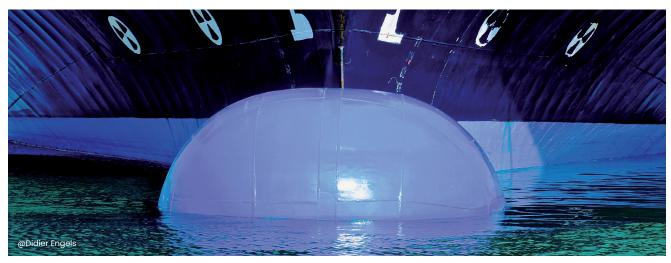


ADERCO L1050 LUBRICITY IMPROVER

Ensuring adequate fuel lubricity for risk-free operations in sulphur emission control areas



ADERCO L1050 is the go-to choice of major shipping companies for addressing lubricity issues caused by the low sulphur marine gasoil challenge (DMA - 0.1% sulphur cap).

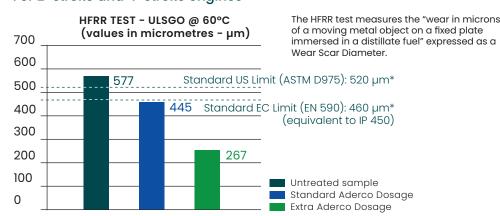
The primary purpose of ADERCO L1050 is to restore the lubricity needed to ensure adequate separation of moving parts. It does so by creating a thin polarised protective film. This minimises friction and wear of fuel- lubricated components, such as fuel pumps and injection systems.

Lower mechanical tolerances and risks related to fuel acidity are concerns, too. ADERCO L1050 was developed with these aspects in mind and it also addresses the issues of insolubility, instability and incompatibility that still persist with earlier-generation products.

ADERCO L1050 is a proven solution for preventing the potential risks linked with low lubricity/low-sulphur marine fuels, delivering these key benefits:

- Protects high-pressure fuel pumps and injectors by reducing friction between fixed and moving parts
- · Eliminates risks associated with high wear rate fuels
- Wear Scar Diameter well below damage threshold when using Aderco (see HFFR test results)
- No troublesome gum deposits, protects against corrosion
- Prevents risk of unexpected engine shutdown/vessel stoppage
- · Risk-free for engine (no FAME) FTIR-tested

For 2-stroke and 4-stroke engines



* Wear Scar Diameter - Damage Threshold High Frequency Reciprocating Rig (HFRR) Test conducted by independent testing and certication institute SGS (Method: ISO 12156-1) 1 litre treats 30 metric tonnes of fuel





ADERCO L1050 LUBRICITY IMPROVER

Sulphur Emission Control Areas (SECAs – more are planned/in discussion)

Geographic scope	Sulphur cap
SECAs - North American, US Caribbean, EU North Sea & Baltic Sea, South Korea, Iceland, Norwegian World Heritage Fjords, China Yangtze River, Xi Jiang River and Hainan Province.	0.1%
At berth / Harbour - All EU ports at berth, Turkey, Australia at berth.	0.1%

Ensuring optimum fuel lubricity is key with low-sulphur/ultra low-sulphur fuels

The critical components within fuel pumps and injection systems depend on the inherent lubricity of the diesel fuel for proper lubrication. These parts now suffer additional wear due to the low lubricity of modern low-sulphur and ultra low-sulphur gasoil grades.

This frequently leads to premature component degradation and even to complete engine failure. Today, low fuel lubricity is associated with low-viscosity fuels, such as No. 1 diesel fuel, kerosene and low-sulphur/ultra low- sulphur marine gasoil (OMA according to ISO 8217-2017).

There is evidence that the process used to remove sulphur from diesel fuel (hydrotreating) also reduces the compounds that give the fuel its lubricity characteristics (polyaromatics and nitrogen/oxygen compounds).

Easy application – no special dosing or mixing equipment required

Simply pour into MGO tank prior to bunkering.

Recommended dosage: 1 litre of Aderco L1050 per 30 metric tonnes.

Key characteristics

- 100% vegetal-organic, ashless, solvent-free and metal-free
- Classified as Non-Hazardous no transport restrictions (flash point: 159°C)
- Compatible with MGO/LSGO/ULSGO
- · Compatible with ADERCO 2055G 4in1 Fuel Conditioner
- Compatible with 2-stroke and 4-stroke engines
- REACH Compliant, BV Attested, DNV-GL Statement of Fact, EPA Registered.

