



Carcoolant 774 EVO

 UnivarSolutions

Carcoolant 774 EVO

Si-OAT technology with phosphate

Carcoolant 774 EVO is our most versatile and multifunctional coolant for Internal Combustion Engines and Battery Electric Vehicles that provides unique hard water and oxidation stability. As an ethylene glycol-based coolant, Carcoolant 774 EVO contains cutting-edge silicate inhibitor technology with phosphate supported by a robust organic backbone (OAT - Organic Additive Technology).

Carcoolant 774 EVO is a next generation Si-OAT technology coolant.



Reduced complexity

- Replaces former Si-OAT generation coolants
- Replaces former hybrid Si-OAT generation coolants containing borate, molybdate and nitrate



Advanced features

- Thermal oxidative stability
- Controlled Atmosphere Brazing (CAB) flux compatibility
- State-of-the-art silicate stabilisation
- Outstanding aluminium passivation
- Excellent hard water stability



Environment and Health

- Reduced waste thanks to long drain intervals and less replacement of materials
- Free from nitrites, borates, amines and 2-ethylhexanoic acid



Compatibility

- Compatible with widely and commonly used construction materials such as metals, alloys, rubbers and engineering (thermo)plastics
- Compatible with other coolants, such as former generations of Si-OAT

Application

Carcoolant 774 EVO can be used in a wide range of drivetrains. It is especially designed for use in modern Internal Combustion Engines (ICE), Hybrids and indirect cooling systems of Battery Electric Vehicles (BEV). **Carcoolant 774 EVO** provides year-round frost and corrosion protection. It is recommended to use at least 35 vol.% of the antifreeze in the final coolant solution. Concentrations higher than 70 vol.% are not recommended.



Key approvals, standards and specification

Carcoolant 774 EVO meets the following standards:

- ASTM D3306
- JIS K2234:2018
- FVV R 530:2005
- BS 6580:2010*
- Ö-Norm1*
- GB 29743:2013* (PC)
- AFNOR 15-601

¹ except for RA

* modified

Carcoolant 774 EVO is suitable for use in:

- BMW LC 87, LC 97, LC 18
- Alfa Romeo, Fiat, Lancia 9.55523
- Chrysler MS 7170
- Opel / Vauxhall GME L1301
- VW TL 774-C, D, F, G, J, L (G11, G12, G12+, G12++, G13, G12evo)
- MWM
- INNIO Jenbacher

Toxicity & Safety

For Toxicity and Safety Data we refer to the Safety Data Sheet. The information and advice given should be observed and due attention should be given to the precautions necessary for handling chemicals. This product should not be used to protect the inside of drinking water systems against freezing.

Packaging

Carcoolant 774 EVO is available in the following packs & colours:



Bulk



Pail



IBC (Concentrate and 50% Premix)



Drum (Concentrate and 50% Premix)



Dark Blue

Carcoolant 774 EVO - Technical information

Chemical and physical properties - Carcoolant 774 EVO

PROPERTY	CARCOOLANT 774 EVO	UNIT	ASTM D3306 REQUIREMENTS	METHOD
Ethylene glycol	91 min.	% w/w	base	
Other glycols	1 max.	% w/w	5% max.	
Inhibitor content	4.5 typ.	% w/w		
Water content	4 max.	% w/w	5% max.	ASTM D1123
Ash content	4.5 max.	% w/w	5% max.	ASTM D1119
Nitrite, amine, borate, 2EHA	-			
Relative density - specific gravity (15°C)	1.123		1.110 - 1.145	ASTM D5931
Density (20°C)	1.120 typ.	kg/l		ASTM D1122
Equilibrium boiling point	163 min.	°C	> 163	ASTM D1120
Reserve Alkalinity	9.1 min.		report	ASTM D1121
pH (20°C)	8.5 typ.			ASTM D1287
Refractive Index (20°C)	1.432 typ.			ASTM D1218

Physical data - typical values

	50% dilution	35% dilution	Method
pH	8.2	8.1	ASTM D1287
Initial crystallisation, °C	-36.4	-19.9	ASTM D1177
Density (20°C), kg/l	1.072	1.051	ASTM D1121
Refractive index	1.387	1.371	ASTM D1218
Equilibrium boiling point, °C	109	106	ASTM D1120



Carcoolant 774 EVO - Laboratory test results

Carcoolant 774 EVO has been submitted to various lab tests.

Corrosion Protection

ASTM D1384 glassware corrosion tests						
Weight loss in mg/coupon ¹						
	BRASS	COPPER	SOLDER	STEEL	CAST IRON	ALUMINIUM
ASTM D3306 (max.)	10	10	10	10	10	10
Carcoolant 774 EVO	0	0	1	0	0	0

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

Aluminium heat rejection test (Hot surface corrosion test)	
Weight change in mg/cm²/week ¹	
ASTM D3306 (max.)	1.0
Carcoolant 774 EVO	-0.1

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

ASTM D2570 - Simulated service corrosion test (Circulation test)						
Weight loss in mg/coupon ¹						
	BRASS	COPPER	SOLDER	STEEL	CAST IRON	ALUMINIUM
ASTM D3306 (max.)	20	20	60	20	20	60
Carcoolant 774 EVO	2	3	20	0	0	-2

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

ASTM D2809 - Water pump cavitation test			
	PUMP RATING ¹	pH	
ASTM D3306 requirement	> / = 8	Before test	After test
Carcoolant 774 EVO	8	8.01	7.6

¹ 1ASTM D3306 requires a pump rating of 8 or higher on a scale of 10

JIS K2234:2018 - Circulating corrosion properties (30v%, 88°C, 1000Hrs)

	Weight change in mg/coupon ¹					
	BRASS	COPPER	SOLDER	STEEL	CAST IRON	ALUMINIUM
JIS K2234:2018	0.30	0.30	0.60	0.30	0.30	0.60
Carcoolant 774 EVO	0.03	0.03	-0.07	0.00	0.22	0.04

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

	pH	
	Before test	After test
JIS K2234:2018	6.55 to 11	+/- 1.0
Carcoolant 774 EVO	8.06	-0.01

Shelflife & storage requirements

Carcoolant 774 EVO can be stored for minimum 3 years in unopened containers without any effect on the product quality for 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. It is strongly advised not to expose the coolant in translucent packages to direct sunlight because this can result in fading of the colour or discoloration over time. This reaction can be accelerated if coupled with high ambient temperatures. It is therefore advisable to store the coolant indoors, to use new and not recycled containers and where possible packages with a UV filter. As with any antifreeze coolant, the use of galvanised steel is not recommended for pipes or any other part of the storage/mixing installation and for packaging.

Compatibility and mixability

Carcoolant 774 EVO is compatible with most other coolants based on ethylene glycol such as (former) Si-OAT coolant generations. Exclusive use of Carcoolant 774 EVO is however recommended for optimum performance. As for any coolant, we recommend the use of deionised or distilled water to prepare the ready-to-use dilutions for optimal performance and controlled quality. We refer to our product information leaflet on water quality recommendations. Contact your local Area Sales Manager for more information.



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