



TECHNICAL DATA SHEET (TDS)

Product name: SHELL PREMIUM ANTIFREEZE CONCENTRATE 774 C

Product code: CRX509

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Shell Products Premium Antifreeze 774 C, GlycoShell and GlycoCool G Premium Antifreeze are the same coolant technology type and completely mixable under all conditions without showing any antagonistic effects during operation with guarantee of the highest level of cooling system protection.

1. Composition/information on ingredients

Shell Premium Antifreeze 774 C is a nitrite-, amine-, phosphate free engine coolant (NAP free) based on mono ethylene glycol. Premium Antifreeze 774 C contains hybrid corrosion inhibitor package with salts of organic acids and silicates.

Shell Premium Antifreeze 774 C meets the requirements of the standards: ASTM D3306, ASTM D4656, ASTM D4985, BS 6580:2010, AFNOR NF R15-601, FVV Heft R443, KSM 2142, BT-PS-606 A, DCSEA 615/C, E/L-1415b, FS 6850-0951, FSD 8704, NATO S-759, SAE J1034, Empa i PN-C-40007. Shell Premium Antifreeze 774 C meets or exceeds requirements from most of the car manufacturers.

2. Application

In all modern engines of car, truck and bus Shell Premium Antifreeze 774 C gives outstanding protection against frost, corrosion and overheating. It effectively protects against corrosion in the cooling system in engines of both ferrous and aluminium construction. It gives high degree of corrosion protection of vital parts, the coolant channels in the block and cylinder head, the radiator, the water pump and the heater.

For coolant change intervals follow the vehicle manufacturer recommendations. Recommended coolant change intervals for Shell Premium Antifreeze 774 C is 3 years. Safe for all car parts, in which has contact.

Shell Premium Antifreeze 774 C meets OEM requirements as follow:

BMW GS 9400
Caterpillar -Perkins
CNH Industrial Iveco standard 18-1830
Cummins 85T8-2
Daimler -Mercedes-Benz 325.0
Daimler -Mercedes-Benz 325.2
Deutz DQC CA-14
Fiat -Alfa Romeo Fiat 9,55523
Fiat Fiat 9.55523
Fiat -Chrysler MS-7170
Fiat -Lancia Fiat 9,55523
Ford ESD M97E serwis only
Geely -Volvo cars 128 6083/002
GM -Saturn
JI Case JIC-501
Mahle Behr



TECHNICAL DATA SHEET (TDS)

PSA Opel GM GME L130
PSA Vauxhall GME L130
Renault-Nissan -Lada/Avtovaz TTM VAZ 1.97.717-97
Rolls Royce Power Systems AG -MTU MTL 5048
Toyota Motor Corporation -TMC (1WW, 2WW silniki)
Volvo AB -Volvo Construction (przed 10.2005)
Volvo AB -Volvo Trucks (przed 10.2005)
VW -Audi TL 774C
VW -MAN MAN 324 NF
VW -Porche TL 774C
VW -Seat TL 774C
VW -Skoda TL 774C
VW - VW TL-774C

3. How to use

Shell Premium Antifreeze 774 C solution must be diluted with water in a ratio of 1:1 before filling the cooling system. Recommended final fluid concentration is between 33% and 68% by volume. In max recommended fluid concentration point (68% vol) is, in the same time, max frost protection (about - 69°C).

Table dilutions

Number of parts Shell Premium Antifreeze 774 C concentrate	1	1	1
Number of parts Water	1	1,5	2
Freezing protection °C	-38°C	-25°C	-18°C

To ensure maximum protection of the cooling system is recommended to completely drain the system, rinsed, then filled with liquid of Shell Premium Antifreeze 774 C concentrate and water in a ratio from the table above. Start the engine and warm it with the heater turned on, then fill to the end with the prepared mixture. Always follow the advice of your vehicle manufacturer.

4. Miscibility:

Shell Premium Antifreeze 774 C can be mixed with other silicate containing engine coolants based on mono ethylene glycol, but always it is recommended to follow the instruction of car manufacturer and in longer term replace mixture fluid on the homogeneous coolant.
Product is compatible with hard water and can be mixed with tap water*.

** For preparation of the coolant use clean, not overly hard water. Waste water from mining, sea water, brackish water, brine, industrial waste water are all unsuitable.*

The analysis of the water should not exceed the following limits:

Water hardness 0 to 20°dH (0 – 3.6 mmol/l)

Chloride content max. 50 ppm

Sulphate content max. 50 ppm

Should the analysis of the water exceed the approved limits, then it has to be suitably treated, for example by mixing with pure, distilled or deionised water. Excessive chloride or sulphate levels can be corrected in this way.



