



## APPROVED ENGINE OILS

**IMPORTANT:** Engine oils are labeled on the container with various CCMC (Committee of Common Market Automobile Constructors) and/or API (American Petroleum Institute) designations of quality. Mercedes-Benz recommends the use of engine oils which meet CCMC classifications. If a CCMC quality engine oil is not available, then an API quality engine oil should be used. Only engine oils (including synthetic and/or recycled engine oil) with any of the following classification grade, or combinations thereof, are approved:

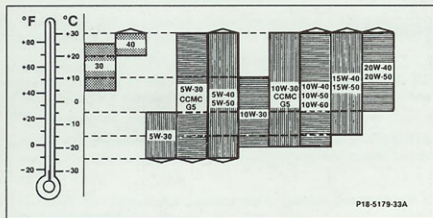
Engine	CCMC classification	API classification
Gasoline	G4	SG
	G5	
Diesel	D4	CE CF-4
	D5	
	PD2	

Always refer to the viscosity grade charts in the Owner's Manual or below for the proper viscosity grade based on ambient temperature.

Note: The chart below supersedes ALL previously published viscosity charts.

## VISCOSITY GRADES FOR MOTOR OILS

Adhering to the SAE grades in accordance with the ambient temperature would result in frequent oil changes. Consequently, the temperature ranges are merely guidelines, which can be exceeded in the upper or lower limits for brief periods.



Note: For additional information, please refer to the vehicle Owner's Manual.

**HYPOID GEAR OIL**

For rear axle differential (for limited slip see below)

D-A Gear Guard (SAE 90)  
available in 35, 120 or 400 lb. container

MB Hypoid Gear Oil

D-A Lubricant Co., Inc., 1340 West 29<sup>th</sup> Street,  
Indianapolis, IN 46208

MBNA Part No. 000 989 28 03

**HYPOID GEAR OIL**

For limited slip differential and rear axle with ASD, 4MATIC

MB Limited Slip Differential Oil

MBNA Part No. 000 583 09 04

**HYPOID GEAR OIL**

For front differential, 4MATIC

Life-long hypoid gear oil

MBNA Part No. 001 989 05 03

**MANUAL TRANSMISSION FLUID**

For MB manual transmission

MB Manual Transmission Fluid

MBNA Part No. 000 989 26 03

**STEERING GEAR LUBRICANT**

For power steering

MB Power Steering Fluid

MBNA Part No. 000 989 88 03

**AUTOMATIC TRANSMISSION FLUID**

For MB automatic transmission, transfer case (4MATIC) and MB manual transmission (except GL76/30-5 and GL275E)

