

# USA: Approved Engine Oils for the Latest Engines

	API	ACEA	visc @ 100° C	BMW	MB	Porsche
Vehicles with the Mercedes Maintenance System starting with MY2005 can use 229.5 or 229.51 oils.						
Mobil 1 European Car Formula 0W-40	SM/ CF	A3/B3/B4	14	X	229.5	X
Pennzoil European Formula Ultra 5W-30 (*)	SH/CF	A3/B3/B4	11.4	X	229.5	X
Quaker State European Formula Ultra 5W-30 (*)	SH/CF	A3/B3/B4	11.6	X	229.5	X
Castrol Syntec European Formula 0W-30 (*)	SL/CF	A3/B3/B4	12.1	X	229.5	X
Elf Excellium 0W-30 (*)	SL/CF	A3/B3/B4	11.7	X	229.5	X
Elf Solaris LSX 5W-30 (for MY07+ diesel)	SM/ CF	A3/B4/C3	11.9	X	229.51	-
Mobil 1 ESP Formula M 5W-40 (for MY07+ diesel)	SM/ CF	A3/B4/C3	13.35	-	229.51	-
Valvoline SynPower MST 5W-30 (for MY07+ diesel)	SM/ CF	A3/B4/C3	11.7	X	229.51	-
Vehicles with the Flexible Service System FSS from MY1998-2004 can use 229.5 or 229.3 oils.						
Mobil 1 European Car Formula 0W-40	SM/ CF	A3/B3/B4	14.3	X	229.3	X
Castrol Syntec 5W-40	SL/CF	A3/B3/B4	-	X	229.3	X
Elf Excellium 5W-40	SL/CF	A3/B3/B4	-	X	229.3	X
Elf Excellium 0W-30 (*)	SL/CF	A3/B3/B4	-	X	229.3	X
Pennzoil Synthetic European Formula 5W-40	SL/CF	A3/B3	14.2	X	229.3	X
Quaker State Full Synthetic European Formula 5W-40	SL/CF	A3/B3	14.20	X	229.3	X
76 Pure Synthetic Motor Oil 5W-40	SL/CF	A3/B3/B4	14.3	X	229.3	X
Kendall GT-1 Full Synthetic Motor Oil 5W-40	SL/CF	A3/B3/B4	14.3	X	229.3	X
Motul 8100 E-Tech 0W-40	SJ/CF	A3/B3/B4	-	-	229.3	X
Motul 8100 X-Cess 5W-40	SL/CF	A3/B3/B4	-	X	229.3	X
Shell Helix Ultra 5W-30 (*)	SL/CF	A3/B3/B4	11.6	X	229.3	X
Shell Helix Ultra 5W-40	SL/CF	A3/B3/B4	13.8	X	229.3	X
Valvoline SynPower MXL 0W-30 (*)	SL/CF	A3/B3/B4	-	X	229.3	X

(\*) Not approved in AMG engines.

229.5 engine oils must be used with fleece oil filter when used with the Mercedes Maintenance System (MY2005+) in M112, M113, M272 and M273 engines. With FSS paper filters are fine.

Starting with MY2007 diesel engines must use only 229.51 approved engine oil.

MBUSA recommends only the use of MB approved synthetic motor oil for all vehicles equipped with the Flexible Service System (FSS) as of Model Year 1998. Conventional petroleum based oils are not recommended but may be used on older vehicles.

For Vehicles Without Flexible Service System: USA vehicles MY 1997 and earlier

**IMPORTANT:** Engine oils are labelled on the container with various ACEA (Association des Constructeurs Européens d'Automobiles) and /or API (American Petroleum Institute) designations of quality. Mercedes-Benz recommends the use of MB approved engine oils listed in the Mercedes-Benz oil specification sheet 229.3 or 229.5 which also meet ACEA and/or API classifications listed on the chart below. If a MB approved or ACEA quality engine oil is not available, then an API quality engine oil meeting the below listed API classifications can be used. Only engine oils (including synthetic) with any of the following classification grades, or combinations thereof, are approved.

