

**F.O.T.-ULS™**

DESCRIPTION

F.O.T.-ULS is a new generation fuel additive which improves the lubricity of all Ultra Low Sulphur Marine Fuel Oils. This combination of solvents, lubricity additives, and corrosion inhibitors, is the only solution for such type of fuels. **F.O.T.-ULS** is highly cost effective due to the very low dosage needed, yielding from its concentrated nature.

Emission concerns have led to the application of new regulations in Marine Fuels. From 1st January 2015, ships travelling within 200 nautical miles of shore in North America, the Baltic, North seas and through English channel must limit sulphur content into fuel oil to 0.1% (Ultra Low Sulphur Fuel Oil), down from 1%, according to International Maritime Organization rules - Annex VI of MARPOL - Sulphur limits, as adopted by IMO Marine Environment Protection Committee (MEPC) 58th Session in October 2008 - Revised MARPOL Annex VI – Resolution MEPC.176 (58).

Reducing the level of Sulphur compounds in the Marine Fuel Oil can reduce the ability of the oil to lubricate the injection system of the engine, causing the fuel injection pump to seize. Lower lubricity can significantly increase wear of fuel pumps, valves and injector nozzles over an extended period of use.

F.O.T.-ULS provides superior lubricity properties to the Ultra Low Sulphur Fuel Oils in order to avoid these eventualities. Furthermore, it prevents problems associated with the accumulations of injection deposits.

ADVANTAGES AND CHARACTERISTICS

- ◆ Provides superior lubricity properties to the Ultra Low Sulphur Fuel Oils.
- ◆ Also, suitable for normal low Sulphur Fuel Oils.
- ◆ Prevents wear on contacting metal surfaces and their seizure.
- ◆ Reduces significantly injector deposits.
- ◆ Protects fuels systems against corrosion.
- ◆ Will not separate in the fuel tank.
- ◆ It gives effective results well below standard EC limit of 460 µm, as proven by HFRR test performed according to ISO 12156-1 standard test method.
- ◆ Contains only harmless substances.
- ◆ Does not contain chlorinated solvents.

- ◆ Easily dispersed into the fuel.
- ◆ Cost effective due to the very low dosage needed, yielding from its concentrated nature.
- ◆ Easy to apply and use in the fuel oil with excellent results.

PHYSICAL PROPERTIES

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| Appearance | : Clear liquid. |
| Color | : Yellow. |
| Odor | : Characteristic (Slight). |
| Specific Gravity | : 0.87 - 0.90 gr/cm ³ at 20°C (ASTM D 1298) |
| Flash Point | : > 120°C |

PACKAGING

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| Order Number | : 562508 (25 ltrs) |
| Container | : Steel drum |

APPLICATION AND USE

A. Dosing Procedure

For Marine Gas Oils (MGO) and Marine Diesel Oils (MDO), the normal dosage of **F.O.T.-ULS** is 1lt per 25 cubic meters of fuel.

For Intermediate Fuel Oils (IFO) and Heavy Fuel Oils (HFO) the dosage is 1lt of **F.O.T.-ULS** per 20 cubic meters of Fuel Oil.

B. Feeding Procedure

F.O.T.-ULS should be dosed directly in the fuel storage tank, preferably prior to bunkering. This way the product is better mixed in the fuel.

It is suggested that, firstly dose the requested quantity of **F.O.T.-ULS** followed by the Ultra Low Sulphur Fuel Oil in the settling tank, in order to accomplish better homogenization.

**MARICHEM®**

! SAFETY AND HANDLING

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| HANDLING | Handle with care. Store in a dry, cool and well ventilated environment. |
| SAFETY | IMMEDIATE ACTIONS |
| Eye Contact | Avoid Eye contact. Otherwise, flush with plenty of water for a few minutes. Seek medical attention. |
| Skin Contact | Avoid Skin contact. Otherwise, wash contaminated area thoroughly with water. Seek medical attention. |
| Inhalation | Avoid inhalation of vapors. Otherwise, seek fresh air source at once. Seek medical attention. |
| If Swallowed | Avoid ingestion. Otherwise, consume a considerable quantity of water. Do not induce vomiting. Seek medical attention. |
| GENERAL INSTRUCTIONS | Avoid spillage, splashing and mishandling. Precautionary measures for body protection are strongly recommended before use. |

 **Read the Material Safety Data Sheet before using this product.**

For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label.

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