TEKNIKAL DATA

XTRA DIESEL™

Fuel Additives Package

Xtra Diesel is a complete formulation designed to improve ULSD *ultra low sulfur diesel.* All advantages claimed in this technical data sheet are proven with reliable tests made by recognized laboratories.

Xtra Diesel The Proven Solution to Ultra-Low Sulfur Diesel Fuels.

ADVANTAGES

- Clean and Lubricates fuel injection systems
- Separates water from fuel
- Neutralizes effects of moisture
- Removes and prevents corrosion and bacteria
- Improves fuel filter life by 85%
- Reduces exhaust smoke
- Engine functions and fuel remain stable at low temperatures
- Improves fuel economy by 3%. SAE International Test J1321.
- Improves fuel combustion properties
- Improves life of injectors and pump
- Reduces deposits caused by combustion

DIESEL FUEL STABILIZATION PROPERTIES

Xtra Diesel is developed to provide enhanced oxidative and thermal stability in a wide range of distillate fuels. Test show that the dispersion and anti-oxidation agents present in Xtra Diesel increase the fuel stabilization index by **50% or more.**

The ASTM D2274 Test concerning Diesel Fuel Stability shows that Xtra Diesel reduces the deposits of oxidized fuel by **87.5%.**

Headquarter
Indonesia

Ruko Balikpapan BaruBlok B1 / 22 Balikpapan
Kalimantan Timur - Indonesia

T:+6 2542873313
Info@ liotecmu.co.id
www.liotecmu.co.id

LioTEC Mitra Utama

LUBRI-LAB INDONESIA

TEKNIKAL DATA

XTRA DIESEL™

Fuel Additives Package

EXHAUST SMOKE REDUCING PROPERTIES

The combination of detergents in Xtra Diesel allows exhaust smoke to diminish from diesel engines by improving the ignition and combustion properties of diesel fuel and by keeping the injectors clean to ensure good pulverization of diesel fuel.

Performance measurements regarding emissions reduction were conducted using SAE J1667 *Snap-Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles.*

LUBRICATION OF THE INJECTORS

In diesel fuel systems, the fuel provides lubrication for the fuel pump and injectors. A fuel with poor lubricity can cause excessive wear and premature failure of these components. With reductions in fuel sulfur level, lubricity is becoming a larger concern.

When you take out the sulfur, you also take out lubricity and reduce antioxidancy and other valuable properties — not good for a diesel engine. The likely result: wear leading to failed injectors. And that translates into breakdowns and repair expenses. Xtra Diesel helps to put back in what came out with the sulfur. It's the proven solution to enhance lubricity in ultralow sulfur diesel fuel. So diesel engines run at peak performance and are protected from unnecessary wear.

The core purpose of a diesel fuel lubricity additive is to protect sensitive fuel injection equipment. Xtra Diesel has been clearly demonstrated to achieve this goal, both through extensive pump rig testing using a range of pumps and test cycles, as well as over millions of miles of incident free field usage.

Headquarter
Indonesia

Ruko Balikpapan BaruBlok B1 / 22 Balikpapan
Kalimantan Timur - Indonesia

T:+6 2542873313
Info@ liotecmu.co.id
www.liotecmu.co.id

LioTEC Mitra Utama

LUBRI-LAB INDONESIA

TEKNIKAL DATA

XTRA DIESEL™

Fuel Additives Package

LUBRICATION TEST «HFFR»

The High Frequency Reciprocating Rig (HFRR) test is now well established as the bench method for evaluation of diesel fuel lubricity additive performance. Xtra Diesel reduces the HFRR wear scar of even the most severe sulfur-free fuel to below the 460 microns limit prescribed in EN590 at treat rates that are typically below 150 ppm m/m.

TESTS	METHODS (ASTM)	SPECIFICATIONS (1)		RESULTS
		Min.	Max.	
Lubricity (HFRR) @ 60°C, um ULSD sample only	ASTM D6079	---	---	600
Lubricity (HFRR) @ 60°C, um ULSD + 0.1% Xtra-Diesel (sample 2)	ASTM D6079	---	---	450

(1) Specifications not provided by client.

Laboratory

CHIMISTE Gandolfo-Lee O'Sullivan 2009-130 QUÉBEC

The American Standard for Diesel Fuel reported that diesel fuel commercially available should produce a wear groove no higher than 520. The Engine Manufacturers Association «EMA» asked for a wear standard no higher than 460 microns.

PROTECTION AGAINST CORROSION

Tests conducted using the NACE TM-01 procedure have shown that regular use of **Xtra Diesel** efficiently prevents the formation of rust on the crucial parts of the injectors and the injectors' pump.

Headquarter
Indonesia

Ruko Balikpapan BaruBlok B1 / 22 Balikpapan
Kalimantan Timur - Indonesia

T:+6 2542873313
Info@ liotecmu.co.id
www.liotecmu.co.id

LioTEC Mitra Utama

LUBRI-LAB INDONESIA

TEKNIKAL DATA

XTRA DIESEL™

Fuel Additives Package

FUEL CONSUMPTION TEST

The test procedure was based on the SAE J1321 Joint TMC/SAE Fuel Consumption Test Procedure - Type II (SAE International 1986), at the Transport Canada Motor Vehicle Test Centre in Blainville, Quebec, Canada.

The result obtained by the XTRA-Diesel additive, **2.86 % fuel savings, it is superior to the performances shown by other fuel additives**: fuel consumption tests conducted by FPInnovations under the framework of the previous Energotest campaigns showed up to 1.5% improvement in fuel economy (Surcel 2009a, 2009b, Surcel et al. 2009).

EPA REGISTRATION *United States Environmental Protection Association*

Xtra Diesel fuel additive has been registered per 40 CFR 79.23: 198820001-XTRA DIESEL.

DIRECTIONS

Add 1 liter of Xtra Diesel per 1000 liters. Ratio 1:1000.

Headquarter
Indonesia

Ruko Balikpapan BaruBlok B1 / 22 Balikpapan
Kalimantan Timur - Indonesia

T:+6 2542873313
Info@ liotecmu.co.id
www.liotecmu.co.id