Engine	MB Sheet	ACEA Classification <sup>1</sup>	API Classification <sup>1</sup>
Gasoline	229.3	A3	SJ
	229.5	B3	SL
Diesel	229.3	B2	CF-4
	229.5	B3	CG-4
		B4	

<sup>1</sup> only if MB sheet 229.3 or 229.5 is not available

Some oils which are not recommended:

Mobil 1 SuperSyn 0W-30 SL/SJ/CF A1/B1/A5 9.7 doesn't meet 229.1 nor ACEA A2 or A3  
 Mobil 1 SuperSyn 5W-30 SL/SJ/CF A1/B1/A5 9.8 doesn't meet 229.1 nor ACEA A2 or A3  
 Mobil 1 SuperSyn 10W-30 SL/SJ/CF A1/B1/A5 10.1 doesn't meet 229.1 nor ACEA A2 or A3  
 These 3 oils do not meet MB spec of > 3.5 cP for high temperature high shear strength.

## Rest of World: Approved Oils for the Latest Engines

In all countries other than the USA oils recommended for the new engines should meet MB 229.1 or 229.3 and can be mineral, semi-synthetic or full synthetic. The label "Meets MB sheet 229.1 or 229.3" can usually be found on the oil container.

From the M-Class owners' manual (worldwide edition, 2002):

Cockpit

Controls

Driving

Fault/warning  
messages

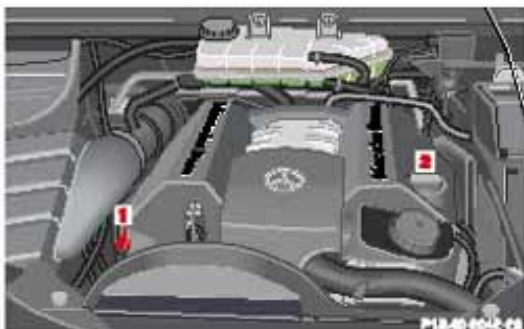
Practical advice

Care

Technical  
data

Index

## Engine compartment



ML 320, ML 500, ML 55 AMG

- 1 Dipstick
- 2 Oil filler neck

Wipe the dipstick before every check.



The oil level must be between the lower mark (min) and the upper mark (max) on the dipstick.

Any passenger vehicle engine oil which has been approved by Mercedes-Benz may be used. A list of oils which have been tested and approved in accordance with MB Specifications for Service Products Sheets 229.1 and 229.3 is available from any Mercedes-Benz Service Station. Moreover, the container will be marked with wording such as "Approved in accordance with MB Sheet 229.1 or 229.3".

Approved engine oils (synthetic/mineral) may be mixed. However, we only recommend mixing engine oils of the same quality grade and SAE class.

## A few Mercedes-Benz Approved Oils

MB sheet 228.1 approved oils

for commercial trucks with diesel engines, SHPD (Super High Performance Diesel) oil, multi-viscosity, drain interval to 30,000 km. Caution when using 228.x oils in gas cars - additives might damage catalytic converters. ACEA E2-96 is based on this spec.

MB sheet 228.3 approved oils

for commercial trucks with diesel engines, Euro 2, minimum spec for CDIs, multi-viscosity SHPD (Super High Performance Diesel) oil, extended drain intervals up to 45,000 km. 228.x oils are designed to handle increased soot loads, EGR and a reduced tendency to thicken. ACEA E3-96 is based on this spec. The complete list comprises 100+ oils.

