



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name: **GLIXOL CONC**

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

Relevant identified uses:

Concentrated product for preparation of radiator fluid with operating concentration. Liquid product made from a concentrate, it effectively protects the cooling system from freezing and overheating. It protects all the elements of cooling system against corrosion.

Uses advised against:

Not determined.

1.3. Details of the supplier of the safety data sheet

Supplier:

„ORGANIKA-CAR” Spółka Akcyjna

address: 91-203 Łódź, ul. Teofilowska 54/56, Poland

tel: (42) 682-58-44

fax: (42) 682-58-92

e-mail address for a competent person responsible for sds: bbrzezinska@organika.com.pl

1.4. Emergency telephone number

42 681- 05-76 (8.00 AM– 4.00 PM)

112 – emergency number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008.

Mixture is classified as hazardous.

Acute Tox. 4 H302

STOT RE 2 H373

Adverse effects on human:

Harmful if swallowed. (H302)

May cause damage to organs through prolonged or repeated exposure. (H373)

Adverse effects on environment: Mixture is not hazardous for the environment.

Adverse physicochemical effects: Mixture is not hazardous due to physicochemical effects.

Note: Full text of abbreviations is given in section 16 of SDS.

2.2. Label elements

Mixture labelling in accordance with Regulation (EC) No 1272/2008.



WARNING

Hazard statement(s):

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s):

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P501 Dispose of contents/container to selective waste collection point.

Contains: ethylene glycol.

2.3. Other hazards

On the basis of available data, the components of this mixture do not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

The mixture is a solution of ethylene glycol and other polyalcohols with addition of corrosion inhibitors and other additives. Dangerous components in mixture:

Name of substance	Identification numbers	Registration number	Concentration % (w/w)	Classification acc. to 1272/2008/EC	
				Hazard Class and Category Code(s)	Hazard statement Code(s)
Ethylene glycol	Index number: 603-027-00-1 EINECS: 203-473-3 CAS : 107-21-1	01-2119456816-28	70 ÷ 95	Acute Tox. 4 STOT RE. 2	H302 H373
2-ethylhexanoic acid	Index number: 607-230-00-6 EINECS: 205-743-6 CAS: 149-57-5	01-2119488942-23	< 1,5	Repr. 2	H361d

Full text of hazard statements (H) is given in section 16 of SDS.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: move the victim to fresh air. Ensure a patent airway and breathing if the victim is unconscious. Seek medical attention in case of problems with breathing.

Contact with skin: If the product was spilled on skin, take off contaminated clothing. Wash the contaminated skin immediately and thoroughly with plenty of water and soap. Consult a doctor in case of skin irritation.

Contact with eyes: If product gets into eyes, remove contact lenses immediately and rinse the eyes with running water for about 15 minutes with eyelids wide open. If only one eye is contaminated, protect the other eye from contamination. If the irritation persists, consult an ophthalmologist.

Ingestion:

Rinse mouth immediately, drink 200-300 ml of water. Never give anything by mouth to an unconscious person. Seek medical advice immediately.

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

Effects of acute exposure (data for ethylene glycol):

Ingestion is the most frequent exposure route.

First stage of poisoning after ingestion: symptoms similar to the state of alcohol intoxication - agitation, slurred speech, impaired balance and coordination, headaches and dizziness, drowsiness, etc.; those symptoms are followed by nausea and vomiting, diarrhea; respiratory disorders may occur; in cases of severe poisoning - circulatory disorders, increased heart rate, low blood pressure, coma, loss of consciousness with convulsions, collapse; possible death due to respiratory arrest.

Lethal dose for humans is approx. 100 ml. Contact with skin causes slight skin irritation. Eye contamination causes moderate eye irritation with prolonged contact.

Effects of chronic exposure (data for ethylene glycol):

May intensify existing skin, eye, respiratory diseases.

May cause kidney and liver disorders and damage; possible brain damage.

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

Do not give anything by mouth to an unconscious person and do not induce vomiting. Show the safety data sheet, label or packaging to the medical staff.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Foam resistant to alcohols, water – sprayed, carbon dioxide, extinguishing powders.

Unsuitable extinguishing media: Do not use water jet.

5.2. Special hazards arising from the substance or mixture

During the fire, carbon oxides may be produced.

5.3. Advice for firefighters

Wear full protective clothing and breathing apparatus.

Cool the containers exposed to fire or high temperature with water spray, remove them from the endangered zone if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with mixture. Wear protective clothing, protective gloves, protective glasses (goggles) when collecting the leaks.

