DIESEL ENGINE WATER TREATMENT SUITABLE FOR ALUMINIUM, ALLOYS AND YELLOW METALS

PHYSICAL DATA
Appearance: Green liquid
Density: 1.096 g/cm³
Product pH neat: 9.5
Corrosive action: None

DESCRIPTION
GLYSACORR G 93 is an inhibitor concentrate/chemical which is added to the cooling water of internal combustion engines in cases in which the coolant does not need to be protected from freezing.

• High performance corrosion inhibitor
• Being a nitrite free product it is compatible also with zinc - coated piping
• Easy control test with refractometer

APPLICATION
At concentration of 10% by volume, GLYSACORR G 93 affords excellent protection against cavitation and corrosion to all metal and alloys which are used in cooling system, such as aluminium, ferrous and yellow metals.

INSTRUCTION FOR USE
The coolant should be prepared with water that is clean but not too hard. The following types of water are unsuitable: sea water, mixture of sea water and fresh water, salt water and industrial waste water. The analytical values of the water should be within the following limits:

- Water hardness: 0 - 100 ppm
- Chloride contents: max 100 ppm
- Sulphate contents: max 100 ppm

The water must be treated by suitable means if it does not fulfill these requirements, i.e. by adding softened, or distilled or deionized water. Excessive sulphate or chloride contents can also be reduced by adding distilled or deionized water.
IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THIS INFORMATION IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU DO A TEST TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION FURNISHED BY URRUTY GG NIEGO SRL HEREUNDER ARE GIVEN GRATIS, AND URRUTY GG NIEGO SRL ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Product name  GLYSACORR G 93-94

1.2 Use of the substance / preparation

Intended use  Coolant Concentrate

1.3 Company identification

Name  BASF SE
Full address  67056 Ludwigshafen
District and Country  Germany
Tel. + 44 161 485 6222 (UK)
Fax + 44 161 485 4274 (UK)
e-mail address of the competent person responsible for the Safety Data Sheet  product-safety-north@basf.com

1.4 Emergency telephone

For urgent inquiries refer to  First Aid Information: Centro Antiveneni Milano - Niguarda
Phone: 02 - 66101029 (specialized in chemical products poisoning).
2. Hazards Identification
Harmful if swallowed.
Possible risk of harm to the unborn child

3. Composition / Information on ingredients
Hazardous ingredients

**ethyleneglycol**

<table>
<thead>
<tr>
<th>Content (W/W)</th>
<th>CAS Number</th>
<th>EC-Number</th>
<th>INDEX-N.</th>
<th>Hazard symbol</th>
<th>R phrases</th>
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<tbody>
<tr>
<td>&gt;= 25 % - &lt;= 35 %</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>603-027-00-1</td>
<td>Xn</td>
<td>22</td>
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**potassium 2-ethylhexanoate**

<table>
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<th>CAS Number</th>
<th>EC-Number</th>
<th>Hazard Symbol</th>
<th>R phrases</th>
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<td>&gt;= 10 % - &lt;= 15 %</td>
<td>3164-85-0</td>
<td>221-625-7</td>
<td>Xn</td>
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</table>

The wording of the hazard symbols and R-phrases is specified in chapter 16 if dangerous ingredients are mentioned.

The complete text of R-phrases is specified in section 16.

4. First aid measures

General advice:
Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention.

Note to physician: Treatment: antidote.
5. Fire-fighting measures

Suitable extinguishing media:
- water, dry extinguishing media, foam, carbon dioxide
Specific hazards:
- harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.
Special protective equipment:
- Wear a self-contained breathing apparatus.
Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

Personal precautions:
- Use personal protective clothing.
Environmental precautions:
- Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.
Methods for cleaning up or taking up:
- For large amounts: Pump off product.
- For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

7. Handling and storage

Handling
- No special measures necessary provided product is used correctly.
Protection against fire and explosion:
- Take precautionary measures against static discharges.

Storage
- Further information on storage conditions: Keep container tightly closed. Keep in a cool place.
- Storage in galvanized containers is not recommended.
8. Exposure control / personal protection.

