

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product Identifier**

Trade name: GLICAR BRAKE FLUID DOT-4

1.2. Relevant identified uses of the substance/mixture and uses advised against

Recommended use: Brake fluid

1.3. Details of the supplier of the safety data sheet

Company: GLI-THERM Sp. z o.o.
ul. Rozwojowa 11, 44-338 Jastrzębie-Zdrój
Tel.: +48 533 798 833
biuro@gli-therm.pl
www.gli-therm.pl

1.4. Emergency telephone number: +48 533 798 833**SECTION 2. HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

Product classification:

Acute Tox. 4, H302, Repr. 2, H361, STOT RE 2, H373

Please consult chapter 16 of this SDS for full text of mentioned H phrases.

Physical and chemical hazards:

- none.

Human health hazards:

- harmful if swallowed
- suspected of damaging fertility or the unborn child
- may cause damage to organs through prolonged or repeated exposure.

Environmental hazards:

- none.

2.2. Label elements

Hazard pictograms:



Signal Word: WARNING

H Phrases:

- H302 Harmful if swallowed
H361 Suspected of damaging fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure

P Phrases:

- P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children
P103 Read label before use
P202 Do not handle until all safety precautions have been read and understood
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 IF SWALLOWED: Call a POISON CENTRE/ doctor if you feel unwell
P308+P313 IF exposed or concerned: Get medical advice/attention
P403+P233 Store in a well-ventilated place. Keep container tightly closed
P405 Store locked up
P501 Dispose of contents/container to hazardous or special waste collection point



SAFETY DATA SHEET GLICAR BRAKE FLUID DOT-4

Version:	1
Date of issue:	28.06.2021
Number of updates:	0
Data of updates:	–
Page number:	2 z 7

Contents: Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate; 2,2'-(Ethylenedioxy)diethanol; Diethylene glycol monomethyl ether

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

N.A.

3.2. Mixtures

35.0% - 75.0%	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate		
	Index No: –	CAS No: 30989-05-0	EC No: 250-418-4
	REACH number: 01-2119462824-33-0006		
	Repr. 2, H361 (development)		
10.0% - 30.0%	Diethylene glycol monomethyl ether		
	Index No: 603-107-00-6	CAS No: 111-77-3	EC No: 203-906-6
	REACH number: 17-2119985567-15-0000		
	Repr. 2, H361d		
10.0% - 30.0%	2,2'-(Ethylenedioxy)diethanol; Triethylene glycol		
	Index No: –	CAS No: 112-27-6	EC No: 203-953-2
	REACH number: 17-2119985826-17-0000		
	Acute Tox. 4, H302, STOT RE 2, H373		
0.4% - 1.5%	2-(2-Methoxyethoxy)ethanol		
	Index No: 603-107-00-6	CAS No: 111-77-3	EC No: 203-906-6
	REACH number: 01-2119475100-52-0008		
	Repr. 2, H361d		
< 0.1%	Methyl-1H-benzotriazole		
	Index No: –	CAS No: 29385-43-1	EC No: 249-596-6
	REACH number: 01-2119979081-35-0010		
	Acute Tox. 4, H302		

Please consult chapter 16 of this SDS for full text of mentioned H phrases.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

In case of Inhalation:

- remove victim to open air, keep person warm and calm
- keep at rest in a position comfortable for breathing
- loosen tight clothing such as a collar, tie or belt
- in case of accident or unwellness, consult a doctor immediately and show him packing or label.

In case of skin contact:

- immediately take off all contaminated clothing
- immediately wash with plenty of water
- if irritation persists, obtain immediate medical attention
- wash contaminated clothing separately before using them again.

In case of eyes contact:

- remove contact lenses, if present
- irrigate copiously with clean, fresh water at least 20 minutes, occasionally lifting the upper and lower eyelids
- obtain immediate medical attention.

In case of Ingestion:

- rinse mouth thoroughly with water, if material has been swallowed and the exposed person is conscious, give plenty of water to drink
- give nothing by mouth to an unconscious person
- obtain immediate medical attention
- show this safety data sheet to the medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

See section 11.

4.3. Indication of any immediate medical attention and special treatment needed

- remove victim to open air, keep person warm and calm
- obtain immediate medical attention
- show this safety data sheet to the medical personnel.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if



SAFETY DATA SHEET GLICAR BRAKE FLUID DOT-4

Version:	1
Date of issue:	28.06.2021
Number of updates:	0
Data of updates:	–
Page number:	3 z 7

possible).

