Glysantin® G48® is an engine coolant concentrate based on ethylene glycol that needs to be diluted with water before use.

Glysantin G48 contains a corrosion inhibitor package based on salts of organic acids and silicates (Hybrid Coolant). Glysantin G48 is free of nitrites, amines and phosphates.

Properties

Glysantin G48 was developed to protect engines against corrosion, overheating and frost damage. It gives a high degree of corrosion protection to engine components such as radiators, cylinder blocks/heads, water pumps and heat exchangers, and avoids deposits.

Glysantin G48 fulfills the requirements of the following coolant standards:

Furthermore Glysantin® G48® is officially approved by:

- BMW
  BMW N 600 69.0
- Bez. Reg. Arnsberg,
  Dept. of Mining and Energy
  84.12.22.63-2001-2
- German Army
  TL 6850-0038/1
- Daimler/Mercedes-Benz
  Specification 325.0
- Deutz
  H-LV 0161 0188
- Jenbacher
  TA-Nr. 1000-0201
- Liebherr Machines Bulle
  TLV 035, TLV 23009 A
- MAN
  MAN 324-NF
- MTU
  MTL 5048
- Opel/General Motors
  B 040 0240
- Porsche
  for 924, 928, 944, 968
- Saab
  6901599
- VW/Audi/Seat/Skoda
  TL 774-C

Miscibility

Since the special advantages of Glysantin G48 will only be achieved when Glysantin G48 is used exclusively, mixing Glysantin G48 with other Glysantin coolants or products from other producers is not recommended.
Glysantin G48 should be blended with water in a concentration amongst 33 to 60% by volume prior to infilling. The usage of a 50/50 ratio for the mixture of water and Glysantin is generally advisable.

For preparation of the coolant it is recommended to use distilled or deionized water. In most cases tap water is also appropriate.

Analysis values of the water may not exceed the following threshold values:
- Water hardness: 0 – 2.7 mmol/l
- Chloride content: max. 100 ppm
- Sulphate content: max. 100 ppm

### Chemical nature

**Ethylene glycol with corrosion inhibitors**

### Appearance

Clear liquid

### Physical data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density, 20 °C</td>
<td>1.121 – 1.123 g/cm³</td>
<td>DIN 51 757-4</td>
</tr>
<tr>
<td>Viscosity, 20 °C</td>
<td>24 – 28 mm²/s</td>
<td>DIN 51 562</td>
</tr>
<tr>
<td>Refractive index, 20 °C</td>
<td>1.432 – 1.434</td>
<td>DIN 51 423-2</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 165 °C</td>
<td>ASTM D 1120</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 120 °C</td>
<td>DIN EN ISO 2592</td>
</tr>
<tr>
<td>pH value</td>
<td>7.1 – 7.3</td>
<td>ASTM D 1287</td>
</tr>
<tr>
<td>Reserve alkalinity</td>
<td>13 – 15 ml</td>
<td>ASTM D 1121</td>
</tr>
<tr>
<td>Ash content</td>
<td>max. 1.5 %</td>
<td>ASTM D 1119</td>
</tr>
<tr>
<td>Water content</td>
<td>max. 3.5 %</td>
<td>DIN 51 777-1</td>
</tr>
</tbody>
</table>
Frost protection

Freezing point

ASTM D 1177

50 vol % solution below -38 °C
33 vol % solution below -18 °C

Foaming characteristics

33 vol % solution max. 50 ml / 3 s
ASTM D 1881

Electrical conductivity

30-50 vol % solution approx. 4 mS/cm, at 23 °C
ASTM D 1125

Glassware Corrosion Test

ASTM D 1384

<table>
<thead>
<tr>
<th>Metal coupons</th>
<th>typical weight loss mg/coupon</th>
<th>ASTM D 3306 limit mg/coupon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>0.1</td>
<td>10 max</td>
</tr>
<tr>
<td>Solder</td>
<td>0.3</td>
<td>30 max</td>
</tr>
<tr>
<td>Brass</td>
<td>0.2</td>
<td>10 max</td>
</tr>
<tr>
<td>Steel</td>
<td>-0.2 *)</td>
<td>10 max</td>
</tr>
<tr>
<td>Cast iron</td>
<td>-1.0 *)</td>
<td>10 max</td>
</tr>
<tr>
<td>Cast aluminum</td>
<td>-1.1 *)</td>
<td>30 max</td>
</tr>
</tbody>
</table>
Heat Transfer Corrosion Test  
ASTM D 4340  
<table>
<thead>
<tr>
<th>Material</th>
<th>Typical Corrosion Rate (mg/cm²/week)</th>
<th>ASTM D 3306 Limit (mg/cm²/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast aluminum</td>
<td>-0.07 * )</td>
<td>1.0 max</td>
</tr>
</tbody>
</table>

Simulated Service Corrosion Test  
ASTM D 2570  
<table>
<thead>
<tr>
<th>Material</th>
<th>Typical Weight Loss (mg/coupon)</th>
<th>ASTM D 3306 Limit (mg/coupon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>8.8</td>
<td>20 max</td>
</tr>
<tr>
<td>Solder</td>
<td>0.0</td>
<td>60 max</td>
</tr>
<tr>
<td>Brass</td>
<td>10.7</td>
<td>20 max</td>
</tr>
<tr>
<td>Steel</td>
<td>0.1</td>
<td>20 max</td>
</tr>
<tr>
<td>Cast iron</td>
<td>-1.1 * )</td>
<td>20 max</td>
</tr>
<tr>
<td>Cast aluminum</td>
<td>-1.2 * )</td>
<td>60 max</td>
</tr>
</tbody>
</table>

*) negative means weight increase

Cavitation Erosion Corrosion Test  
ASTM D 2809  
<table>
<thead>
<tr>
<th>Material</th>
<th>Rating</th>
<th>ASTM D 3306 Limit (Rating)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum water pump</td>
<td>9</td>
<td>8 min</td>
</tr>
</tbody>
</table>

*) remark: negative values mean a weight gain

Quality Control  
The above-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.
Storage Stability

Glysantin G 48 has a shelf life of at least three years when stored in originally closed, air-tight containers at temperatures of maximum 30 °C. Do not use galvanized containers for storage.

Color

Glysantin G48 is usually available in blue-green. Different colors may be seen in special cases.

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.

February 2013

www.glysantin.de

BASF SE
Fuel and Lubricant Solutions
67056 Ludwigshafen, Deutschland

®=registered trademark of BASF SE