

Section 1: Identification of the substance/preparation and of the company/undertaking

1.1 Product identifiers

Trade name: mechatron LC / mechatron LCC
CAS number: inapplicable
EG number: inapplicable
Index number: inapplicable
Registration number: inapplicable

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

Uses advised against: none
Use of the substance/mixture: Heat transfer medium, cooling brine, anti-freeze agent, corrosion protection agent

1.3 Details of the supplier of the safety data sheet

Company: Mechatron GmbH
Eulerweg 11
64291 Darmstadt
Germany
Tel: +49 (0) 6151 49 244 70
Fax: +49 (0) 6151 49 244 89
info@mechatron-gmbh.de

Info about substance/mixture: Mr. Linke, Tel.: +49 (0) 6151 49 244 70, m.linke@mechatron-gmbh.de

1.4 Emergency telephone

Telephone: +49 (0) 6151 49 244 70 (Mo. – Fr., 8:00 – 17:00)

Responsible/issuing person: Mr. Linke, Tel.: +49 (0) 6151 49 244 70, m.linke@mechatron-gmbh.de

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP)

GHS 07 - Acute Tox. 4 H302 Harmful if swallowed.

GHS 08 - Health hazard STOT RE 2

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

Classification according to Directive 67/548/EWG or Directive 1999/45/EC

Xn; Harmful - R22: Harmful if swallowed.

2.2 Label elements

Labeling according to Regulation (EC) No. 1272/2008:

The mixture is classified and labelled according to the CLP regulation.

Hazard symbols



GHS 07



GHS08



Signal word:

Warning

Hazard statements:

H302 Harmful if swallowed.

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

Precautionary statements:

P260 Do not breathe dust/fumes/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

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

P301+P312

**IF SWALLOWED: Call a POISON CENTER
or doctor if you feel unwell.**

P330 Rinse mouth.

P501 Dispose of contents/container

in accordance with local/regional/national/international regulation.



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2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Environmental hazard:

The product is classified as not harmful to the environment.

Section 3: Composition/information on ingredients

3.1 Chemical characterization:

Trade name: Base: Monoethylene glycol (Ethan-1,2-diol, MEG)

CAS-No: 107-21-1

EG-No: 203-473-3

INDEX-No: 603-027-00-1

Other components: Corrosion inhibitors, additives

Section 4: First aid measures

4.1 Description of first aid measures

General advice: Change contaminated clothing.

Symptoms of poisoning can occur after several hours, therefore medical observation for at least 48 hours after the accident.
Position and transport concerned person in a stable side position.

If inhaled: Bring the concerned person to fresh air and place in a resting position.
Seek medical treatment.

In case of skin contact: Remove contaminated clothing and wash affected skin with soap and plenty of water.
Seek medical advice if symptoms persist.

In case of eye contact: Rinse open eyes for several minutes under running water.
Seek medical advice if symptoms persist.

If swallowed:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting, seek medical treatment immediately.

Never give anything by mouth to an unconscious person.

Try to administer activated carbon or sodium sulphate.

4.2 Most important symptoms and effects, both acute and delayed

No additional information available.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media

Suitable extinguishing media: SMALL FIRE: Use dry chemicals, CO₂, water spray or alcohol-resistant foam.
LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases is possible

Carbon monoxide (CO)

Nitrogen oxides (NO_x)

5.3 Advice for firefighters

Special protective equipment for fire-fighters:

Do not inhale explosion and/or combustion gases.

Wear chemical protection clothing and selfcontained breathing apparatus.

Further information:

Cool endangered containers with water spray jet.

Collect contaminated extinguishing water separately,
do not allow to reach sewage or effluent systems.



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Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation.
Do not inhale vapors / aerosols.
Avoid contact with eyes and skin.

6.2 Environmental precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
Inform respective authorities if the product reaches water or sewage system.
Inform respective authorities if the product penetrates into the ground.

6.3 Methods and materials for containment and cleaning up:

Absorb with liquid-binding material
(e.g. sand, diatomaceous earth, universal binding agents)
and dispose of according to local regulations. (see Section 13.)

6.4 Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Section 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Do not inhale aerosols.
Do not inhale vapors.
Avoid contact with eyes and skin.
Occupational exposure limits (OEL) and / or other threshold values should be considered.

Information on fire and explosion protection:

Vapours may form explosive mixture with air.
Potentially explosive mixtures can form in emptied receptacles.
Keep away from sources of ignition - No smoking.
Take precautionary measures against static charges.
Ex-protection temperature class: T2 (DIN VDE 0165)



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7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements for storerooms and containers:
Store product in closed containers.
Containers must be clean, dry and free of rust.
Store in a cool and well-ventilated room.
Please note legal specifications for water.
TRGS 510 „Storage of hazardous materials in mobile containers“.