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- suitable extinguishing media: chemical powders, CO₂, alcohol resistant foam, nebulized water
- extinguishing media which must not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

- do not inhale explosion and combustion gases
- burning produces heavy smoke (CO, CO₂, SO₂, NO_x)
- cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

5.3. Advice for firefighters

- use suitable breathing apparatus
- collect contaminated fire extinguishing water separately. This must not be discharged into drains
- move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- wear personal protection equipment
- remove all sources of ignition
- evacuate area
- avoid breathing vapor, avoid contact with eyes and skin
- wear breathing apparatus if exposed to vapours
- provide adequate ventilation; do not eat or drink while working
- use appropriate respiratory protection
- cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

6.2. Environmental precautions

- do not allow to enter into soil/subsoil; do not allow to enter into surface water or drains
- retain contaminated washing water and dispose it
- in case entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

- immediately remove the product using appropriate personal protective equipment
- eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage
- retain contaminated washing water and dispose it
- contain and collect spillage with non-combustible, absorbent material e.g. sand or earth
- flush contaminated area with plenty of water.

6.4. Reference to other sections

See also section 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- use localized ventilation system
- do not smoke, do not use matches or lighters, follow the recommendations in Section 6.3, 8 and 13
- avoid breathing vapor
- avoid contact with eyes and skin
- wear personal protection equipment
- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
- do not eat or drink while working, keep away from food, drink and feed, keep out of reach of children.

7.2. Conditions for safe storage, including any incompatibilities

- always keep the containers tightly closed, in a dry, cool and well-ventilated place
- use at in temperature ranging from -50 to +50 °C
- all equipment and piping must be grounded, avoid electrostatic charge buildup
- it shall not be stored in the same premise with explosive materials; compressed gases, liquefied and dissolved under pressure; easily inflammable liquids and solid substances; organic peroxides and other oxidizing substances; substances exuding the inflammable gases which interact with water; caustic and corrosive substances
- keep only in the original container
- keep containers upright
- keep away from food, drink and feed
- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
- cool and adequately ventilated
- do not store with incompatible substances (see section 10).

7.3. Specific end use(s)

See section 1.2.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**Exposure limit values:

2-(2-methoxyethoxy)ethanol:

LTEL/8h: 10 ppm – 50.1 mg/m³ (Skin)

8.2. Exposure controls

Avoid direct contact with the product. Wear suitable personal protective equipment. When using does not eat, drink or smoke. Before breaks and after work wash hands using appropriate tools (soap, etc.). Remove contaminated clothing and protective equipment after work or before breaks.

Eye protection:

- use close fitting safety goggles, masks suitable for the product.

Protection for skin and hands:

- wear protective gloves (e.g. nitrile rubber), protective clothing. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Respiratory protection:

- respiratory protective equipment must be air supplied respirators or full face mask with a gas and particle filters.

Thermal Hazards:

None.

Environmental exposure controls:

- do not allow to enter into soil/subsoil; do not allow to enter into surface water or drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

- | | |
|--|---|
| (a) Physical state: | homogeneous liquid, without sediments and mechanical impurities |
| (b) Colour: | transparent, light yellow to light brown |
| (c) Odour: | characteristic |
| (d) Melting point/freezing point: | N.A. |
| e) Boiling point or initial boiling point and boiling range: | 230 °C |
| (f) Flammability: | N.A. |
| (g) Lower and upper explosion limit: | N.A. |
| (h) Flash point: | 125 °C (in closed crucible), 131 °C (in open crucible) |
| (i) Auto-ignition temperature: | 137 °C |
| (j) Decomposition temperature: | N.A. |
| (k) pH: | 7,5-11,5 |
| (l) Kinematic viscosity: | 1800 mm ² /s (-40 °C); 5 mm ² /s (>50 °C); 2 mm ² /s (>100 °C) |
| (m) Solubility: | soluble in water; soluble in alcohol/ other solvents |
| (n) Partition coefficient n-octanol/water (log value): | N.A. |
| (o) Vapour pressure: | N.A. |
| (p) Density and/or relative density: | N.A. |
| q) Relative vapour density: | N.A. |
| (r) Particle characteristics: | Not applicable |

9.2. Other information

N.A.

SECTION 10. STABILITY AND REACTIVITY**10.1. Reactivity**

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Do not store with incompatible materials.

10.4. Conditions to avoid

- keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

- avoid accumulating electrostatic charge
- avoid temperature below -50 °C or above +50 °C.

10.5. Incompatible materials

- oxidizing agents
- keep away from explosives, compressed gases, liquefied gases, dissolved gases, flammable solids, selfreactive substances, substances which, in contact with water, emit flammable gases, organic peroxides, poisonous substances, infectious substances, radioactive material, corrosive substances, substances with relatively low risk of storage, strong acid and alkali, alkaline earth metals, halogens.