Aral HighTurboral 10W-40  
Castrol Tecton SAE 10W-40  
Castrol Tecton SAE 15W-40  
Chevron Delo 400 15W-40 Multigrade (first oil to meet global DHD-1 spec introduced 2/2001; formulation 6/2004 first to meet CI-4 Plus)  
Chevron Delo Euro HDMO 15W-40  
Kendall SHPD-LD 15W-40  
Mobil Delvac 1300 Super 15W-40  
Pennzoil Supreme Duty Diesel Engine Oil 15W-40  
Quaker State Super Diesel 15W-40  
Shell Rimula X CH-4 15W-40  
Shell Rimula X CH-4 20W-50  
Shell Rotella T 15W-40  
Ursa Premium TDX 15W-40  
Ursa Premium TDX 10W-30  
Ursa Super TD 15W-40  
Ursa Turbo 15W-40  
Ursa Turbo 20W-50

MB sheet 228.31 approved oils  
for commercial trucks with diesel engines with diesel particulate filters. Approval requires running the full suite of API CJ-4 tests, plus passing two additional engine tests developed by Mercedes Benz; MB OM611 and OM441LA.

Chevron Delo® 400 LE(TM) Multigrade SAE 15W-40 (added Mar 7, 2007)  
Citgo CITGARD 700 SAE 15W-40  
Mobil Delvac 1300 Super 15W-40  
Shell Rimula Super 15W-40

MB sheet 228.5 approved oils  
for commercial trucks with diesel engines, Euro 1 and Euro 2, UHPD (Ultra High Performance Diesel) oil for turbocharged diesels; spec pioneered with Chevron; introduced in 1999. Multi viscosity oils for longest oil change intervals up to 45,000 km (light class) and up to 100,000 km (heavy class) or 160,000 km (with side filters) possible, service interval indicator, FSS. ACEA E4 and E5 are based to a large extent on this spec. The complete list comprises 100+ oils.

Aral MegaTurboral 10W-40  
Castrol Dynamax 10W-40  
Castrol Elixion SAE 0W-30  
Castrol Enduron SAE 10W-40  
Castrol Enduron Plus SAE 5W-40  
Chevron Delo® XLD Multigrade 10W-40  
Elf Performance Expert 10W-40  
Fuchs TITAN CARGO SL SAE 5W-30

Fuchs Titan Cargo 10W-40  
Hunold Multicargo 10W-40  
Liqui Moly LKW Langzeit Motoröl 10W-40  
Mobil Delvac 1 5W-40  
Mobil Delvac 1 SHC 5W-40  
Mobil Delvac XHP Extra 10W-40  
Mobil Delvac XHP Ultra 5W-30  
Quaker State Synquest Diesel 10W-40  
Shell Rimula Ultra 10W-40  
Shell Rimula Ultra 5W-30  
Ursa Premium FE 5W-30  
Ursa Super TDX 10W-40  
Ursa TDX 10W-40  
Valvoline ProFleet 10W-40  
Valvoline ProFleet Extra 5W-30

MB sheet 228.51 approved oils

Longlife oils for commercial trucks with diesel engines with particulate filter. Based on ACEA E6.

AGIP Sigma UltraPlus TFE 10W-10  
BP Vanellus Eco SAE 10W-40  
Castrol Enduron Euro 4 Low SAPS SAE 10W-40  
Fuchs TITAN CARGO MAXX SAE 10W-40  
Kuwait Petroleum Q8 T 900 10W-40  
megol Motorenoel Low SAPS SAE 10W-40  
Mobil Delvac XHP LE Extra 10W-40  
Motorex Focus 4 SAE 10W-40 LOW SAPS  
OMV truck blue SAE 10W-40  
Pentosin Diesel 10W-40 LA  
Shell Rimula Signia 10W-40 (MB 228.51)  
Texaco Ursa Ultra 10W-40

MB sheet 229.1 approved oils

for passenger cars with gas and diesel engines, used to be minimum spec for latest (98+) engines, high detergent, dispersant spec suitable for normal drain intervals. Based on ACEA A3, B3. Note 229.1 oils are not recommended for MB's latest (2002+) 4 valve gas M271, M275, M285 and diesel OM646, OM647, OM648 engines.

