

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006, as retained and amended in UK law [UK REACH]

Revision date: 10/3/2023
Version: 10.0
Replaces version: 9.0
Language: en-GB
Date of print: 4/10/2023

Kryo 30

Material number LZB x09

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

1.1 Product identifier

Trade name: Kryo 30

This safety data sheet pertains to the following products:

LZB 109: 5 L
LZB 209: 10 L
LZB 309: 20 L
LZB 809: 200 L

UFI: 9410-R0R8-7003-EHYO

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

General use: Heat transfer fluids
Industrial use
Professional uses / Public domain

1.3 Details of the supplier of the safety data sheet

Company name: Lauda Dr. R. Wobser GmbH & Co. KG
Street/POB-No.: Laudaplatz 1
Postal Code, city: 97922 Lauda-Königshofen
Germany
WWW: www.lauda.de
E-mail: info@lauda.de
Telephone: +49 (0)9343-503-0
Telefax: +49 (0)9343-503-222

Department responsible for information:
Department Quality Management,
Telephone: +49 9343 503-331, e-mail info@lauda.de

1.4 Emergency telephone number

National Poisons Information Service (Birmingham Unit)
Telephone: 844 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Acute Tox. 4; H302 Harmful if swallowed.

STOT RE 2; H373 May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (CLP)



Signal word: **Warning**

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Hazard statements:	H302 H373	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.
Precautionary statements:	P260 P264 P270 P280 P312 P501	Do not breathe vapours. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Call a POISON CENTER/doctor if you feel unwell. Dispose of contents/container to hazardous or special waste collection point.

Special labelling

Text for labelling: Contains ethylene glycol

2.3 Other hazards

Vapours form explosive mixtures with air.

Endocrine disrupting properties, Results of PBT and vPvB assessment:
No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: A mixture of: Water, ethylene glycol and corrosion inhibitors

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119456816-28-xxxx EC No. 203-473-3 CAS 107-21-1	Ethylene glycol Acute Tox. 4; H302. STOT RE 2; H373.	50 - 60 %

Full text of H- and EUH-statements: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	Immediately remove any contaminated clothing, shoes or stockings. Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.
In case of inhalation:	Provide for adequate fresh air. If victim is at risk of losing consciousness, position and transport on their side. Immediately get medical attention.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. Take off immediately all contaminated clothing. Immediately get medical attention.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Immediately get medical attention.

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4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Potentially, follow up with gastric lavage (if necessary add activated charcoal). Monitoring of electrolytes and renal function.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet, alcohol resistant foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

Combustible. In case of fire may be liberated: Nitrogen oxides (NO_x), carbon monoxide and carbon dioxide. Vapours form explosive mixtures with air.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Hazchem-Code: -

Cool endangered containers with water jetspray.

Do not allow fire water to penetrate into surface or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Do not breathe vapours.

Provide adequate ventilation. Wear appropriate protective equipment.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and material for containment and cleaning up

Plug leak if safely possible.

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal. Final cleaning.

Additional information:

Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Avoid contact with skin and eyes. Do not breathe vapours.
Attention - Avoid exposition - Ask for particular instructions before use.
Provide adequate ventilation, and local exhaust as needed.
Wear appropriate protective equipment.

Precautions against fire and explosion:
Ground/bond container and receiving equipment.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Store container tightly closed in a dry and cool place.
Keep only in the original container.
Protect against heat /sun rays.