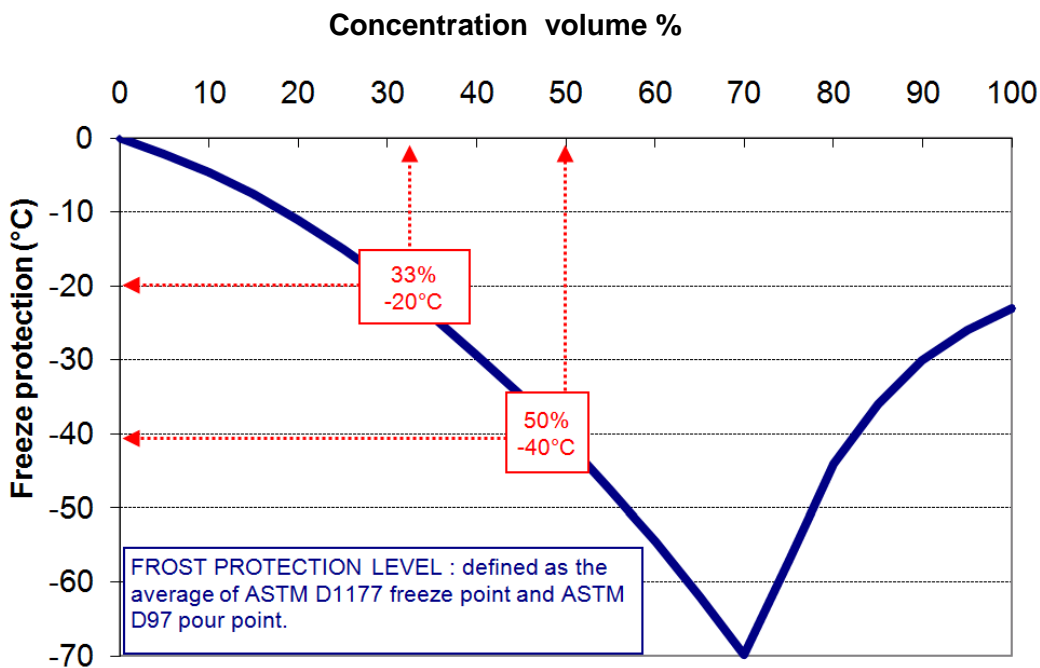
TECHNICAL DATA SHEET (TDS)

5. Physical and chemical properties

Chemical nature	Monoethylene glycol with inhibitors		
Physical state	liquid		
Colour:	blue-green		
Properties	Density at 20°C	1.125 typ	ASTM D1122
	Refraction index, at 20°C	1.432 typ	ASTM D1218
	Boiling point	174°C typ	ASTM D1120
	pH value	7.2 typ	ASTM D1287
	Reserve alkalinity (pH 5.5, ml)	16 typ	ASTM D1121
	Ash content (w/w)	1.3% typ	ASTM D1119
	Water content (w/w)	max. 3.5%	ASTM D1123
	Nitrite, amine, phosphate	nil	
	Solubility	Miscibility with water	in all proportions

Technical data to the mix fluid Shell Premium Antifreeze 774 C with water

Frost protection Shell Premium Antifreeze 774 C



Initial crystallization	50% vol in water	ASTM D 1177
	33% vol in water	< -37°C
Freezing protection	50% vol in water	< -18°C
	33% vol in water	-40°C typ
Foaming characteristics, at 23°C	30 ml/2s typ	-20°C typ
		ASTM D1881
Effect on non-metals	no effect	GME 60 255



TECHNICAL DATA SHEET (TDS)

Stability

Hard water stability
after 10 days

VW-PV 1426
no precipitate

Corrosion Tests

Glassware Test

Metal or alloy	typical weight loss in mg per coupon	ASTM D1384 limit ASTM D3306
copper	+ 2	max. 10
solder	- 3	max. 30
brass	+ 2	max. 10
steel	- 1	max. 10
cast iron	- 1	max. 10
cast aluminium	0	max. 30

Heat Transfer Corrosion Test

	typical weight change in mg/cm ² /week	ASTM D4340 limit ASTM D3306 max. 1.0
G AISi6Cu4:	< 0.1	

Simulated Service Corrosion Test

Metal or alloy	typical weight loss in mg per coupon	ASTM D2570 limit ASTM D3306
copper	+ 7	max. 20
solder	- 1	max. 60
brass	+ 6	max. 20
steel	- 1	max. 20
cast iron	- 3	max. 20
cast aluminium	+ 1	max. 60

6. Storage

Shell Premium Antifreeze 774 C is stable for at least 5 years if stored in airtight containers at max temp of 30°C. Keep container tightly closed. Do not keep in galvanised containers, because this can give rise to corrosion problems. Storage temperatures: ambient.

7. HSE information

The product is classified as harmful. No UN number.

For details, see Safety Data Sheet. A safety data sheet according to current regulations is available.

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The information contained in this specification is based on the present state of our knowledge and experience. Taking into account the diversity of factors that may affect the product during its use, these data do not relieve users of responsibility for carrying out their own tests and experiments; not also mean any legally binding assurances, or suitability for a particular purpose. The responsibility lies with the users of our product that all property rights and legal provisions are respected.