6.2. Environmental precautions

Collect or pump the spillage into separate containers for disposal or further processing. Prevent the mixture from entering drainage system or groundwaters by embanking the spillage with sand.

6.3. Methods and material for containment and cleaning up

Small leakages cover with sand and then collect the soaked sand with a shovel and place it in containers for further removal. Wash the contaminated place with a large amount of water.
Call the Chemical Rescue Unit if the situation is impossible to control.
Notify relevant services in case of surface water contamination.

6.4. Reference to other sections

Personal protective equipment – see section 8.
Appropriate conduct with waste product – section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices.
Use personal protective measures (subsections 8.2). Avoid contact with skin and eyes.
Do not eat, drink or smoke in the workplace.
Wash hands after every use.

7.2. Conditions for safe storage, including any incompatibilities

Keep the mixture in storage areas in temperature $\leq 40^{\circ}\text{C}$. Mixture may be packed in barrels, pallet containers should be kept on the storage yard. Keep the packages tightly closed.
Shelf life - 5 years from the date of manufacture.

7.3. Specific end use(s)

Product designed for preparation of radiator coolants with operating concentrations.
No information about specific end uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

In accordance with Commission Directive (EC) No 2006/15 of 7 February 2006; Commission Directive (EC) No 2000/39 of 8 June 2000 and Commission Directive (EU) No 2009/161 of 17 December 2009, the product contains components with occupational exposure limit values at working place:

Name of hazardous substance	CAS	Limit values	
		8 hours	Short term
Ethylene glycol	107-21-1	52	104

Please check any national occupational exposure limit values in your country.

DNEL and PNEC value (data for ethylene glycol):

DNEL value for workers, long-term exposure through skin (systemic effects): 106 mg/kg bw
DNEL value for workers, long-term exposure through inhalation (local effects): 35 mg/kg bw
DNEL value for general population, including consumers, long-term exposure through skin (systemic effects): 53 mg/kg bw
DNEL value for general population, including consumers, long-term exposure through inhalation (local effects): 7 mg/kg bw
PNEC value for freshwater environment: 10 mg/l
PNEC value for marine water environment: 1 mg/l
PNEC value mixed waters environments: 10 mg/l
PNEC value for sediment environment (freshwater): 20,9 mg/kg
PNEC value for soil environment: 1,53 mg/kg
PNEC value for sewage treatment plant: 199 mg/l.

8.2. Exposure controls

8.2.1. Appropriate engineering controls:

Industrial use (mixing, packaging):

Ensure local exhaust ventilation and general ventilation in the working area.

Professional use (dilution of fluids to operating concentration):

Ensure local exhaust ventilation and general ventilation in the working area.

8.2.2. Individual protection measures, such as personal protection equipment

Eye/face protection:	protective glasses, tightly fitting.
Skin protection:	protective clothing
Hand protection:	protective gloves made of natural rubber, neoprene or polyvinyl chloride, resistant to chemicals in accordance with PN-EN 374-1:2005.
Respiratory protection:	not required in normal conditions of use.

8.2.3. Environmental exposure controls

Do not allow the large quantity of mixture to contaminate ground water, drainage system, sewage or soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	
Physical state:	homogeneous liquid, clear, with no sediment and chemical impurities
Colour	blue
b) Odour:	faint
c) Odour threshold:	no data
d) pH 50% (V/V) water solution:	7,5 ÷ 9,5
e) Crystallization temperature:	ca. - 13 °C
f) Initial boiling point and boiling range:	> 150 °C
g) Flash point:	> 100°C
h) Evaporation rate:	no data
i) Flammability (solid, gas):	not applicable – mixture is a liquid
upper/lower flammability or explosive limits:	lower 3,2% (V/V) (for ethylene glycol), upper 15,3% (V/V) (for ethylene glycol)
j) Vapour pressure:	0,123 hPa (ethylene glycol)
k) Vapour density:	no data
l) Density in 20 °C:	1,112 ÷ 1,145 g/ml
m) Solubility(ies):	very good in water (without limitations), soluble in ethanol, acetone, acetic acid, pyridine.
n) Partition coefficient: n-octanol/water:	-1,36 log K (o/w) (ethylene glycol)
o) Auto-ignition temperature:	no data
p) Decomposition temperature:	no data
q) Viscosity (20 °):	no data
r) Explosive properties:	no data
s) Oxidising properties:	not applicable

9.2. Other information

no data

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no specific hazards resulting from the reactivity of the product.

10.2. Chemical stability

Mixture is stable under normal conditions.

10.3. Possibility of hazardous reactions

No data.

10.4. Conditions to avoid

Avoid storage temperature above 40 °C.

