

**Gasoline & Diesel lubricant
Synthese-Technologie****TYPE OF USE**

High performance Synthese-Technologie lubricant approved by many car manufacturers. Specially designed for last generation cars, powered by Gasoline or Diesel engines, naturally aspirated or turbocharged, indirect or direct injection, Euro 4, 5 or 6 emission regulation compliant, requiring 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 ($\leq 0.3\%$).

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

Specially recommended for cars using LPG or CNG injection systems and requiring a high performance Mid-SAPS specification lubricant meeting ACEA C3 and/or API SN (or below). Before use always refer to the owner manual or handbook of the vehicle.

PERFORMANCES**RECOMMENDATIONS** HONDA, HYUNDAI, KIA, MITSUBISHI, NISSAN, SSANGYONG, SUZUKI

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

The ACEA C3 standard requests from the lubricant significant oil film resistance and low emission performance for powerful engines: MOTUL 8100 X-clean 5W-40 has synthetic base stocks and dedicated SAPS levels that generates outstanding oil film resistance, reduces friction in the engine and provides after treatment devices compatibility. MOTUL 8100 X-clean 5W-40 brings high lubricating properties such as wear protection and high temperature resistance for better controlled oil consumption. ACEA C3 lubricants achieve extended drain intervals managed by vehicles on-board computer. Numerous OEMs such as KIA / HYUNDAI, HONDA, MITSUBISHI, NISSAN, SUZUKI, SSANGYONG,... recommend an ACEA C3 lubricant for most of their vehicles especially Diesel engines with DPF.

GENERAL MOTORS dexos2™ standard is suitable for the whole range of GM Diesel engines (including DPF versions) and most of GM Gasoline engines from Model Year 2010. Also, GM dexos2™ fully supersedes and replaces previous GM specifications: GM-LL-A-025 (Gasoline) and GM-LL-B-025 (Diesel).

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The MB 229.51 requires among many other severe constraints from the lubricant a reduced content of Sulfated Ash, Phosphorus and Sulphur in order to be compatible with MERCEDES exhaust gas after treatment systems. The specification MB 229.51 applies to some MERCEDES Gasoline engines, and to all MERCEDES Diesel engines, with or without DPF.

The PORSCHE A40 standard requires extreme high shear resistance from the lubricant. This specification applies to all PORSCHE engines, except Cayenne V6 and Diesel versions (for these specific engines, use an approved Porsche C30 lubricant such as MOTUL 8100 X-clean+ 5W-30).

RENAULT has developed RN0700 and RN0710 standards for oils able to endure the most severe thermal constraints along with modern after treatment systems compatibility.

The Renault RN0700 standard applies to all Naturally Aspirated Gasoline engines (except Renault Sport) of RENAULT Group (Renault, Dacia, Samsung).

The RN0700 specification applies also to all RENAULT Diesel cars fitted with 1.5L dCi engines without DPF (Diesel Particulate Filter) having less than 100 hp output and 20 000 km or 1-year oil drain interval.

The Renault RN0710 standard applies to all Turbocharged Gasoline, Renault Sport and Diesel without DPF engines of RENAULT Group (Renault, Dacia, Samsung).

The RN0710 specification does not apply to RENAULT Diesel cars fitted with 1.5L dCi engines without DPF having less than 100 hp output and 20 000 km or 1-year oil drain interval which specifically require a RN0700 lubricant. For the 2,2L dCi with DPF, use only an approved RN0710 lubricant, not a RN0720.

MOTUL 8100 X-clean 5W-40 meets the performance of the BMW Long Life-04 standard of the BMW Group for BMW, MINI and ROLLS-ROYCE vehicles until the model year 2019 i.e. up to End of 2018 only. For models from 2019 onward requiring an approved BMW LL-04 lubricant, products such as MOTUL 8100 X-clean+ 5W-30, MOTUL 8100 X-clean EFE 5W-30, 8100 X-clean Gen2 5W-40 or Specific LL-04 5W-40 must be used.

The FIAT 9.55535-S2, T2 and GH2 performance level imposes the engine oil to combine both ACEA C3 standard and 5W-40 viscosity grade in order to perfectly lubricate some Gasoline engines of FIAT, ALFA-ROMEO, and LANCIA produced from July 2007.

The MS-12991 performance level mirrors these FIAT specifications for CHRYSLER vehicles.

The FORD WSS-M2C917-A specification is required for FORD Galaxy 1.9L TDI until MY2006; and for FORD Ka from MY2008 to 2016.

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Specifications VW 505 00 and VW 505 01 require outstanding detergent/dispersant power, high oil film resistance and better viscosity increase resistance due to soot in order to cover many old Diesel engines and especially Diesel engines with unit pump injector systems (fixed oil drain interval) and Diesel with indirect injection systems. Eventually MOTUL 8100 X-clean 5W-40 can be recommended on those old VAG group Diesel engines when a VW 505 00 or VW 505 01 lubricant is required.

RECOMMENDATIONS

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

Do not mix with lubricants not ACEA C3 compliant.

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PROPERTIES

Viscosity grade	SAE J 300	5W-40
Density at 20°C (68°F)	ASTM D1298	0.845
	ASTM D445	84.7 mm ² /s
Viscosity at 40°C (104°F)	ASTM D445	14.1 mm ² /s
	ASTM D445	14.1 mm ² /s
Viscosity at 100°C (212°F)	ASTM D4741	3.6 mPa.s
HTHS viscosity at 150°C (302°F)	ASTM D4741	3.6 mPa.s
	ASTM D2270	172.0
Viscosity Index	ASTM D97	-39.0 °C / -38.0 °F
	ASTM D97	-39.0 °C / -38.0 °F
Pour point		
Sulfated Ash	ASTM D874	% weight
	ASTM D874	0.80
TBN	ASTM D2896	7.5 mg KOH/g

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DPF

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Flash point

ASTM D92

234.0 °C / 453.0 °F

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MOTUL**MOTUL 8100 X-CLEAN 5W-40****DPF****Gasoline & Diesel lubricant
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STANDARDS	
ACEA	C3
API	SERVICE SN
MERCEDES-BENZ	MB-Approval 229.51
RENAULT	RN0710 - RN0700 (under N° RN0710-20-23 / under N° RN0700-20-28)
OEM PERFORMANCES	
BMW	LL-04 (For model year up to End of 2018 only)
CHRYSLER	MS 12991
FIAT	9.55535-GH2, 9.55535-S2, 9.55535-T2
FORD	WSS-M2C917-A
GENERAL MOTORS	GM dexos2™ (replaces GM-LL-A-025 & B-025)
VW	505 00 505 01

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