Aral Super Elastic 0W-40 Unal  
Aral Extra Turboral 0W-40 Unal  
Aral BasicTronic 10W-40  
Aral SuperTronic 0W-40  
Aral HighTronic 5W-40  
Aviasynth 5W-40

Avia Turbo CFE 10W-40  
BP Visco 5000  
Castrol GTD Magnatec 10W-40  
Castrol GTX5 Magnatec 10W-40  
Castrol GTX3 15W-40, 15W-50, 20W-50, 10W-40  
Castrol GTX2 15W-50  
Castrol GTX 15W-50  
Castrol GXL 10W-40 ACEA A3/B3  
Castrol Formula RS 0W-40  
Castrol GTX3 Professional 15W-40 (Castrol's best mineral oil)  
Castrol GTD 505 01 TOPUP 5W-30  
Chevron Supreme SAE 5W-40  
Chevron Supreme Semi-Synthetic SAE 10W-40  
Elf Excellium 0W-40  
Elf Synthese  
Esso Ultra  
Esso Uniflo  
Fuchs Titan Supersyn SL 0W-30, 0W-40, 5W-40  
Fuchs Titan UNIC MC 10W-40  
Fuchs Titan UNIC Plus MC 10W-40  
Havoline Synthetic 5W-40  
Havoline Formula3 X1 Extra 10W-40  
Havoline Formula3 X1 Diesel Extra 10W-40  
Hellas Super Synto 0W-40  
Hellas Hermes Plus 15W-50  
Kendall Motor Oil Elite 0W-40  
Liqui Moly Diesel Synthoil 5W-40  
Liqui Moly High Tech 5W-40  
Liqui Moly HC7 5W-40  
Mobil 1 with SuperSyn 15W-50  
Mobil 1 TriSynthetic 5W-50, 15W-50, 0W-40, 5W-40 (100% synthetic)  
Mobil Super M 15W-40 (mineral)  
Mobil Super S 5W-40 and 10W-40 (mineral w/ synth additives)  
Motul 6100 Synergie 10W-40  
Motul 4100 Turbolight 10W-40  
Pentosin Pentosynth TS 10W-40  
Pentosin Pentosynth 5W-40  
Pentosin Pentoturbo 15W-40  
Pentosin Diesel 10W-40  
P.O. Zirve  
P.O. Zirve Ekstra  
Pennzoil Synthetic European Formulation 5W-40  
Performanx Full Synthetic Motor Oil 5W-40

Schaeffer Micron Moly 5W-30  
Schaeffer Micron Moly 10W-40  
Schaeffer Supreme 7000 10W-30  
76 Pure Synthetic Motor Oil 5W-40  
Shell Helix Ultra 5W-30  
Shell Helix Plus 5W-40  
Shell Super Motor Oil 10W-40  
Sunoco Forza SAE 15W-40  
Ultra Turbo Semi-Synthetic Motor Oil 0W-40  
Valvoline All Fleet Extra 15W-40, 20W-50, 10W-40  
Valvoline SynPower  
Veedol SUPER X-TRON 10W-40  
Veedol SUPER X 15W-40

MB sheet 229.3 approved oils

for passenger cars with gas and diesel engines with extended drain interval indicator FSS up to 20,000 km, or 40,000 km - 25,000 mi, current minimum spec for 1998+ MB engines, min. 1.0% fuel saving compared to 229.1, based on ACEA A3 B4. For gas engine of the M100 series, gas engines of the M200 series and diesel engines of the OM600 series (not models with diesel particulate filter).