10.6. Hazardous decomposition products

None, see section 5.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

a) Acute toxicity:

Harmful if swallowed.

Mixture:

Oral: 300 < ATE_{mix} ≤ 2000 (mg/kg bodyweight)

2-(2-Methoxyethoxy)ethanol:

Oral: LD50 – 7128 mg/kg (Mouse);

Inhalation: LC50 – 1,91 mg/l/6h (Rat);

Skin: LD50 – 9404 mg/kg (Rabbit).

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate:

Oral: LD50 – >2000 mg/kg (Rat);

Skin: LD50 – >2000 mg/kg (Rat).

Methyl-1H-benzotriazole:

Oral: LD50 – 720 mg/kg (Rat).

b) Skin corrosion/irritation:

N.A.

c) Serious eye damage/irritation:

N.A.

d) Respiratory or skin sensitization:

N.A.

e) Germ cell mutagenicity:

N.A.

f) Carcinogenicity:

N.A.

g) Reproductive toxicity:

Suspected of damaging fertility or the unborn child.

h) STOT-single exposure:

N.A.

i) STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

j) Aspiration hazard:

N.A.

11.2. Information on other hazards:

None.

SECTION 12. ECOLOGICAL INFORMATION

Adopt good working practices, so that the product is not released into the environment. Prevent product entering water courses, sewers and prevent penetration of the product into the earth.

12.1. Toxicity:

N.A.

2-(2-Methoxyethoxy)ethanol:

LC50 (fish): 5741 mg/l/96h;

EC50/LC50 (invertebrates): 1192 mg/l/48h;

EC50/LC50 (algae): 1000 mg/l/96h.

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate:

LC50 (fish): >1010 mg/l/96h (Oncorhynchus mykiss);

EC50 (invertebrates): >500 mg/l/48h (Daphnia magna);



SAFETY DATA SHEET GLICAR BRAKE FLUID DOT-4

Version:	1
Date of issue:	28.06.2021
Number of updates:	0
Data of updates:	–
Page number:	6 z 7

EC50 (algae): >224,4 mg/l/72h (Pseudokirchneriella subcapitata).

Methyl-1H-benzotriazole:

LC50 (fish): 64 mg/l (Danio rerio);

EC50 (invertebrates): >37,6 mg/l/48h (Daphnia magna);

NOEC (invertebrates): 18,4 mg/l;

EC50 (algae): 32 mg/l/72h (Desmodesmus subspicatus).

Extrapolation from data of diethylene glycol monomethyl ether (methylcarbitol) - Aquatic organisms: CL50 96 h=7500 mg/l (Lepomis makrochiru)

12.2. Persistence and degradability:

Highly soluble in water, possible contamination of water bodies, change in the properties of water (the water takes on a bitter taste, specific odour, lathers). No decomposition under normal conditions.

12.3. Bioaccumulative potential:

Expressed a mild accumulation properties.

12.4. Mobility in soil:

Soluble in water, so it is mobile in soil in combination with precipitation, possible contamination of ground water.

12.5. Results of PBT and vPvB assessment:

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties:

Information not available.

12.7. Other adverse effects:

Information not available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number or ID number:	N.A.
14.2. UN proper shipping name:	N.A.
14.3. Transport hazard class(es):	N.A.
14.4. Packing group:	N.A.
14.5. Environmental hazards:	N.A.
14.6. Special precautions for user:	N.A.
14.7. Maritime transport in bulk according to IMO instruments:	N.A.

SECTION 15. REGULATORY INFORMATION

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

1. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing
2. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC..

15.2. Chemical safety assessment

No.

SECTION 16. OTHER INFORMATION

This document was prepared by a competent person who has received appropriate training. This safety data sheet has been prepared on the basis of data provided by the manufacturer.

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This document must not be regarded as a guarantee on any specific product property

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.



SAFETY DATA SHEET GLICAR BRAKE FLUID DOT-4

Version:	1
Date of issue:	28.06.2021
Number of updates:	0
Data of updates:	–
Page number:	7 z 7

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

IMDG: International Maritime Code for Dangerous Goods.

EC50: Half maximal effective concentration

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

STOT: Specific Target Organ Toxicity.

Acute Tox. 4 Acute toxicity 4

Repr. 2 Reproductive toxicity 2

STOT RE 2 Specific target organ toxicity — repeated exposure 2

Full text of phrases referred to in Section 3:

H302 Harmful if swallowed

H361 Suspected of damaging fertility or the unborn child

H361d Suspected of damaging the unborn child

H373 May cause damage to organs through prolonged or repeated exposure

This document was prepared by: CHEMIKOS; www.chemikos.pl; e-mail: biuro@chemikos.pl