



MOTUL® 8100 X-clean EFE 5W-30



Gasoline & Diesel lubricant - EURO 4, 5 and 6

100% Synthetic

TYPE OF USE

Advanced 100% Synthetic lubricant that provides at the same time **High Protection** and **Fuel Economy**. Approved by BMW Group, GM (General Motors) Opel, and Mercedes for its Extra Fuel Economy property.

Specially designed for the latest generation cars, powered by Gasoline and Diesel engines, naturally aspirated or turbocharged, direct or indirect injection.

For vehicles that are EURO 4, EURO 5 or EURO 6 emission regulation compliant and require an ACEA C3 engine oil i.e. high HTHS (> 3.5 mPa.s) viscosity and "Mid SAPS" with reduced content of Sulfated Ash ($\leq 0.8\%$), Phosphorus ($0.07 \leq x \leq 0.09\%$) and Sulfur ($\leq 0.3\%$), or an ACEA C2 engine oil i.e. a low friction, low HTHS (≥ 2.9 mPa.s) viscosity and "Mid SAPS" oil with reduced content of Sulfated Ash ($\leq 0.8\%$), Phosphorus ($\leq 0.09\%$) and Sulphur ($\leq 0.3\%$).

Suitable when a "Fuel Economy" lubricant is required: ACEA C2 standard.

Compatible with catalytic converters (CAT) and Diesel Particulate Filters (DPF).

May be unsuitable for use in some engines. Always refer to the owner's manual if in doubt.

PERFORMANCES

STANDARDS

ACEA **C2 / C3**
API SERVICES **SN**

APPROVALS

BMW **LL-04**
GM-OPEL **dexos2®** (replaces GM-LL-A-025 & B-025)
MB-Approval **229.52**

PERFORMANCES

FIAT 9.55535-**S1 / S3**

RECOMMENDATIONS

HONDA, KIA / HYUNDAI, MITSUBISHI, NISSAN, SUBARU, SUZUKI, SSANGYONG, TOYOTA,...

Engines compliant with EURO 4, EURO 5 and EURO 6 emission regulations are fitted with sensitive exhaust gas after treatment systems. Indeed, Sulfur and Phosphorus inhibit catalytic converter operation leading to inefficient exhaust gas treatment. Also, Sulfated Ashes clog DPFs leading to shorten regenerating cycles, quick oil aging, higher fuel consumption and engine power loss.

The ACEA C3 standard requires from the lubricant significant oil film resistance and low emission performance during use in powerful engines. The ACEA C2 standard requires significant reduction of friction to ensure gains in energy savings, and therefore fuel economy benefits.

MOTUL 8100 X-clean EFE 5W-30 has synthetic base stocks coupled with specific friction modifier molecules and dedicated SAPS levels that generate outstanding oil film resistance, reduce friction in the engine and provide after treatment device compatibility. MOTUL 8100 X-clean EFE 5W-30 brings high lubricating properties such as wear protection and high temperature resistance for better controlled oil consumption. ACEA C2 and C3 lubricants achieve extended drain intervals as managed by the vehicle on-board computer.

Numerous Asian OEMs such as HONDA, KIA / HYUNDAI, MITSUBISHI, NISSAN, SUBARU, SUZUKI, SSANGYONG, TOYOTA,... recommend an ACEA C2 or C3 lubricant to guarantee the maximum performance and durability for most of their recent vehicles (since 2006), especially Diesels with DPF.

The BMW Long Life-04 specification imposes severe constraints to the lubricant particularly due to Valvetronic and after treatment systems compatibility. It covers all BMW engines from 2004 and

also all BMW engines before 2004 as BMW LL-04 covers all the previous BMW specifications such as BMW LL-98 and BMW LL-01.

ATTENTION: BMW LL-04 product can be used for gasoline engines only in European Union countries, Switzerland, Norway and Liechtenstein. Outside those countries, an approved BMW LL-01 lubricant such as MOTUL 8100 X-cess 5W-40 or 8100 X-max 0W-40 is required.

In countries with relevant Diesel passenger car market shares e.g. Europe, the GM dexos2[®] standard is suitable for the whole range of GM-OPEL Diesel engines (including DPF versions) and Gasoline engines from Model Year 2010. Also, GM-OPEL dexos2[®] fully supersedes and replaces the previous GM specifications: GM-LL-A-025 (Gasoline) and GM-LL-B-025 (Diesel).

MERCEDES has developed MB 229.52 standard for all "BlueTEC" Diesel engines fitted with SCR (Selective Catalyst Reduction) allowing NOx treatment through the use of AdBlue[®] additive or so-called "diesel exhaust fluid".

MB 229.52 specification is fully backward compatible with MB 229.51 and MB 229.31 specifications for all Mercedes Diesel engines with or without DPF and some Gasoline engines.

MB 229.52 standard also requires improved cold flow properties to reduce hydrodynamic friction of the oil, in order to obtain fuel economy especially when the oil is cold. This extra requirement for cold flow properties allows excellent oil flow at start up, faster oil pressure build up, faster revs raisings and faster operating temperature reach. This type of lubricant allows fuel consumption reduction and therefore reduces greenhouse gases (CO₂) emissions.

The FIAT 9.55535-S1 performance level requires the engine oil to combine both ACEA C2 and 5W-30 in order to lubricate the Diesel 1.3L, 1.6L and 2.0L Multijet engines of FIAT, ALFA-ROMEO, LANCIA and CHRYSLER produced from 2007.

The FIAT 9.55535-S3 performance level requires the engine oil to combine both ACEA C3 and 5W-30 in order to lubricate the Diesel 2.2L, 2.8L and 3.0L Multijet and CRD engines of FIAT, ALFA-ROMEO, LANCIA and JEEP produced from 2011.

MOTUL 8100 X-clean EFE 5W-30 meets all these very demanding requirements for performance and durability set by OEMs, including in particular the full compatibility to use bio fuels (when using biodiesel at a mix ratio of up to 10% (Biodiesel – B10), or when using E85 (unleaded Gasoline containing 85% Ethanol) for dexos2[®] standard).

RECOMENDATIONS

Drain interval: according to manufacturers' recommendations and tuned to your own use.

Do not mix with lubricants not ACEA C3 or ACEA C2 compliant.

Before using, always refer to the owner's manual or handbook of the vehicle.

PROPERTIES

Viscosity grade	SAE J 300	5W-30
Density at 20°C (68°F)	ASTM D1298	0.851
Viscosity at 40°C (104°F)	ASTM D445	70.1 mm ² /s
Viscosity at 100°C (212°F)	ASTM D445	12.1 mm ² /s
Viscosity HTHS at 150°C (302°F)	ASTM D4741	3.5 mPa.s
Viscosity index	ASTM D2270	169
Pour point	ASTM D97	-42°C / -44°F
Flash point	ASTM D92	232°C / 450°F
Sulfated ash	ASTM D874	0.78% weight
TBN	ASTM D2896	7.8 mg KOH/g