AGIP EXTRA HTS 5W-40  
AGIP Synthetic PC 0W-40  
AGIP Eurosport 0W-40  
Amsoil 5W-30 Synthetic Motor Oil  
Amsoil 10W-30 Synthetic  
Amsoil Series 3000 5W-30 Heavy Duty Diesel  
Aral HighTronic 5W-40  
Aral SuperSynth 0W-40  
Aral Super Tronic 0W-40  
Aviasynth 0W-40  
Castrol DCO TOPUP SAE 0W-30  
Castrol Formula RS Road and Track 5W-40  
Castrol GTX7 DYNATEC 5W-40  
Castrol Formula SLX 0W-30  
Castrol TXT SOFTEC PLUS 5W-30  
CIFAB Synthoil Hydrocrack HC7 5W-40  
Elf Excellium LDX SAE 5W-40  
Esso Ultron 0W-30 (fuel economy)  
Esso Ultron 5W-40  
Fuchs Silkolene Pro S 5W-40 - 100% Synthetic Oil For All Race Engines  
Fuchs Silkolene Pro S 10W-50 - 100% Synthetic Oil For All Race Engines  
Fuchs Titan SuperSyn SL 0W-30  
Havoline Synthetic DS 0W-30

Kendall GT-1 Full Synthetic 5W-40  
Liqui Moly Diesel Synthoil 5W-40  
Liqui Moly High Tech 5W-40  
Liqui Moly HC7 5W-40  
LUKOIL SYNTEETIK 5W-40  
Mobil 1 SuperSyn European Car Formula 0W-40  
Mobil 1 SuperSyn 5W-40  
Mobil 1 SuperSyn 5W-50  
Mobil 1 Turbo Diesel 0W-40  
Mobil Synt S 5W-40  
Mobil Synt S Turbo Diesel 5W-40  
Mobil Syst S 5W-40  
Motul 8100 E-Tech 0W-40  
Motul 8100 X-cess 5W-40  
Pennzoil Synthetic European Formulation 5W-40  
Pentosin Pentospeed 0W-30 VS  
Q8 Formula Excel 5W-40  
Quaker State Full Synthetic European Formulation 5W-40  
Schaeffer Micron Moly 5W-30, 10W-40  
Schaeffer Supreme 7000 5W-30, 10W-30, 20W-50  
76 Pure Synthetic Motor Oil 5W-40  
Shell Helix Plus S 5W-40 (Mercedes-Benz)  
Shell Helix Ultra 5W-30, 0W-40, 5W-40  
Sunoco Synturo Gold 5W-40 (introduced January 2002)  
Total FINA First 5W-40  
Total Quartz 9000 5W-40  
Valvoline DuraBlend MXL 5W-40  
Valvoline SynPower MXL 0W-30  
Valvoline SynPower 5W-30, 0W-40, 5W-40, 20W-50  
Veedol POWERTRON 5W-30  
Veedol SYNTRON 0W-30

MB sheet 229.31 approved oils; LA "low ash" Oils

Mercedes pioneered this new spec for passenger cars with diesel engines with exhaust particulate filters, e.g. W211 E200 CDI, E220 CDI. The spec was introduced 7/2003. They are called LA "low ash" or "low SAPS" oils, low on sulfated ash, phosphorus and sulphur to limit exhaust particulate filter pollution. In 2004 the ACEA introduced the new C3 spec (mid SAPS, normal viscosity) based on it. Change intervals extend to 15,000 km.

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Aral Tronic 229.31 5W-30  
BP Visco 5000 MB 5W-30  
Castrol FORMULA SLX Turbo Diesel 0W-30  
Castrol TXT Softec MB 5W-30



Fuchs Titan GT 1 5W-30  
Liqui Moly TopTec 7000 LA  
Low SPAsh Motorenöl 5W-30 (DaimlerChrysler)  
Midland Synqron 5W-30  
Mobil SHC Formula LA 5W-30  
Mobil 1 ESP Formula 5W-30 (from 3/2005)  
Q8 Formula Special 5W-30  
Pento High Performance 5W-30 LA  
Shell Helix Diesel Ultra AE 5W-30  
Shell Helix Ultra AE 5W-30  
Wintershall ViVA 1 topsynth alpha LA 5W-30  
Valvoline SynPower MST 5W-30  
40  
Aral SuperTronic 0W-40 LOW SAPS (ACEA C3)  
Castrol GTD Magnatec 5W-40  
Fuchs Titan GT 1 10W-40  
Liqui Moly TOP TEC 4100 5W-40  
Midland Synqron 5W-40  
Motor Gold Mid SAPS 5W-40  
Motul SAE 5W-40 Vollsynthetisch  
Pento High Performance 5W-40 LA  
Valvoline SynPower 5W-40, 20W-50

