



## PRODUCT DATA SHEET



### EKO FORZA FUEL ECONOMY 5W-30 E6/E9

Lubricant for commercial vehicle engines

#### DESCRIPTION

EKO FORZA FUEL ECONOMY 5W-30 E6/E9 is a latest generation, 100% synthetic lubricant, designed for the highest level of performance in modern low emissions diesel engines operating on and off-highway.

The SAE 5W-30 viscosity grade and the modern full synthetic technology of the lubricant provide significant fuel savings, as demonstrated by the excellent performance of 1.19 % fuel economy in the Daimler OM501 Fuel Eco test.

EKO FORZA FUEL ECONOMY 5W-30 E6/E9 meets the current ACEA E6, ACEA E7, ACEA E9, API CK-4, MB 228.51, VOLVO VDS-4.5 specifications, and other OEM's specifications required for engines meeting the latest EU emission standards Euro 6 and EU stage IV.

EKO FORZA FUEL ECONOMY 5W-30 E6/E9 is particularly recommended for EGR diesel engines fitted with modern exhaust after-treatment systems, such as diesel particulate filters (DPF) and SCR systems.

The formulation of EKO FORZA FUEL ECONOMY 5W-30 E6/E9 provides excellent protection and cleanliness to the engine, thus maximizing performance and increasing its lifespan.

The excellent antioxidant properties of EKO FORZA FUEL ECONOMY 5W-30 E6/E9 contribute to extensive oil-change intervals. Low volatility loss and high resistance to shear provide excellent control of lubricant consumption. The final benefit is the reduction of maintenance costs and operating costs.

EKO FORZA FUEL ECONOMY 5W-30 E6/E9 has excellent fluidity and pumpability characteristics at low temperatures, as demonstrated by the excellent results in the CCS and MRV tests. It thus allows the engine to start easily at low ambient temperatures and minimizes wear at startup.



## PRODUCT DATA SHEET



### SPECIFICATIONS

ACEA E6, E7, E9, API CK-4/SN, JASO DH-2, MB 228.31, MB 228.52, MAN M3775, MTU Type 3.1, DEUTZ DQC IV-18 LA, CUMMINS CES 20086, DDC 93K222, SCANIA LDF-4, CATERPILLAR ECF-3, FORD-M2C213-A, IVECO 18-1804 TLS E9, DAF Extended drain.

### APPROVALS

“MB-Approval 228.51”, VOLVO VDS-4.5, MACK EOS-4.5, RENAULT RLD-3.

Suitable for use: API CJ-4, API CI-4 plus, API CI-4, API CH-4, VOLVO VDS-4, VOLVO CNG, MACK EO-O Premium Plus, CUMMINS 20081.

### APPLICATIONS

- Suitable for high-performance EURO 6 and EU Stage IV diesel engines, but also fully compatible with older diesel engines, in which use of EKO FORZA FUEL ECONOMY 5W-30 E6/E9 contributes to performance improvement and increase of oil-change intervals.
- Applications include on-highway transport vehicles operating at high speeds and high loads and off-highway vehicles and equipment operating at low speeds and high loads in applications in constructions, mining, shipping and agriculture.
- Meets the requirements of the specifications of all major European, American and Japanese manufacturers (OEM), it is thus suitable for mixed fleets of various manufacturers and technologies.

### ADVANTAGES

EKO FORZA FUEL ECONOMY 5W-30 E6/E9 provides excellent wear protection and excellent oxidation resistance, as demonstrated by the results in critical tests of API CK-4, MB 228.51 and Volvo VDS-4.5 specifications:

- Provides 68% less wear of camshaft outlet in the OM646LA Cam Wear Outlet test, compared to the MB 228.51 limit.
- Provides 61% less wear of camshaft inlet in the OM646LA Cam Wear Inlet test, compared to the MB 228.51 limit.



## PRODUCT DATA SHEET

### ADVANTAGES

- Provides 60% less wear of cylinder in the OM646LA Cylinder Wear test, compared to the MB 228.51 limit.
- Provides 96% less increase in lubricant viscosity due to oxidation in the Mack T-13 KV40 increase test, compared to the Volvo VDS-4.5 limit.
- In the Mack T-13 Oxidation peak height test, provides 60% better protection against oxidation compared to the API CK-4 limit and 40% better protection compared to the Volvo VDS-4.5.
- Provides 26% less lubricant consumption in the Mack T-13 Average oil consumption test, compared to the Volvo VDS-4.5 limit.
- Offers 1.19 % fuel economy in the Daimler OM501 Fuel Eco test.

### TYPICAL CHARACTERISTICS

| Properties                 | Methods    | Units    | EKO FORZA FUEL ECONOMY 5W-30 E6/E9 |
|----------------------------|------------|----------|------------------------------------|
| SAE Viscosity Grade        | -          | -        | 5W-30                              |
| Density, 15°C              | ASTM D4052 | g/ml     | 0.857                              |
| Kinematic viscosity, 100°C | ASTM D445  | cSt      | 11.63                              |
| Kinematic viscosity, 40°C  | ASTM D445  | cSt      | 69.62                              |
| Viscosity index (VI)       | ASTM D2270 | -        | 162                                |
| CCS viscosity, -30°C       | ASTM D5293 | cP       | 5660                               |
| MRV, -35°C                 | ASTM D4684 | cP       | 20310                              |
| Sulfated ash               | ASTM D874  | % w/w    | 1.0                                |
| Base number, TBN           | ASTM D2896 | mg KOH/g | 10.5                               |
| Pour Point                 | ASTM D5950 | °C       | -46                                |
| Flash Point                | ASTM D92   | °C       | 224                                |

### SPECIAL INSTRUCTIONS

The lubricant recommendation for EURO 6 engines varies depending on the manufacturer. You should always consult the vehicle manual.

### HEALTH AND SAFETY

Protect the environment while disposing of used product. Used lubricants should be collected at specific points to ensure they do not pollute the environment. Do not mix with solvents, brake fluids, antifreeze fluids and water, to allow for proper handling.

Issue 6, 18 May 2022

This data sheet provides basic information on the product as at the date of drafting. For further information regarding applications, please contact EKO ABEE Technical Support, tel. +30 210 5509 511 and +30 210 7725 418. Advice on safe handling is provided in the Safety Data Sheet.