

Quality Control

The listed data represent average values at the time of going to press of this Data Sheet. They are intended as a guide to facilitate handling and cannot be regarded as specified data. Specified product data are issued as a separate product specification.

Packaging

Mobil Antifreeze Extended Long Life Concentrate is available in 20L, 208L and 1000L pack sizes.

Handling

- Minor spills should be soaked up with oil absorbent granules, sand or dirt. The spillage site should then be washed with soapy water and dried.
- Wash off any spillage on paintwork immediately.
- Avoid contact with galvanised equipment when storing or dispensing this product, as this will prompt a corrosive reaction.

Shelf Life

- Mobil Antifreeze Extended Long Life can be stored for minimum 8 years in unopened containers without any effect on the product quality or performance. The product should be stored above -20 °C and preferably at ambient temperatures. Periods of exposure to temperatures above 35 °C should be minimised.
- All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and damage to drum markings. Products should not be exposed to hot sun or freezing conditions.
- Manufacture date can be identified from an eight digit code printed on the bottle. YYYY.MM.DD.

Colour

Clear liquid, orange fluorescent in colour

Safety

When using this product, the information and advice given in our Safety Data Sheet should be observed. Due attention should also be given to the precautions necessary for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

Mobil™ Antifreeze Extended Long Life

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Mobil™ Antifreeze Extended Long Life

Data Sheets



Mobil Antifreeze Extended Long Life

Properties

Mobil Antifreeze Extended Long Life Concentrate is an ethylene glycol based fluid that provides maintenance-free protection against freezing and boiling but also against corrosion. Extended coolant life, often for the whole life of the engine or vehicle is obtained through the use of virtually non-depleting corrosion inhibitors. Mobil Antifreeze Extended Long Life Concentrate offers many benefits to the engine designer as well as to the user:

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| <ul style="list-style-type: none"> Extended life Improved heat transfer Reduces repairs Reliability Improved hard water stability Save time and money Suitable for mixed fleets Environmentally friendly | <ul style="list-style-type: none"> by effectively combining compatible ingredients leaves more flexibility to engine design to thermostat, radiator and water pump depletion free and stable inhibitor absence of silicates and phosphates maintenance-free coolant 1 coolant for automotive & heavy duty application by using carboxylic additives |
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Mobil Antifreeze Extended Long Life fulfills the requirements of the following

antifreeze standards: ASTM D4656, ASTM D4985, ASTM D6210, BS 6580, NFR 15-601, FVV Heft R443, JIS K2234, KS M 2142, BT-PS-606 A, DCSEA 615/C, E/L-1415b, FSD 8704, NATO S-759, Önorm V5123, SAE J1034, UNE 26-361-88/1.

Meets performance requirements of the following OEMs:

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| <ul style="list-style-type: none"> ADE AGCO Fendt and Valtra Aston Martin BAIC Group Foton, Q-FPT 2313005-2013 Caterpillar EC-1, MAK and MWM, 0199-99-2091/12 Claas CNH Industrial (MAT3624) Cummins CES 14603, CES 14439, IS Series and N14 Engines Daimler AG Mercedes-Benz, (325.3 and 326.3) and Daimler AG Detroit, (DFS93K217) Deutz, (DQC CB-14) DRB-HICOM Fendt Fiat (9, 55523) Ford, (WSS-M97B44-D) General Motors, Chevrolet, Saab, (B 040 1065), Saturn Great Wall Motors Hitachi | <ul style="list-style-type: none"> Innio Jenbacher, (TA 1000-0200) and Waukesha John Deere (JDM H5) Isuzu Irisbus, Karosa Kobelco Komatsu 07.892 (2009) Liebherr (MD1-36-130) Mahle, Behr Mazda, (MEZ MN 121 D) Mitsubishi Heavy Industry (MHI) Paccar DAF, (74002) and Leyland Trucks, (DW03245403) PSA Opel and Vauxhall (GMW 3420) Renault-Nissan (41-01-0001/- S Type D) Rolls Royce Power Systems AG MTU, (MTL 5048) Rolls Royce Power Systems AG Bergen Engines, (2.13.01) Suzuki Santana Motors Tata Motors Jaguar, (CMR 8229 and STJLR 651.5003), Tata Motors (Land Rover and STJLR 651.5003) Tedom | <ul style="list-style-type: none"> Thermo King Van Hool Volvo AB Mack, (014 GS 17009); Volvo AB, Volvo Penta Volvo AB Renault Trucks, (41-01-001/- -S Type D) VW Audi, (TL-774 D = G 12, TL-774 F = G 12+ VW MAN, (324 Typ SNF) VW MAN Energy Solutions VW MAN (B&W AG, D36 5600) VW MAN B&W A/S VW Seat, (TL-774 D = G 12 and TL-774 F = G 12+) VW Skoda (TL-774 D = G 12, TL-774 F = G 12+ and 61-0-0257) VW Volkswagen, (TL-774 D = G 12 and TL-774 F = G 12+) VW Semt Pielstick Volvo AB Construction and Trucks Wärtsilä SACM Diesel, (DLP799861 and 32-9011) Yanmar |
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Mobil™ Antifreeze Extended Long Life

Fleet Testing

Based on patented silicate-free aliphatic additive technology, Mobil Antifreeze Extended Long Life Concentrate provides long-life corrosion protection for all engine metals, including aluminium and ferrous alloys. During extensive fleet testing, the synergistic combination of mono- and di-carboxylates present in this coolant, has proven to provide protection for at least 650,000 km (ca. 8,000 hours) in truck & bus-application or 250,000 km (ca. 2,000 hours) for passenger cars or 32,000 hours (or 6 years) for stationary engines. It is recommended to change the coolant every five years or when above mileages or operating times are reached, whichever comes first. Mobil Antifreeze Extended Long Life Concentrate provides long-life protection against all forms of corrosion by the use of optimised and patented organic corrosion inhibitors. Excellent and lasting high temperature corrosion protection is provided for the aluminium heat transfer surfaces contained in modern engines. The inhibitor package of Mobil Antifreeze Extended Long Life Concentrate offers excellent cavitation protection even without using nitrite or nitrite-based supplemental coolant additives (SCA's).