Hints on joint storage: Do not store together with oxidizing agents or alkalis.
Keep away from combustible materials.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
107-21-1	Ethylene glycol	Great Britain: WEL-STEL	104 mg/m ³ ; 40 ppm (vapour, may be absorbed through the skin)
		Great Britain: WEL-TWA	10 mg/m ³ (may be absorbed through the skin)
		Great Britain: WEL-TWA	52 mg/m ³ ; 20 ppm (vapour, may be absorbed through the skin)

DNEL/DMEL: Information about ethylene glycol:
DNEL long-term, workers, inhalative, local: 35 mg/m³ (NOAEC: 70 mg/m³)
DNEL long-term, workers, dermal, systemic: 106 mg/kg bw/d (NOAEL: 4452 mg/kg bw/d)
DNEL long-term, consumers, inhalative, local: 7 mg/m³ (NOAEC: 70 mg/m³)
DNEL long-term, consumers, dermal, systemic: 53 mg/kg bw/d (NOAEL: 4452 mg/kg bw/d)

PNEC: Information about ethylene glycol:
PNEC water (freshwater): 10 mg/L
PNEC water (marine water): 1 mg/L
PNEC water (intermittent release): 10 mg/L
PNEC sediment (freshwater): 20.9 mg/kg dw
PNEC soil: 1.53 mg/kg dw
PNEC sewage treatment plant stp: 199.5 mg/L

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

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Personal protection equipment

Occupational exposure controls

Respiratory protection:	Respiratory protection must be worn whenever the WEL levels have been exceeded. Use filter type A (= against vapours of organic substances) according to BS EN 14387. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).
Hand protection:	Protective gloves according to BS EN 374. Glove material: Butyl caoutchouc (butyl rubber) Layer thickness: ≥ 0.7 mm. Breakthrough time: >480 min. Glove material: Nitrile rubber Layer thickness: ≥ 0.4 mm. Breakthrough time: >30 min. Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
Eye protection:	Tightly sealed goggles according to BS EN ISO 16321-1:2022.
Body protection:	Wear suitable protective clothing.
General protection and hygiene measures:	Take off immediately all contaminated clothing. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Physical state at 20 °C and 101.3 kPa: liquid Colour: light yellow
Odour:	characteristic
Odour threshold:	No data available
pH:	at 20 °C, 300 g/L: 8 - 9
Melting point/freezing point:	not determined
Initial boiling point and boiling range:	approx. 108 °C
Flash point/flash point range:	No data available
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: approx. 1.08 g/mL
Water solubility:	at 20 °C: miscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	at 20 °C: approx. 4.1 s
Explosive properties:	Product is not explosive. Vapours form explosive mixtures with air.
Oxidizing characteristics:	No data available

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9.2 Other information

Ignition temperature: approx. 410 °C
Additional information: Solidification point: -54 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapours form explosive mixtures with air.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Protect from excessive heat.

10.5 Incompatible materials

Oxidizing agents, acids, bases

10.6 Hazardous decomposition products

Thermal decomposition: No hazardous decomposition products when regulations for storage and handling are observed.
No data available

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects:	<p>The statements are derived from the properties of the single components. No toxicological data is available for the product as such.</p> <p>Acute toxicity (oral): Acute Tox. 4; H302 = Harmful if swallowed.</p> <p>Acute toxicity (dermal): Lack of data.</p> <p>Acute toxicity (inhalative): Lack of data.</p> <p>Skin corrosion/irritation: Lack of data.</p> <p>Serious eye damage/irritation: Lack of data.</p> <p>Sensitisation to the respiratory tract: Lack of data.</p> <p>Skin sensitisation: Lack of data.</p> <p>Germ cell mutagenicity/Genotoxicity: Lack of data.</p> <p>Carcinogenicity: Lack of data.</p> <p>Reproductive toxicity: Lack of data.</p> <p>Effects on or via lactation: Lack of data.</p> <p>Specific target organ toxicity (single exposure): Lack of data.</p> <p>Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure.</p> <p>Aspiration hazard: Lack of data.</p>
Other information:	<p>Information about ethylene glycol:</p> <p>LD50 Rat, oral: 7712 mg/kg (OECD 401)</p> <p>LD50 Mouse, dermal: > 3500 mg/kg (OECD 402)</p> <p>LD50 Rat, inhalative (aerosol): 2.5 mg/L/6h</p>