MB sheet 229.5 approved oils; "MB Longlife Service Oils"

for passenger cars with gas and diesel engines with extended drain intervals beyond 229.3 oils, to 30,000 km, min 1.8% fuel saving, first oils introduced summer 2002. ACEA A3 B4. For gas engines of the M100 series, gas engines of the M200 series and diesel engines of the OM600 series (not models with Euro 4 diesel particle filters).

229.5 engine oils must be used with fleece oil filter designed for use with 229.5 engine oils.

AGIP Formula LL DC 5W-30 (I)  
Aral SuperTronic G 0W-30 (D)  
Castrol DCO TOPUP 0W-30 (D)  
Castrol Syntec European Formula 0W-30 (USA)  
Elf Excellium 229.5 5W-30 (F)  
FormulaShell Ultra AB 5W-30 (GB)  
Fuchs Titan Supersyn SL MB 5W-30 (D)  
Labo MB 229.5 5W-30 (F)  
Liqui Moly Longtime High Tech 5W-30 (D)  
Mobil 1 SuperSyn European Car Formula 0W-40 (USA)  
Mobil 1 Turbodiesel 0W-40  
Mobil SHC Formula MB 5W-30  
Motorex Profil M-XL 5W-30 (CH)  
OMV full syn MB 5W-30 (A)

Pennzoil European Formula Ultra 5W-30 (USA)  
Premium Synthetik Motorenöl 5W-30 (DaimlerChrysler, D)  
Quaker State European Formula Ultra 5W-30 (USA)  
Shell Helix Ultra AB 5W-30 (Mercedes-Benz) (GB)  
Shell Helix Ultra DC 229.5 (GB)  
Total Quartz 229.5 5W-30 (F)  
Valvoline SynPower MB 5W-30 (NL)  
Valvoline SynPower 5W-40  
Valvoline SynPower 20W-50

MB sheet 229.51 approved oils; low ash long life

Mercedes pioneered this new spec for passenger cars with diesel engines with exhaust particulate filters, and gasoline engines, and longer service life than the 229.31 oils. The spec was introduced in 2005. Change intervals increased to 20,000 kilometers. Based on ACEA A3 B4 and C3.

Amsoil European Car Formula 5W-40  
Anglomoil RoadMaster 500 API SM 10W-40  
Aral SuperTronic 229.51 0W-40 LOW SAPS  
Aral SuperTronic Diesel 229.51 0W-40 LOW SAPS  
Bizol New Generation SAE 5W-30 (added 09 July 2007)  
Castrol EDGE Formula RS SAE 0W-40 (added 09 July 2007)  
Castrol EDGE Turbodiesel SAE 0W-30 (added 09 July 2007)  
Castrol Longtec Turbodiesel 0W-30 (229.51)  
ELF Solaris LSX 5W-30  
Fuchs TITAN GT1 229.51 SAE 5W-30 (first fill oil in OM 642)  
megol Motorenoel New Generation SAE 5W-30  
Mobil 1 ESP Formula M 5W-40 (to become available in the USA on 15 May 2006)  
Mobil 1 ESP Formula 5W-30 Emission System Protection (Europe, from December 2005)  
OMV BIXXOL special C3 SAE 5W-30 (added 09 July 2007)  
Pentosynth HC 5W-40 (added December 2007)  
Shell Helix Ultra AX 5W-30 Mercedes 229.51  
Sunoco Synturo Xenon SAE 5W30 (added 09 July 2007)  
Valvoline SynPower MST 5W-30 229.51 (added 01 June 2006)  
Valvoline SynPower 5W-40 229.51 (added November 2007)  
Valvoline SynPower 20W-50 229.51 (added November 2007)

BMW recommends Castrol.

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