Advice on storage assembly:

Do not store together with oxidizing agents.
Do not store together with food and feed.

Storage temperature:

Storage at -20 to 40°C is recommended.

VCI – Storage class:

10-13 other liquids and solids (not LGK 1-8)

7.3 Specific end uses:

No additional information available.

Section 8: Exposure controls/personal protection

8.1 Control parameters:

Components with limit values that require monitoring at the workplace:

Ethan-1,2-diol (Monoethylene glycol, MEG)

CAS-No: 107-21-1

EG-No: 203-473-3

Exposure limit

IOELV European Union (2000/39/EWG)

Ethylene glycol

| | | |
|-----------------|----------------------|----------------------|
| Long-term value | 52 mg/m ³ | 20 ml/m ³ |
|-----------------|----------------------|----------------------|

| | | |
|------------------|-----------------------|----------------------|
| Short-term value | 104 mg/m ³ | 40 ml/m ³ |
|------------------|-----------------------|----------------------|



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AGW (Germany) / TRGS 900

Ethandiol

Value: 26 mg/m³ 10 ml/m³

Peak limit: 2(l)

Skin absorption / sensitization: H

Pregnancy group: Y

Ethan-1,2-diol, CAS 107-21-1 / EC No 203-473-3

| DNEL Werte | Route of exposure | Exposure time | Effect | Value |
|------------|-------------------|-------------------------|----------|----------------------|
| (Employee) | dermal | Long-term (chronically) | systemic | 106 mg/kg/day |
| | inhalative | Long-term (chronically) | local | 35 mg/m ³ |

Ethan-1,2-diol, CAS 107-21-1 / EC No 203-473-3

| DNEL Werte | Route of exposure | Exposure time | Effect | Value |
|------------|-------------------|-------------------------|----------|---------------------|
| (Consumer) | dermal | Long-term (chronically) | systemic | 53 mg/kg/day |
| | inhalative | Long-term (chronically) | local | 7 mg/m ³ |

Ethan-1,2-diol, CAS 107-21-1 / EC No 203-473-3

| PNEC Values | Environmental compartment | Type | Value |
|-------------|---------------------------|----------------------|---------------|
| | Water | Fresh water | 10 mg/Ltr. |
| | Water | Sea water | 1 mg/Ltr. |
| | Water | Fresh water sediment | 20,9 mg/Ltr. |
| | Water | AQUA intermittent | 10 mg/kg |
| | Soil | - | 1,53 mg/kg |
| | Sewage plant (STP) | - | 199,5 mg/Ltr. |

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from food, drink and animal feedingstuffs.

Take off contaminated clothing immediately.

Do not inhale gases / fumes / aerosols.

Avoid contact with skin and eyes.

Do not eat, drink or smoke when working.

Wash hands before breaks and immediately after handling the product.

The usual caution measures while dealing with chemicals have to be observed.

| | |
|--------------------------------|---|
| Respiratory protection: | Breathing apparatus in the event of aerosol or mist formation. No personal respiratory protective equipment normally required. |
| Hand protection: | Chemical-resistant gloves (EN 374) |
| Eye protection: | Tightly fitting goggles (EN 166). |
| Skin protection: | Long sleeved clothing (EN 368). |

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General information

| | |
|----------------------------|------------------------------|
| Physical state: | Liquid |
| Colour: | Cyan |
| Odour: | Odourless |
| Melting point: | -12 °C |
| Boiling point: | 197,6°C |
| Flash point: | 111°C |
| Ignition temperature: | > 400°C |
| pH (20 °C): | 6-8 |
| Explosive properties: | The product is not explosive |
| Explosion limits Lower: | 3,2 Vol% |
| Upper: | 15,0 Vol% |
| Vapour pressure: | <0,053 hPa (25 °C) |
| Density: | 1,12 g / cm ³ |
| pH 1%: | Not determined |
| Water solubility (20° C): | any |
| Oxidizing properties: | no |
| Viscosity: | dynamic at 20 °C 21 mPas |

9.2 Other information

| | |
|-------------------|-------|
| Organic solvents: | 0,0% |
| VOC – EU | 0,00% |
| VOC – CH | 0,00% |



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Section 10: Stability and reactivity

10.1 Reactivity:

No data available.

10.2 Chemical stability:

Stable under normal conditions.

Reacts with strong oxidation agents.

To avoid thermal decomposition do not overheat.

10.3 Possibility of hazardous reactions:

In use formation of flammable/explosive vapour-air mixtures possible.

10.4 Conditions to avoid:

No data available.

10.5 Incompatible materials:

Oxidationsmittel, Perchlorsäure, Alkalihydroxide, Chromylchlorid, Zink, Aluminium

10.6 Hazardous decompositions products:

Carbon monoxide and carbon dioxide.

