

INTRON® dLube 2090

Lubricity improver for low- and ultra-low-sulphur diesel fuels and light heating oils · 100 % bio-based tall oil fatty acids

50-450 ppm
TREAT RATE

< 460 µm
HFRR WEAR SCAR, ISO 12156-1

100 % bio
READILY BIODEGRADABLE

Not classified
CLP · TRANSPORT

DESCRIPTION

INTRON® dLube 2090 is a highly concentrated anti-wear lubricity additive for low- and ultra-low-sulphur diesel and heating fuels. Chemical composition: mixture of fatty acids (tall oil fatty acids), 100 % bio-based.

APPLICATION

The injection equipment of diesel engines is prone to excessive pump wear when (ultra) low-sulphur fuels are used. INTRON® dLube 2090 restores the lubricity of such fuels, reducing friction and fuel-pump wear. The improvement is measured by the HFRR test (High Frequency Reciprocating Rig) according to ISO 12156-1 / ASTM D6079.

In EN 590 diesel with < 0.05 % sulphur, **50-150 ppm** of INTRON® dLube 2090 reduce the HFRR wear scar diameter to well below 460 µm. In ultra-low-sulphur or severely hydrotreated fuels the dosage may be increased up to **450 ppm**. The optimum treat rate is confirmed by HFRR on the customer's base fuel.

PERFORMANCE

HFRR, ISO 12156-1	Wear scar diameter < 460 µm at 50-150 ppm in EN 590 diesel (< 0.05 % S)
Pump rig test, WP2	1 000 h test with a Bosch injection pump at an independent laboratory: Bosch wear rating 3 with 100 ml/m ³ versus 4.5 for the blank fuel – sufficient lubricity
CEC PF 26, Peugeot XUD-9	Cleanliness of the fuel injection system not influenced
ASTM D1094	At 200 ppm no increase of the emulsifying tendency of diesel fuel in the presence of water
Emissions	Regulated emissions (HC, CO, NO _x , particulates) of small diesel engines not degraded

COMPATIBILITY

Does not form gels or precipitates with lubricating oils containing overbased detergents such as calcium sulphonate. Does not change cloud point, pour point, CFPP, oxidation stability or cetane number at 100 ppm, and does not interact with dyes, tracers or markers used in automotive and industrial gas oils.

Safety

Not classified as hazardous according to Regulation (EC) No 1272/2008 and not a dangerous good for transport. The usual precautions for handling chemicals apply: adequate ventilation, safety glasses, chemical-resistant gloves (nitrile or butyl). Spilled product is slippery. Refer to the Safety Data Sheet.

TYPICAL PROPERTIES

Physical state	Liquid
Appearance	Amber liquid
Chemical composition	Fatty acid blend (tall oil fatty acids)
Solubility	Soluble in most aromatic hydrocarbons and gas oils; insoluble in water
Density at 15 °C	0.89-0.93 g/cm ³ (ASTM D7042)
Viscosity at 20 °C	20-50 mm ² /s (ASTM D7042)
Cloud point	max. -4 °C (approx. -5 °C)
Pour point	< -6 °C (DIN ISO 3016)
Flash point	> 100 °C (DIN EN ISO 2719)

PRODUCT QUALITY SPECIFICATION

Parameter	Specification	Method
Acid value, mg KOH/g	194-199	AQSM 001
Colour (Gardner)	3.0-4.5	AQSM 002
Free rosin acids, %	1.0-2.0	AQSM 010
Unsaponifiable matter, %	max. 2	AQSM 011

The typical properties above are average values and a guide to handling; the specification is the binding product quality.

ADDITION METHOD

Dosed in liquid stream by standard pump equipment at refineries and terminals or by additive dosing systems, batch-wise or continuously. Compatible with carbon and mild steel, polyethylene, polypropylene and PTFE; avoid rubber and polystyrene.

Storage, packaging, supplier

Store in sealed containers at **0-50 °C**: shelf life at least 12 months. The product crystallises below 0 °C (cloud point approx. -5 °C; viscosity at 0 °C up to 100 mm²/s) – heated storage and lines are recommended in winter. Exclude water and moisture after opening. Supplied in bulk, ISO tank containers, IBC containers and 200 kg steel drums.

Manufactured and supplied by **PETRONAX Europe GmbH**. Certificate of Analysis with every delivery; samples on request.

Technical information · Date of issue: October 2026 (supersedes v.1.12 of January 2022). The data given here reflect our present knowledge and are intended to describe the product for technical purposes; they do not constitute a guarantee of specific properties. Users must verify suitability for their own application.