We create chemistry

Safety data sheet

1. Identification

Product identifier

GLYSANTIN® G64® green

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: engine coolant

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Fuel and Lubricant Solutions

Telephone: +49 621 60-0
E-mail address: RegXcellenceFuelLubes@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 4 (oral)
Skin Irrit. 3
Eye Irrit. 2A
STOT RE (Kidney) 2

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:

Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H316	Causes mild skin irritation.
H302	Harmful if swallowed.
H373	May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary Statements (Prevention):

P280	Wear eye protection.
P260	Do not breathe mist or vapour.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Contains: Ethane-1,2-diol

inhibitors

Hazardous ingredients (GHS)
According to UN GHS criteria

Ethane-1,2-diol

Content (W/W): >= 75 % - <= 100 %	Acute Tox. 4 (oral)
CAS Number: 107-21-1	STOT RE (Kidney) 2
EC-Number: 203-473-3	H302, H373
INDEX-Number: 603-027-00-1	

Dipotassium sebacate

Content (W/W): >= 3 % - < 5 %	Eye Irrit. 2A
CAS Number: 52457-55-3	Aquatic Acute 3
EC-Number: 257-932-8	H319, H402

Potassium 3,5,5-trimethylhexanoate

Content (W/W): >= 0,3 % - < 1 %	Acute Tox. 4 (oral)
CAS Number: 93918-10-6	Skin Corr. 1B
EC-Number: 299-890-3	Eye Dam. 1
	STOT SE 3 (irr. to respiratory syst.)
	H302, H335, H314

(Benzothiazol-2-ylthio)acetic acid

Content (W/W): >= 0,1 % - < 0,2 %	Acute Tox. 4 (oral)
CAS Number: 6295-57-4	Eye Dam. 1
EC-Number: 228-565-0	Aquatic Acute 3
	Aquatic Chronic 3
	Repr. 2 (fertility)
	Repr. 2 (unborn child)
	H318, H302, H361, H402, H412

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, 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:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Administer 50 ml of pure ethanol in a drinkable concentration.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
No applicable information available.

Special hazards arising from the substance or mixture

harmful vapours
Generation of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

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, protective equipment and emergency procedures

Use personal protective clothing. Breathing protection required.

Environmental precautions
Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning 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

Precautions for safe handling

No eating, drinking, smoking or tobacco use at the place of work.

Protection against fire and explosion:
Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

107-21-1: Ethane-1,2-diol
10102-40-6: Disodium molybdate

Exposure controls

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. Combination filter for gases/vapours of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2)

Hand protection:
Wear chemically resistant gloves in combination with specific activity training
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)
butyl rubber (butyl) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
Supplementary note: The specifications are based on 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 through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. 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 EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	liquid	
Colour:	green	
Odour:	of glycol	
Odour threshold:	not determined	
pour point:	< -15 °C	(DIN ISO 3016)
boiling temperature:	160 °C (1.013 hPa)	(ASTM D1120)
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	> 120 °C	(ISO 2592)
Auto-ignition temperature:	> 200 °C	(DIN 51794)
Thermal decomposition:	No decomposition if used as directed.	
pH value:	8,5 (measured with the undiluted substance)	(ASTM D1287)
Viscosity, kinematic:	approx. 30 mm2/s (23 °C)	(DIN 51562)
Thixotropy:	not thixotropic	
Solubility in water:	miscible	
Solubility (qualitative) solvent(s):	polar solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
Vapour pressure:	0,2 mbar (20 °C)	
Density:	1,1260 g/cm3 (20 °C)	(DIN 51757)

Relative vapour density (air):> 1 (estimated)
(20 °C)
Heavier than air.

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties

Fire promoting properties: not fire-propagating

Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating according to UN transport regulations class 4.2.

Corrosion to metals

No corrosive effect on metal.

Other safety characteristics

Radioactivity:
not radioactive for transport purposes

Hygroscopy: Non-hygroscopic

Other Information: If necessary, information on other physical and chemical parameters is indicated in this section.

Evaporation rate:
not determined

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

Chemical stability

The product is stable if stored and handled as prescribed/indicated and under normal transport conditions.

Peroxides: The product does not contain peroxides. The product/the substance has not a tendency towards the formation of peroxide.

Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

Conditions to avoid

Avoid open flames.

Incompatible materials

Substances to avoid:
strong acids, oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products known.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of moderate toxicity after single ingestion.

Experimental/calculated data:
ATE (oral): 1.760 mg/kg

ATE (dermal): > 5.000 mg/kg

Information on: Ethane-1,2-diol

Experimental/calculated data:
ATE human (oral): approx. 1.600 mg/kg

Irritation

Assessment of irritating effects:
Eye contact causes irritation. Skin contact causes slight irritation.

Respiratory/Skin sensitization

Assessment of sensitization:
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity:
Not classified, due to lack of data.

Reproductive toxicity

Assessment of reproduction toxicity:
Based on available data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity:
Based on available data, the classification criteria are not met.

