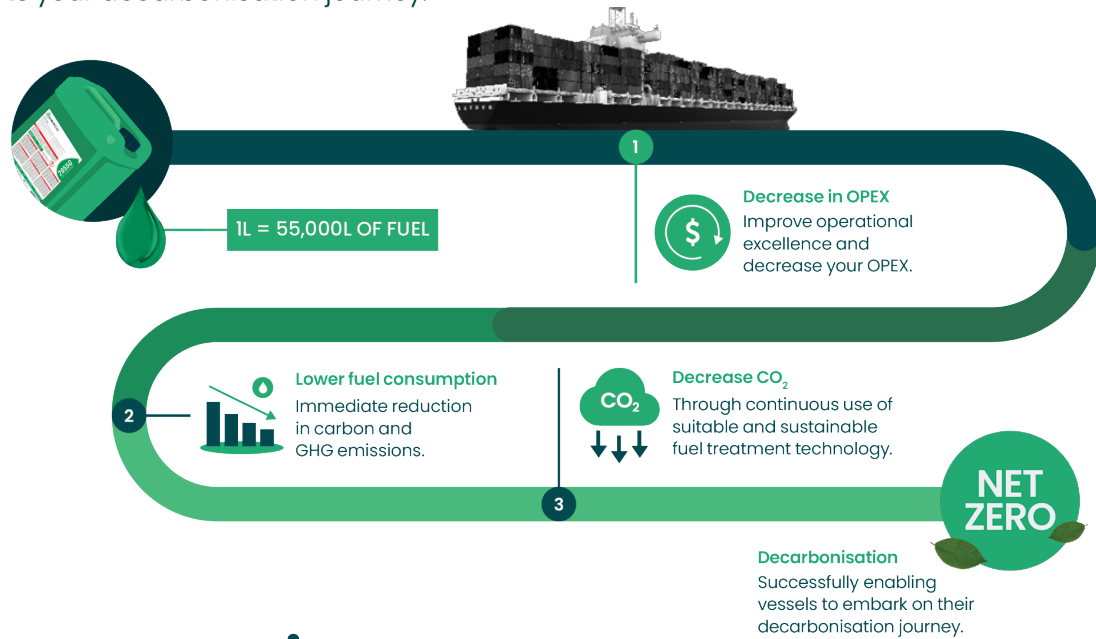
Helps you to be ready to operate future biofuel blends without significant issues

Helping you achieve your DECARBONISATION GOALS



ADERCO'S DECARBONISATION ROADMAP

The only 100% renewable sustainable fuel treatment that brings effective outcome and supports your decarbonisation journey.



Our Contact Points





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