Miscibility

Mobil Antifreeze Extended Long Life Concentrate- mixed with the appropriate amount of water - is used as a cooling and heat transferring fluid in combustion engines. Excessive heat is transferred via the fluid to the radiator where the mixture is cooled by means of airflow. Mobil Antifreeze Extended Long Life is compatible with most other coolants based on ethylene glycol. Exclusive use of Mobil Antifreeze Extended Long Life Concentrate is however recommended for optimum corrosion protection and sludge control. For optimal performance we recommend the use of deionised or distilled water to prepare the ready-to-use dilutions.

Chemical nature

Ethylene glycol with organic corrosion inhibitors.

Appearance

Clear liquid

Chemical and physical properties

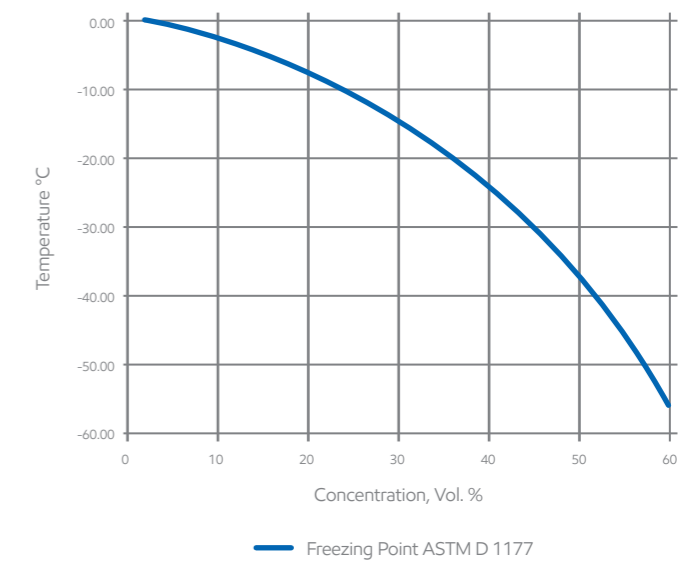
Mobil Antifreeze Extended Long Life	ASTM 3306 requirements	Method
Ethylene glycol	93 % w/w glycol	Base
Other glycols	0.5 % max.	5 % w/w max
Inhibitor content	5 % w/w	
Water content	5 % w/w max	ASTM D1123
Ash content	1.1 % w/w typ	ASTM D1119
Nitrite, amine, phosphate, borate, silicate	Nil	
Specific gravity, 15°C	1.116 typ.	1.110 to 1.145 ASTM D5931
Specific gravity, 20°C	1.113 typ.	ASTM D5931
Equilibrium boiling point	180°C typ.	> 163°C ASTM D1120
Reserve alkalinity (pH 5.5)	6.2 typ.	Report ASTM D1121
pH, 20°C	8.6 typ.	ASTM D1287
Refractive Index, 20°C	1.430 typ.	ASTM D1218

Mobil™ Antifreeze Extended Long Life

Frost Protection

To ensure good corrosion protection, it is recommended to use at least 33 vol.% of Mobil Antifreeze Extended Long Life Concentrate in the coolant solution. This provides frost protection to -18°C. Typical mixtures in Northern Europe are 50/50, offering frost protection down to -36°C. Mixtures with more than 70 vol.% Mobil Antifreeze Extended Long Life Concentrate in water are not recommended. The maximum frost protection (about -59°C) is obtained at 68% Mobil Antifreeze Extended Long Life Concentrate.

Freezing Point	ASTMD 1177
50% Vol. Solution	below -36°C
33% Vol. Solution	below -18°C



Glassware Corrosion Test

ASTM D1384 glassware corrosion tests

	Brass	Copper	Solder	Steel	Cast Iron	Aluminium
ASTM D3306 (max)	10.0	10.0	30.0	10.0	10.0	30.0
Mobil Antifreeze Extended Long Life	1.6	1.9	0.1	-0.5	-1.4	4.6

1 Weight loss AFTER chemical cleaning acc. to ASTM procedure. Weight gain is indicated by a - sign.

Heat Transfer Corrosion Test

ASTM D4340 Aluminium heat rejection test, 25 %

	Weight loss in mg/cm ² /week 1	ASTM D3306 (max)
Mobil Antifreeze Extended Long Life	< 0.2	1.0

1 Weight loss AFTER chemical cleaning acc. to ASTM procedure. Weight gain is indicated by a - sign.

Modified MTU High Temperature corrosion test (2000W)

ASTM D1384 glassware corrosion tests

	Brass	Copper	Solder	Steel	Cast Iron	Aluminium
Test duration, hours Reference coolant ³	48.0	69.0	116.0	248	69.0	116.0
Hot coupon	-30.0	-13.1	4.3	-18.2	284.2	-
Top coupon	-20.0	1.6	5.7	6.2	152.2	-
Mobil XLC	-2.0	-2.1	-0.5	20.2	24.6	35.1
Hot coupon	3.4	0.1	1.9	20.1	42.1	18.5
Top coupon						

2 Weight loss AFTER chemical cleaning acc. to (shortened) MTU procedure. Weight gain is indicated by a - sign. 3 Reference coolant is a conventional, high quality, silicate-based coolant