Components with workplace control parameters

107-21-1: ethyleneglycol
- TWA value 52 mg/m3 ; 20 ppm (OEL (EU))
- STEL value 104 mg/m3 ; 40 ppm (OEL (EU))
- Skin Designation (OEL (EU))
  The substance can be absorbed through the skin.
- TWA value 10 mg/m3 (EH40 (UK))
- TWA value 52 mg/m3 ; 20 ppm (EH40 (UK))
- STEL value 104 mg/m3 ; 40 ppm (EH40 (UK))
- Skin Designation (EH40 (UK))
  The substance can be absorbed through the skin.
  Skin Designation (EH40 (UK))
  The substance can be absorbed through the skin.

Refer to the current edition of HSE Guidance Note EH40 Occupational Exposure Limits (United Kingdom).

Personal protective equipment

Respiratory protection: Suitable respiratory protection for higher concentrations or long-term effect: Gas filter EN141 Type A for gases/vapours of organic compounds (boiling point >65 °C).

Hand protection:
Chemical resistant protective gloves (EN 374)
- Suitable materials short-term contact and/or splashes (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374) butyl rubber (butyl) - 0.7 mm coating thickness

Supplementary note: The specifications are based on own tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting
boots, chemical-protection suit (according to DIN-EN 465).

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.
9. Physical and chemical properties

Form: liquid
Odour: product specific
pH value: 9.5 (20 °C) (ASTM D1287)

solidification temperature: < -25 °C (DIN/ISO 3016)
boiling temperature: > 100 °C (ASTM D1120)
Flash point: > 100 °C (DIN/ISO 2592)
Ignition temperature: > 200 °C (DIN 51794)

Vapour pressure:
18 mbar (20 °C)
95 mbar (50 °C)

Density:
1.09 g/cm³ (20 °C)

Solubility in water: soluble

Viscosity, kinematic:
10 mm²/s (20 °C) (DIN 51562)

10. Stability and reactivity

Hazardous reactions:
No hazardous reactions when stored and handled according to instructions.

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological information

LD₅₀/oral/rat: > 2,000 mg/kg
Primary skin irritation/rabbit: non-irritant (OECD Guideline 404)
Primary irritations of the mucous membrane/rabbit: non-irritant (OECD Guideline 405)

Further information:
Information on: ethylene glycol
Experiences in humans:
mean lethal dose: 1.2 - 1.5 g/kg, oral, Adults
consciousness is affected, kidney damage, Damage to the central nervous system:
The symptoms/diagnosis/findings mentioned may result with smaller doses.

Additional information:
There is no reason to fear a risk of damage to the developing embryo or fetus when the MAK value is adhered to.
The statements are based on the properties of the the individual components.
12. Ecological information

Ecotoxicity
Toxicity to fish:
Leuciscus idus/LC50 (96 h): > 100 mg/l

Microorganisms/Effect on activated sludge:
Pseudomonas putida/EC10: > 100 mg/l
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Persistence and degradability
Elimination information

Test method: OECD 302B; ISO 9888; 88/302/EEC, part C
Method of analysis: DOC reduction
Degree of elimination: > 70 %
Evaluation: Easily eliminated from water.

Other adverse effects

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

13. Disposal consideration

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport information

This product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.
15. Regulatory information

Regulations of the European union (Labelling) / National legislation/Regulations


Hazard symbol(s)
Xn Harmful.

R-phrase(s)
R22 Harmful if swallowed.
R63 Possible risk of harm to the unborn child.

S-phrase(s)
S2 Keep out of the reach of children.
S36/37 Wear suitable protective clothing and gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.

Hazard determinant component(s) for labelling: ETHANE-1,2-DIOL/ETHYLENEGLYCOL, 2-ethylhexanoic acid

Other regulations

This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).
The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
16. Other information

Full text of hazard symbols and R-phrases if mentioned as hazardous components in chapter 2:

Xn  Harmful.
22  Harmful if swallowed.
63  Possible risk of harm to the unborn child.

Vertical lines in the left hand margin indicate an amendment from the previous version.

If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.