

Glysacorr® G93® green

® = registered trademark of BASF SE

Glysacorr® G93® green is an inhibitor concentrate which is added to the cooling water of internal combustion engines in cases in which the engine does not need to be protected from freezing.

Glysacorr® G93® green is phosphate-, nitrite- and amine-free.

Glysacorr® G93® and Glysacorr® NA93® are chemically identical; Glysacorr® NA93® is the product name for the North American market.

Properties

At a concentration of 10 – 12% by volume, Glysacorr® G93® green affords excellent protection against cavitation and corrosion to all metals and alloys that are used in cooling systems, such as aluminum, ferrous and yellow metals. Glysacorr® G93® green also prolongs the normal working life of water pumps. It is especially appropriate for use in heavy-duty engines such as those used in trucks and on ships

Glysacorr® G93® green is approved by:

- Scania
- MAN Energy Solutions 28/33 & Medium Speed
- MTU MTL 5049
- Deutsche Bahn
- Bundeswehr/German Navy

Miscibility

Glysacorr® G93® green must be diluted with water before use.

It is hard water compatible and can be mixed with tap water* before use to give solutions in the concentration of 10 % by volume.

*For preparation use clean, not overly hard water.

Wastewater from mining, seawater, brackish water, brine and industrial wastewater are all unsuitable.

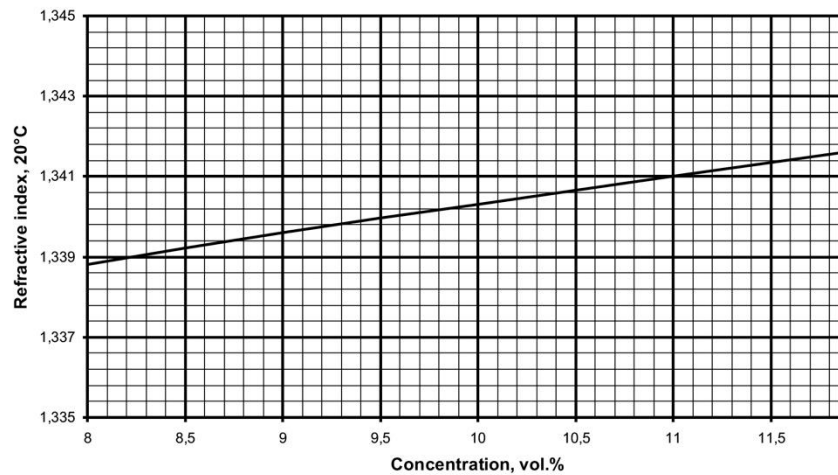
The analytical data of the water should not exceed the following limits:

Water hardness	0 – 20° dH (0 – 3.6 mmol/L)
Chloride content	max. 100 ppm
Sulphate content	max. 100 ppm

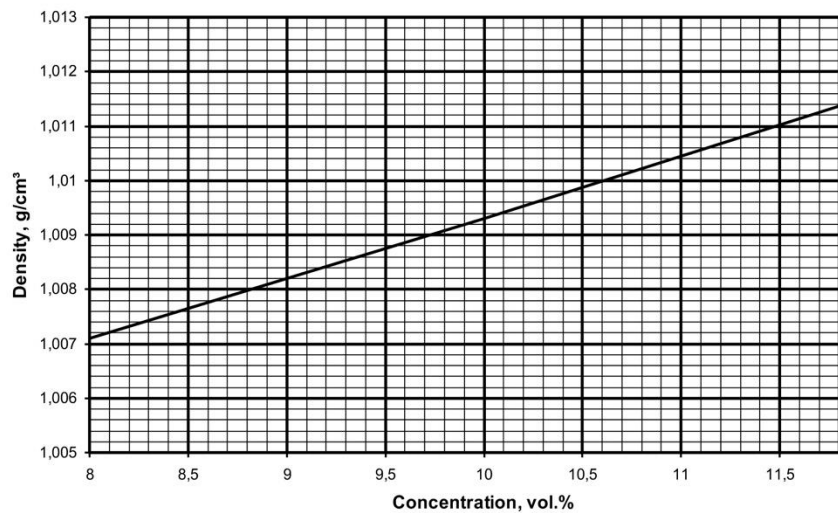
Should the analysis of the water exceed the approval limits, then it has to be suitably treated, for example by mixing with pure, distilled or deionized water. Excessive chloride or sulphate levels can be corrected this way.

Chemical Nature	Mixture of water and monoethylene glycol with inhibitors		
Appearance	Clear liquid without solid contamination		
Physical Data	Density, 20 °C	1.092 – 1.095 g/cm ³	DIN 51 757-4
	Refractive index, 20 °C	1.397 – 1.401	DIN 51 423-2
	pH value	9.3 – 9.7	ASTM D1287
	Reserve alkalinity of 5 g	11 – 14 mL	ASTM D1121
	Water content	max. 50 %	DIN 51 777-1
Solubility	Miscibility with water	Miscible in all proportions	
	Miscibility with hard water 10 vol.% solution	no precipitation	

Refractive index 20°C / Concentration



Density at 20°C / Concentration



Foaming characteristics	70 ml max. / 5 s max.	ASTM D1881
Swelling of rubber	For the SBR and EPDM qualities normally encountered on the market	
	10 vol.% solution in water	
	80 °C/168 h	0 – 3 %
		i.e. the roughly the same as when immersed in pure water

Corrosion Performance

Glassware Corrosion Test	ASTM D1384 10 vol.% solution in water		
	Metals and alloys	Typical weight loss in mg/Coupon	limit ASTM D3306
	Copper	1.6	max. 10
	solder	0.0	max. 30
	Brass	0.8	max. 10
	Steel	0.0	max. 10
	Cast iron	-0.2	max. 10
	Cast aluminum	0.3	max. 30

Heat Transfer Corrosion Test	ASTM D1384 10 vol.% solution in water		
		Corrosion rate in mg/cm ² /week	limit ASTM D3306
	Cast aluminum	-0.08	max. 1.0

Quality control The above data represent average values at the time of going to press this technical information. They cannot be regarded as specified data. Specified product data are issued as a separate product specification.

Storage stability Glysacorr® G93® green has a shelf life of at least two years when stored in originally closed, air-tight containers at temperature of max. 30 °C. Do not use galvanized containers for storage because they may corrode.

Color Glysacorr® G93® is available in the following color:

- Glysacorr® G93® green (previously known as Glysacorr G93-94)

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.

March 2024