Section 11: Toxicological information

11.1 Information on toxicological effects:

Ethan-1,2-diol, CAS 107-21-1 / EC No 203-473-3:

| | | |
|----------------------------|-------------|---------------------|
| Acute oral toxicity: | LD 50, Rat | 7712 mg/kg |
| Acute dermal toxicity: | LD50, Mouse | >3500 mg/kg |
| Acute inhalation toxicity: | LC50, Rat | >2,5 mg/l (6 hours) |

Other information:

| | | |
|-----------------|------------|------------------------------|
| Acute toxicity: | LD50, Rat, | intraperitoneally 5010 mg/kg |
| | LD50, Rat, | subcutaneous 2800 mg/kg |
| | LD50, Rat, | intravenous 3260 mg/kg |

Primary irritant effect:

| | |
|-----------------------|--|
| Irritant effect skin: | Light irritation possible. |
| Irritant effect eye: | Short-term and reversible light irritation possible. |
| Sensitization: | No sensitizing effect. |

Severe effects after repeated or prolonged exposure:

May cause damage to organs through prolonged or repeated exposure.

Section 12: Ecological information

12.1 Toxicity

Ethan-1,2-diol, CAS 107-21-1 / EC No 203-473-3:

| | | |
|-------------------|------------------------------------|--------------------|
| Aquatic toxicity: | Fish (Phimephales promelas), LC50: | 72860 mg/l/96h |
| | Daphnia (Daphnia magna), EC50: | 74000 mg/l/24h |
| | Algae green algae I5, EC50: | >10000 mg/l/7 d. |
| | Onchorhynchus mykiss, LC50: | 18500 mg/l/96h |
| | Bakteria (activated sludge), EC20: | >1995 mg/l/30 min. |

12.2 Persistence and degradability :

The product has no harmful effect on the environment.

It is readily biodegraded according to OECD 301E / EEC 84/449 C3.

Elimination: > 70% DOC Zahn-Wellens-Test
> 99% (21d; mod. Sturm-Test)

Valuation: Readily biodegraded.

CSB: 1,29 g O₂/kg
BSB₅: 0,81 g O₂/g
Ratio BSB/CSB: 63%
DOC: 90-100% in 10 days

12.3 Bioaccumulative potential:

No bioaccumulation is expected.

12.4 Mobility in the soil: No data available.

Ecotoxic effects:

With the appropriate introduction of low concentrations into adapted biological wastewater treatment plants, trouble is not to be expected in the decomposition activity of activated sludge.

General information: Water hazard class: WHC 1: slightly hazardous for water

12.5 Results of PBT and vPvB assessment:

PBT: Not determined.

vPvB: Not determined.

12.6 Other adverse effects:

Not determined.

Section 13: Disposal considerations

13.1 Waste treatment methods:

Product:

Should not be disposed of with household waste.
Do not flush into surface water or sanitary sewer system.
Where possible recycling is preferred to disposal.
The waste code number must be agreed with the disposer / manufacturer / competent authority.

Waste disposal number:

Waste key numbers are assigned according to the European Waste Catalogue (EWC) depending on the sector and process type.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal.
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

Section 14: Transport information

14.1 UN number

ADR, ADN, IMDG, IATA: Not applicable

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA: Not applicable

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA: Not applicable

14.4 Packing group

ADR, ADN, IMDG, IATA: Not applicable

14.5 Environmental hazards:

Not applicable

14.6 Special precautions for user:

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

Other information: No hazardous material as defined by the transport regulations.

UN „Model Regulation“: ---

Section 15: Regulatory information

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

Classification according to Regulation (EC) No. 1272/2008 (CLP):

The mixture is classified and labelled according to the CLP regulation.

Pictograms:



GHS07



GHS08

Signal word: Warning

Hazard statements:

H302 Harmful if swallowed.

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

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after use.

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

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

P330 Rinse mouth.

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

PBT: Not applicable

vPvB: Not applicable

National regulatory information:

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Hazardous Incident Ordinance: Annex: unspecified

Technical Instructions (air): Other organic substances (Section 5.2.5) 100%

Water hazard class: WHC 1 (VwVwS) of 17th of May 1999, slightly hazardous to water

15.2 Chemical safety assessment:

Chemical safety assessments for substances in this mixture were not carried out.

Section 16: Other information

Reasons for changes: Changes to classification and labelling.

Department issuing data specification sheet:

Management

Contact: Mr. Linke, Tel.: +49 (0) 6151 49 244 70, m.linke@mechatron-gmbh.de

The information supplied has been based upon the current level of information available.

The security data sheet describes products in regard to their safety requirements.

The indications do not have the meaning of guarantees on properties.