10.5. Incompatible materials

Strong acids (chlorosulfonic acid, sulfuric acid, oleum, perchloric acid), strong bases (sodium hydroxide), dimethyl terephthalate, phosphorus pentasulfide, strong oxidants.

10.6. Hazardous decomposition products

Hazardous decomposition products resulting from the use, storage or spillage of mixture are not known. Combustion products in case of fire are mentioned in section 5.

Section 11: Toxicological information

11.1. Information on toxicological effects

a) acute toxicity:

Ethylene glycol

Acute toxicity – oral: LD₅₀ = 7112 mg/kg, rat

Acute toxicity – dermal: LD₅₀ > 3500 mg/kg, rat

Acute toxicity – inhalation: LC₅₀ > 2,5 mg/l (6h), rat

2-ethylhexanoic acid

Acute toxicity – oral: LD₅₀ = 3640 mg/kg, rat

Acute toxicity – dermal: LD₅₀ = 2000 mg/kg, rabbit

Acute toxicity – inhalation: LC₅₀ = 0,11 mg/l (6h), rat

- b) skin corrosion/irritation: Assessment of irritating effects (due to the absence of irritating components) indicates that the product is not irritating to skin.
- c) serious eye damage/irritation: Assessment of irritating effects (due to the contents of irritating components) indicates that the product is not irritating to eyes.
- d) respiratory or skin sensitisation: Assessment of sensitising effects (due to the absence of sensitising components) indicates that the product is not sensitising for respiratory tract and for skin.
- e) germ cell mutagenicity: Assessment of mutagenicity (due to the absence of mutagenic components) indicates that the product is not mutagenic for germ cells.
- f) carcinogenicity: Assessment of carcinogenic effects (due to the absence of carcinogenic components) indicates that the product is not carcinogenic.
- g) reproductive toxicity: Product contains 2-ethylhexanoic acid which may be harmful for the unborn child. Assessment of the reproductive toxicity (due to the amount of components toxic for reproduction) indicates that the product should not be harmful to fertility.
- h) STOT-single exposure: No toxic effects on target organs after single exposure were observed for components of the mixture.

- i) STOT-repeated exposure: Product contains ethylene glycol - tests on rats on repeated exposure through ingestion of large doses show possible kidney damage. Product was classified as STOT RE 2 (H373): May cause damage to organs through prolonged or repeated exposure.
- j) aspiration hazard: There is no available information concerning the hazardous effects if the liquid mixture enters the trachea and lower airways. None of the components of the mixture is not classified as hazardous after inhalation.

Probable routes of exposure: skin, eyes, respiratory tract, digestive tract.

Effects and symptoms of exposure:

Skin:

causes slight skin irritation.

Eyes:

repeated exposure causes slight eye irritation.

Respiratory tract:

Long-term exposure or high concentrations of vapours or mists may cause slight irritation of respiratory tract, headaches and dizziness. May have depressive or narcotic effects on nervous system. May cause similar symptoms as after ingestion.

Ingestion:

Harmful product. Harmful if swallowed.

First stage of poisoning after ingestion: symptoms similar to the state of alcohol intoxication - agitation, slurred speech, impaired balance and coordination, headaches and dizziness, drowsiness.

Then, nausea and vomiting occur, after several hours, if a large quantity was ingested – loss of consciousness with circulatory disorders, increased heart rate, arrhythmia, first increase and then reduction of blood pressure, collapse, breathing problems, may also cause symptoms of kidney damage, in severe cases - pathological changes in the central nervous system may occur.

Symptoms of chronic poisoning:

May intensify existing skin, eye, respiratory diseases.

May cause kidney and liver disorders and damage; may damage central nervous system.

SECTION 12: Ecological information

12.1. Toxicity

Data for ethylene glycol:

Acute toxicity for aquatic environment

fish	<i>Pimephales promelas</i>	LC ₅₀ /96h:	72860 mg/l
Daphnia	<i>Daphnia magna</i>	EC ₅₀ /48h:	13900 - 57600 mg/l
algae	<i>Pseudokirchnerella subcapitata</i>	EC ₅₀ (96 h):	6500 - 13000 mg/l

Chronic toxicity for aquatic environment

fish	<i>Pimephales promelas</i>	NOEC (7 d):	15380 mg/l
Daphnia	<i>Ceriodaphnia sp</i>	NOEC (7 d):	8590 mg/l

Toxicity for microorganisms

bacteria	<i>Pseudomonas putida</i>	TTC (EC ₅ (16 h):	> 10000 mg/l
active sludge of sewage treatment plant		EC ₂₀ (30 min):	> 1995 mg/l

Data on acute and chronic toxicity for aquatic environment indicate that ethylene glycol does not pose a threat to the aquatic environment and to biological sewage treatment plants.