Castrol Transmax M 22257

Castrol, Wayne, NJ / Toronto, Canada

Citgo Multi-Purpose ATF D-21571

Citgo Petroleum Corp., Tulsa, OA

Mobil ATF 220 D-21412

Mobil Oil Corp., Fairfax, VA

Pennzoil, ATF D-21380

Pennzoil Products Co., Houston, TX

Shell Donax ATF TG Plus D-22543

Shell Oil Co., Houston, TX

Unocal Multi-Purpose ATF D-22413

Unocal Science &amp; Technology Div., Brea, CA

Unocal Multi-Purpose ATF D-22431

Unocal Science &amp; Technology Div., Brea, CA

Valvoline ATF Type D

Valvoline International, Lexington, KY

**AUTOMATIC TRANSMISSION FLUID**

For MB automatic transmission

Chevron ATF D-22699

Chevron, Richmond, CA

Chevron ATF Dexron II E E-25130

Chevron, Richmond, CA

Emgard 2802 Dexron II Mercon E-25118

Henkel Corp., Cincinnati, OH

Redline synthetic ATF

Red Line Synthetic Oil Corp., Martinez, CA

Unocal Multi-Purpose ATF D-22529

Unocal Science &amp; Technology Div., Brea, CA

**FLUID GREASE (NLGI Class 00)**

For door lock pin and striker eye

Castrol CLS Grease

Castrol, Wayne, NJ / Toronto, Canada

**HIGH TEMPERATURE ROLLER BEARING GREASE (NLGI Class 2)**

For front wheel bearings

MB High Temperature Antifriction Bearing Grease

MBNA Part No. 001 989 23 51 10

**CHASSIS GREASE (NLGI Class 01)**

For all greasing points except front wheel hubs

Castrol CL Grease

Castrol, Wayne, NJ / Toronto, Canada

Shell Retinax C

Shell Oil Co., Houston, TX

**LONG TERM LUBRICATING GREASE (NLGI Class 2)**

For release bearing, release arm and splines of clutch linkage on level control valves

Molykote Longterm 2 Plus

Dow Corning

**MULTI-PURPOSE GREASE (NLGI Class 2)**

For all greasing points except front wheel

3752 Almagard Vari-Purpose Lubricant

Lubrication Engineers Inc., Fort Worth, TX

Castrol LM Grease

Castrol, Wayne, NJ / Toronto, Canada

Castrol MP Grease

Exxon Multipurpose Grease

Exxon Co., Houston, TX

Mobilgrease MP

Mobil Oil Corp., Fairfax, VA

Renolit MP

Fuchs Oil Corp., Somerville, NJ

Unocal MP Automotive Grease

Union Oil Company of California, Brea, CA

**COMPLEX GREASE (NLGI Class 2)**

For sliding blocks of sliding/pop-up roof

MB Lubrication Paste

MBNA Part No. 001 989 14 51

**HYDRAULIC OIL**

For hydraulic system, Model 600

MB Hydraulic Oil

MBNA Part No. 100 890 00 11

**HYDRAULIC OIL**

For load leveling system, hydropneumatic suspension, hydraulic soft top, 4MATIC, ASD

MB Hydraulic Oil

MBNA Part No. 000 989 91 03 10

**ENGINE COOLING SYSTEM**

MB Anti-Corrosion / Antifreeze

MBNA Part No. Q 1 03 0002

**CAUTION!** The use of aluminum components in M-B engines requires that anti-corrosion/ Antifreeze specifically formulated to protect aluminum parts be used. Failure to use MB Anti-corrosion / Antifreeze may result in a significantly shortened service life. While there may be a number of products available which will provide the required protection, all such products have not been tested for Mercedes-Benz vehicles. The above product is suitable for our engines and can be mixed with the original anti-corrosion / antifreeze filled in at the factory.

**BRAKE FLUID**

MB Brake Fluid (DOT 4 Plus)

MBNA Part No. 000 989 08 07 10  
(0.75 liter container)MBNA Part No. 000 989 08 07 11  
(5.0 liter container)**BRAKE PAD PASTE**

MB Brake Pad Paste

MBNA Part No. 001 989 10 51

**REFRIGERANT R12**

Freon 12, 22

E.J. Dupont de Nemour &amp; Co., Wilmington, DE

Genetron 12, 22

Allied Chemical &amp; Dye Corp., Morristown, PA

**REFRIGERANT R 134a**

MB refrigerant R134a

MBNA Part No. Q 4 83 0190  
(30 lb. container)MBNA Part No. Q 4 83 0191  
(15 lb. container)**COMPRESSOR OILS (R12)**

Capella Oil WF 100

Texaco Inc., New York, NY

Suniso 5 GS

Sun Oil Co., Philadelphia, PA

**COMPRESSOR OIL (R134a)**

MB compressor oil for R134a only

MBNA Part No. 001 989 08 03

**WINDSHIELD WASHER CONCENTRATE**

MB Windshield Washer Concentrate "S"

MBNA Part No. 001 986 19 71 11 (40 ml)

**Suggested Mixing Ratio (1:100)**

Temperature	MB Concentrate "S"	+	Water	Solvent 1)
Summer use (above freezing)	40 ml	+	1.0 gallon	--
Winter use (below freezing)	40 ml	+	--	1.0 gallon

1) Pre-mixed windshield washer solvent (commercially available blue concentrate in 1 gallon container)

## FUEL REQUIREMENTS

### 1. Gasoline Engines

Unleaded gasoline containing oxygenates such as Ethanol, MTBE, IPA, IBA and TBA can be used provided that the ratio of any one of these oxygenates to gasoline does not exceed 10%. The ratio of Methanol to gasoline must not exceed 3% plus additional co-solvents.