Information on: Ethane-1,2-diol
Assessment of teratogenicity:
Developmental toxicity was observed after oral ingestion of high doses in studies with rats and mice, but this effect was not seen in a study with rabbits. Mechanistic studies show that the rabbit is the relevant species for the classification for human health. As such, and since the substance is not a developmental toxicant in the rabbit, no classification is warranted.

Specific target organ toxicity (single exposure)

Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated exposure may affect certain organs.

Information on: Ethane-1,2-diol
Assessment of repeated dose toxicity:
The substance may cause damage to the kidney after repeated ingestion. The substance may cause damage to the kidney after repeated skin contact with high doses.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

12. Ecological Information

Toxicity

Information on: Ethane-1,2-diol
Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Information on: Dipotassium sebacate
Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Information on: Potassium 3,5,5-trimethylhexanoate
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Information on: Ethane-1,2-diol
Toxicity to fish:
LC50 (96 h) 72.860 mg/l, Pimephales promelas (EPA 72-1, static)

Information on: Dipotassium sebacate
Toxicity to fish:
LC50 (96 h) > 18 mg/l, Scophthalmus maximus (Fish test acute, semistatic)
Limit concentration test only (LIMIT test). The product has not been tested. The statement has been derived from the properties of the individual components. The details of the toxic effect relate to the nominal concentration.

LC50 (96 h) > 100 mg/l, Danio rerio (OECD Guideline 203, semistatic)
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: (Benzothiazol-2-ylthio)acetic acid
Toxicity to fish:
LC50 (96 h) 14,5 mg/l, Danio rerio (Directive 84/449/EEC, C.1, static)

Information on: Ethane-1,2-diol
Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Information on: Dipotassium sebacate
Aquatic invertebrates:
LC50 (48 h) 18 mg/l, Arcatia tonsa (ISO 14669, static)
The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from the properties of the individual components.

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: (Benzothiazol-2-ylthio)acetic acid
Aquatic invertebrates:

EL50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
Limit concentration test only (LIMIT test).

Information on: Ethane-1,2-diol
Aquatic plants:
EC50 (96 h) 6.500 - 13.000 mg/l (growth rate), Pseudokirchneriella subcapitata (Algal growth inhibition test)

Information on: Dipotassium sebacate
Aquatic plants:
EC50 (7 d) > 120 mg/l (growth rate), Lemna gibba (OECD Guideline 221, semistatic)
The product has not been tested. The statement has been derived from the properties of the individual components.

EC10 (7 d) > 120 mg/l (growth rate), Lemna gibba (OECD Guideline 221, semistatic)
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: (Benzothiazol-2-ylthio)acetic acid
Aquatic plants:
EC10 (72 h) 15,7 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)

EC50 (72 h) 34,3 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)

Information on: Ethane-1,2-diol
Microorganisms/Effect on activated sludge:
EC20 (30 min) > 1.995 mg/l, activated sludge, domestic (DIN EN ISO 8192, aerobic)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Dipotassium sebacate
Microorganisms/Effect on activated sludge:
EC20 (180 min) > 1.000 mg/l, (DIN EN ISO 8192, aerobic)
Nominal concentration. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: (Benzothiazol-2-ylthio)acetic acid
Microorganisms/Effect on activated sludge:
EC50 (3 h) > 1.000 mg/l, activated sludge (OECD Guideline 209, static)

Information on: Ethane-1,2-diol
Assessment of terrestrial toxicity:
Toxic effects have been observed in studies with terrestric plants.

Information on: Dipotassium sebacate
Assessment of terrestrial toxicity:
No data available.

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment of terrestrial toxicity:
No data available.

Persistence and degradability

Information on: Ethane-1,2-diol
Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Information on: Dipotassium sebacate
Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Information on: Potassium 3,5,5-trimethylhexanoate
Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

Information on: Ethane-1,2-diol
Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Information on: Dipotassium sebacate
Assessment of stability in water:
No data available.

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment of stability in water:
In contact with water the substance will hydrolyse slowly.

Bioaccumulative potential

Information on: Ethane-1,2-diol
Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: Dipotassium sebacate
Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Information on: Ethane-1,2-diol
Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.

Information on: Dipotassium sebacate
Assessment transport between environmental compartments:
Volatility: No data available.
Adsorption in soil: Adsorption to solid soil phase is not expected.

Information on: (Benzothiazol-2-ylthio)acetic acid
Assessment transport between environmental compartments:
Volatility: No data available.
Adsorption in soil: No data available.

Other adverse effects

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

Additional information

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

The product has not been tested. The statement has been derived from the properties of the individual components.

13. Disposal Considerations

Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Waste key:
16 01 14¤ antifreeze fluids containing hazardous substances

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

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Irrit.	Skin irritation
Eye Irrit.	Eye irritation
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Skin Corr.	Skin corrosion
Eye Dam.	Serious eye damage
STOT SE	Specific target organ toxicity — single exposure
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Repr.	Reproductive toxicity
H302	Harmful if swallowed.
H373	May cause damage to organs (Kidney) through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.
H335	May cause respiratory irritation.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.
H412	Harmful to aquatic life with long lasting effects.

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. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the

corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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