Symptoms

In case of inhalation:
Inhalation of high concentration may cause irritations of nose, throat, and respiratory systems.
In case of ingestion: depression of central nervous system, Nausea, vomiting, Dizziness, inebriation
Symptoms may occur with delay. Bluish skin colour
After contact with skin: Danger of cutaneous absorption.
After eye contact: May cause irritations.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	<p>Information about ethylene glycol</p> <p>Algae toxicity: EC50 Pseudokirchneriella subcapitata (green algae): 6500 - 13000 mg/L/96h (EPA 600/9-78-018, 1978)</p> <p>Daphnia toxicity: EC50: >100 mg/L/48h (OECD 202)</p> <p>Fish toxicity: Short-term, LC50 Pimephales promelas (fathead minnow): 72860 mg/L/96h (EPA 600/4-90/027.U.S.) Long-term, NOEC Pimephales promelas (fathead minnow): 15380 mg/L/7d (EPA 600/4-90/027.U.S.)</p>
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12.2 Persistence and degradability

Further details:

Information about ethylene glycol:
Biodegradation: 90 - 100 %/10 d (OECD 301 A). source: BASF AG (1996)
Product is readily biodegradable.
Abiotic degradation:
photolysis (Photo-oxidation, OH-) half-life time (DT50): 46.3 h
source: BASF AG (2007a)
Volatilisation:
Henry constant: 0.1327 Pa m³/mol at 25 °C (calculated, SRC HENRYWIN v3.10)
source: BASF AG (2007c)
The substance will not evaporate from the water surface into the atmosphere.
Environmental distribution (calculation):
Water: 100 %
Air: 0.03 %
Soil: 0 %
Sediment: 0 %
source: BASF AG (2007d)

Effects in sewage plants:

Information about ethylene glycol:
Bacterial toxicity: activated sludge, EC 20: >1995 mg/L/30min (ISO 8192)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

12.4 Mobility in soil

Information about ethylene glycol:
Adsorption coefficient KOC: 1 (calculated, SRC PCKOCWIN v1.66)
source: BASF AG (2007b)

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

General information:

Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 01 14* = antifreeze fluids containing hazardous substances
* = Evidence for disposal must be provided.

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.
Liquid product may not be disposed of with household waste or landfilled. Do not allow to enter into drains/waters or in the soil.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

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SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR: not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR: Not restricted

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR: not applicable

14.4 Packing group

ADR/RID, IMDG, IATA-DGR: not applicable

14.5 Environmental hazards

Marine pollutant: no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: -
No data available

National regulations - EC member states

Further regulations, limitations and legal requirements:
Use restriction according to REACH annex XVII, no.: 3

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

H302 = Harmful if swallowed.

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

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Abbreviations and acronyms:

- Acute Tox.: Acute toxicity
- ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- AS/NZS: Australian Standards/New Zealand Standards
- CAS: Chemical Abstracts Service
- CFR: Code of Federal Regulations
- CLP: Classification, Labelling and Packaging
- DMEL: Derived minimal effect level
- DNEL: Derived no-effect level
- EC: Effective Concentration
- EU: European Community
- EC50: Effective Concentration 50%
- EN: European Standard
- EQ: Excepted quantities
- IATA: International Air Transport Association
- IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
- IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
- IMDG Code: International Maritime Dangerous Goods Code
- LC50: Median lethal concentration
- LD50: Lethal dose 50%
- MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
- OEL: Occupational Exposure Limit Value
- OSHA: Occupational Safety and Health Administration
- PBT: Persistent, bioaccumulative and toxic
- PNEC: Predicted no-effect concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
- STOT RE: Specific target organ toxicity - repeated exposure
- TLV: Threshold Limit Value
- TRGS: Technical Rules for Hazardous Substances
- vPvB: Very persistent and very bioaccumulative
- WEL: Workplace Exposure Limit

Reason of change: Changes in section 1: Product identifier
Date of first version: 29/10/2012

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.