Using mixtures of Ethanol and Methanol is not allowed. However, MTBE may be added up to 15%. Gasohol, which contains 10% Ethanol and 90% unleaded gasoline, can also be used. These blends must also meet all other fuel requirements such as resistance to spark knock, boiling range, vapor pressure, etc.

### Gasoline Additives

A major concern among engine manufacturers is carbon build-up caused by gasoline. MERCEDES-BENZ recommends to use only quality gasoline containing additives that prevent the build up of carbon deposits.

After an extended period of using fuels without such additives, carbon deposits can build up, especially on the intake valves and in the combustion area, leading to engine performance problems such as:

- warm-up hesitation,
- unstable idle,
- knocking/pinging,
- misfire,
- power loss.

DO NOT blend other fuel additives with the fuel. These additional additives only result in unnecessary cost and may be harmful to engine operation.

Damages or malfunctions resulting from poor fuel quality or from blending additional fuel additives are not covered by the MERCEDES-BENZ Limited Warranty.

**For model year 1986, all gasoline models except 190 E 2.3 require premium unleaded gasoline  
As of model year 1987, all gasoline engines require premium unleaded gasoline**

Use only premium unleaded gasoline meeting ASTM standard D439. The octane number posted at the pump must be at least **91 min.** The octane number is an average of the Research octane number (R) and the Motor octane number (M):  $(R + M) / 2$ . The octane number is also known as the Anti-Knock Index.

**CAUTION!** To maintain the engine's durability and performance, only premium unleaded gasoline is to be used. If premium unleaded is not available and low octane gasoline is used, follow these precautions:

- Partially fill the fuel tank with unleaded regular gasoline and fill up with premium unleaded gasoline as soon as possible.
- Avoid full throttle driving and abrupt acceleration.
- Do not exceed an engine speed of 2000 rpm if the vehicle has a light load (two occupants and no luggage for example).
- Do not exceed  $\frac{1}{4}$  of maximum accelerator pedal position if the vehicle is fully loaded or operating in mountainous terrain.

**Model years 1975 - 1985 and model year 1986 model 190 E 2.3**

Use unleaded regular gasoline meeting ASTM standard D439. The octane number posted at the pump must be at least **87 min.**

**Model years 1972 - 1974**

Use leaded or unleaded gasoline meeting ASTM standard D439. The octane number posted at the pump must be at least **87 min.** When only unleaded gasoline is being used, check the valve clearance on engines with mechanically adjustable valves at half the recommended interval.

**Pre-model year 1972**

Use premium unleaded gasoline meeting ASTM standard D439. The octane number posted at the pump must be at least **91 min.** Check the valve clearance at half the recommended interval.

**2. Diesel Engines**

Use only commercially available vehicular diesel fuel number 2 or number 1 (ASTM D975 Number 2-D or Number 1-D).

For information on cold weather operation, refer to the vehicle Owner's Manual or Service Information MBNA 00/7 (11-82).

**3. Approved Diesel Fuel Additives**

**CAUTION!** If non-approved diesel fuel additives are used in vehicles with a Trap Oxidizer, the Trap Oxidizer could become damaged, resulting in severe loss of engine power and expensive repairs not covered under the new vehicle warranty.

Biobor Diesel Doctor	prevents algae and bacteria buildup in the fuel tank	The Dial Corporation Norcross, GA
LM Diesel Winter Flow	flow improver, prevents jelling of diesel fuel caused by low temperatures	Western Automotive Warehouse Distributors Los Angeles, CA