COOLANT CONCENTRATE G13

Premium MEG and glycerine based silicated coolant concentrate (Si-OAT-glycerine)

Product ID: 80133

Product description

Coolant Concentrate G13 is an engine coolant concentrate (antifreeze) based on monoethylene glycol and glycerine. This product employs the latest antifreeze technology which combines the benefits of both organic technology & traditional mineral (silicate) technology. Coolant Concentrate G13 is suitable for use in both petrol and diesel engines and has been introduced to meet the demands of OEMs who favour this combination of organic & silicate technology.

Benefits

- ✓ Increased life time, allowing less frequent maintenance, thanks to the corrosion inhibitors which have a very low depletion rate.
- ✓ Contains glycerine which is eco-friendly (renewable feedstock)
- ✓ Thermal characteristics that permit effective engine cooling without boiling.
- ✓ Elimination of abrasives solids, resulting in better protection of the joints of the water pump.
- ✓ Superior short & long-term corrosion protection through combined use of organic acid and highly stabilized silicate additives, especially for aluminium engines.
- ✓ Environmentally friendly as free from borates, phosphates, nitrites & amines.
- ✓ Protection against frost, depending upon the concentration chosen.
- ✓ Excellent antifoaming characteristics.

Performance

Coolant Concentrate G13 is suitable for and meets the following OEM specifications:

OEM	OEM Standard
Audi	TL 774 J (G13)
Bentley / Bugatti	TL 774 J (G13)
Lamborghini	TL 774 J (G13)
SEAT / Skoda	TL 774 J (G13)
Volkswagen VAG	TL 774 J (G13)

Usage

Coolant Concentrate G13 can be mixed with earlier products that meet TL 774 D, F or G but for optimal performance a full fluid change is recommended. Coolant Concentrate G13 is an extended life antifreeze which should be replaced every 5 years or every 250.000 km for passenger vehicles or every 1.000.000 km for trucks and commercial vehicles. Original Equipment Manufacturers' (OEMs) recommendations should be followed when replacing coolant.

Typical properties (product ID 80133)

Parameter	Value
Appearance	Clear liquid, free from suspended matter
Density	1,139 g/cm3
pH (50% vol in water)	7,9
Freezing point (50% vol in water)	-36°C
Boiling point	172°C
Reserve alkalinity (ml HCl N/10)	6,0
Water content	4,5% wt
Foaming characteristics at 88°C	
Height	45 ml
Breaktime	2,0 seconds
Colour	as dyed

These are typical properties and do not constitute a specification, for specification limits please refer to the product specification.

Freeze Protection

Coolant Concentrate G13 is a concentrated product and should be diluted for use with good quality water. TecLub recommends that for optimum performance distilled or deionized water is used. The freeze protection afforded by the various dilutions is detailed in the table below:

Si-OAT Coolant (vol %)	H2O (vol %)	Freeze Protection (°C)
33	67	-18
50	50	-38
67	33	-70

In order to provide a satisfactory level of corrosion protection it is recommended to use at least 33% (1:2) volume of Coolant Concentrate G13 in the coolant solution. In line with most car manufacturers TecLub recommends a 50% (1:1) volume solution for optimum performance. For cold climates use 67% (2:1) volume, concentrations above 67% volume are not recommended and give no advantage.
Measuring the freeze protection using a refractometer is not possible for Coolant Concentrate G13. In pure MEG based coolants, the refractive index can be used as proxy of the amount of MEG, which provides the freeze protection. In Coolant Concentrate G13 part of the MEG is replaced by glycerine for environmental considerations. Glycerine has a different refractive index, causing refractometer measurements to yield misleading results.

Corrosion Protection

Protection from corrosion is the most important function of a coolant concentrate and is achieved by the inclusion of a well-balanced inhibitor package. In modern engines with the greater use of aluminium alloys and thinner section castings, avoidance of corrosion problems is critical. The inhibitor package of Coolant Concentrate G13 is the result of very extensive testing which includes laboratory tests, simulated service tests, static engine test and field service trials. It successfully passes the FVV Heft R443 / 1986 test.

Coolant Concentrate G13 provides extra protection of the alloys used in the cooling system of modern vehicles especially high-performance engines operating at higher temperatures than older vehicles. The tables below demonstrate the effective corrosion protection provided when tested against the industry standards such as ASTM D1384 (multi-metal corrosion in glassware) and ASTM D4340 (corrosion of cast aluminium alloys under heat-rejecting conditions).

ASTM D1384 (Glassware Corrosion, mg per test piece)

Test specimen	MEG (33% vol in H2O)	Si-OAT Coolant (33% vol in H2O)	ASTM D3306 limit
Copper	6.5	1	10
Solder	345	3	30
Brass	8	2	10
Steel	1474	1	10
Cast iron	2472	-1	10
Aluminum	30	3	30

ASTM D4340 (Corrosion of Cast Aluminium Alloys under Heat-Rejecting Conditions)

Mass change (mg/cm2/week)	ASTM D3306 limit
-0.3	1.0

Compatibility

Coolant Concentrate G13 is formulated to be able to cope with all water qualities and is compatible with hard water, however use of deionized or demineralized water is recommended. Coolant Concentrate G13 is readily miscible with all engine coolants, however we advise not to mix organic additive-based products with traditional mineral containing coolants since optimum performance & longevity of service can only be guaranteed by using Coolant Concentrate G13 exclusively.

Storage and Handling

Coolant Concentrate G13 has a shelf life of minimum four years when stored in air tight containers at a maximum temperature of 30°C. Translucent containers should not be stored outside in direct sunlight, especially in warm climates. Coolant Concentrate G13 can be stored in mild steel, lacquer lined or HDPE containers. As with any glycol-based engine coolant the use of galvanized steel is not recommended for pipes or any other part of the storage/mixing installation. Disposal of used or unused coolant must be carried out in accordance with local and national law, consult the material safety data sheet for further information.