12.2. Persistence and degradability

Data for ethylene glycol:

No data on hydrolysis.

Ethylene glycol, just as other ethers and glycols, is considered to be stable in hydrolysis processes and easily biodegradable.

Biodegradability potential is 90-100% after 10 days (RWO test) and in accordance with the criteria of OECD, ethylene glycol is considered as a substance subject to biodegradation.

This substance will slowly decompose in the air (it is subject to indirect photodegradation) due to interactions with free radicals ($DT_{50} = \text{ca. } 46,3 \text{ h}$).

12.3. Bioaccumulative potential

Not expected to bioaccumulate.

Data for ethylene glycol:

On the basis of the estimated value of the adsorption coefficient ($\log K_{oc}=0$) and the partition coefficient: n-octanol/water ($\log K_{ow}= -1,36$), the accumulation of substances in organisms is not expected.

12.4. Mobility in soil

If the mixture enters the soil, it will migrate and may contaminate ground waters.

12.5. Results of PBT and vPvB assessment

Data for ethylene glycol

Ethylene glycol does not meet the criteria of PBT and vPvB. On the basis of the available data it is estimated that the remaining components of the mixture are not considered as PBT and vPvB substances.

12.6. Other adverse effects

If the mixture is handled correctly, it is not expected to pose a threat to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product waste: in the first place the waste product should be recycled, if it is not possible then it should be eliminated by biological, physical or chemical processes. Do not enter the product into drainage system.

Deliver to an authorised company with permission to receive and to dispose of waste.

Packaging waste: if disposal is necessary, empty the contaminated packaging and deliver it to a specialized company with permission for packaging waste management given by a relevant authority.

Waste classification: suitable for the place of manufacture on the basis of criteria contained in regulations in force.

If the product has been used in any further operations /processes, end-users are expected to define the resulting waste and assign the correct code.

Legal basis: Directive 2008/98/EC, 94/62/EC.

SECTION 14: Transport information

Mixture is not subject to regulations concerning the transport of dangerous goods.

Mixture can be transported by any means of transport in accordance with current transport regulations.

- | | |
|----------------------------------|------------------|
| 14.1. UN number | - not applicable |
| 14.2. UN proper shipping name | - not applicable |
| 14.3. Transport hazard class(es) | - not applicable |
| class | - not applicable |
| classification code: | - not applicable |
| hazard identification number: | - not applicable |
| 14.4. Packing group | - not applicable |

- 14.5. Environmental hazards** - not applicable
- 14.6. Special precautions for user** - no special precautions
- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** - not applicable

SECTION 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization 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 as amended.

Commission Regulation (EU) No 830/2015 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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 Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.

Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

15.2. Chemical safety assessment

Chemical safety assessment was carried out for: ethylene glycol, 2-ethylhexanoic acid.
No information concerning other components of the product.

SECTION 16: Other information

Changes in safety data sheet: sect. 2.1, 2.2, 3.2, 15.1, 16.

Full text of hazard statements (H-phrases) mentioned in section 3 of safety data sheet:

H302	Harmful if swallowed.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Clarification of aberrations and acronyms:

Acute Tox. 4	Acute Toxicity category 4
Repr. 2	Reproductive toxicity category 2
STOT RE 2	Specific target organ toxicity — repeated exposure category 2
vPvB	very persistent and very bioaccumulative substance
PBT	persistent, bioaccumulative and toxic substance
DNEL	Derived no effect level

PNEC	Predicted No Effect Concentration
NOEC	No observed effect concentration
LD ₅₀	Lethal Dose, Dose at which the observed death in 50% of animals tested
LC ₅₀	Lethal concentration, Concentration at which the observed death in 50% of animals tested
EC ₅₀	Concentration at which the observed death in 50% of animals tested

Data sources:

Safety data sheet of components, data from ECHA website (European Chemicals Agency).

Classification methods:

Classification of this mixture was based on the principles contained in part 2, 3 and 4 of Annex I to Regulation (EC) No 1272/2008 of the European Parliament.

Necessary training:

Employees should be trained in the proper handling of the mixture. Before applying please read the safety data sheet.

Uses: For professional use.

Possibility of obtaining further information: For further information, contact the supplier.

This SDS is based on safety data sheets for raw materials contained in the mixture and present knowledge. SDS provides data essential for ensuring the safety and protection of human health and the environment. This information does not guarantee the properties of the mixture.