

SAFETY DATA SHEET

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

REFRIFLUID 5

Material number E701250x

Revision date: 3/12/2024

Version: 6.0

Replaces version: 5.0

Language: en-GB

Date of print: 2/6/2025

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

1.1 Product identifier

Trade name: REFRIFLUID 5

UFI: HF30-E0CY-G00F-9RPR

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

General use: Heat transfer fluids
Reserved for industrial and professional use.

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

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

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 (kidney) through prolonged or repeated exposure (oral).

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2.2 Label elements

Labelling (CLP)



Signal word:

Warning

Hazard statements:

H302

Harmful if swallowed.

H373

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

Precautionary statements:

P260

Do not breathe mist/vapours/spray.

P264

Wash hands and face thoroughly after handling.

P314

Get medical advice/attention if you feel unwell.

P501

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

Special labelling

EUH208

Contains Mixture of 5-chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one(3:1). May produce an allergic reaction.

Text for labelling:

Contains: Ethane diol

This product is a with biocidal products treated article.

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% (w/w) or higher. The product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

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3.2 Mixtures

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.	25 - 50 %
REACH 01-2119979083-31-xxxx EC No. 243-283-8 CAS 19766-89-3	Sodium 2-ethylhexanoate Repr. 1B; H360D.	< 0.3 %
list no. 611-341-5 CAS 55965-84-9	Mixture of 5-chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) Acute Tox. 3; H301. Acute Tox. 2; H310. Acute Tox. 2; H330. Skin Corr. 1C; H314. Eye Dam. 1; H318. Skin Sens. 1A; H317. Aquatic Acute 1; H400. Aquatic Chronic 1; H410. (EUH071). Specific concentration limits (SCL): Skin Corr. 1C; H314: $C \geq 0.6\%$ / Skin Irrit. 2; H315: $0.06\% \leq C < 0.6\%$ / Eye Dam. 1; H318: $C \geq 0.6\%$ / Eye Irrit. 2; H319: $0.06\% \leq C < 0.6\%$ Skin Sens. 1A; H317: $C \geq 0.0015\%$ M-factors: Aquatic Acute 1: M = 100. Aquatic Chronic 1: M = 100.	< 0.0015 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	If medical advice is needed, have product container or label at hand. Take off contaminated clothing and wash it before reuse.
In case of inhalation:	Remove person to fresh air and keep comfortable for breathing. Consult physician.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth and drink large quantities of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. May cause damage to kidneys through prolonged or repeated exposure if swallowed.
May cause allergic reactions in already sensitized persons.
Headache, Dizziness, nausea, vomiting, confusion, unconsciousness

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4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Extinguishing is to be in accordance with the surrounding fire.

Recommendation: ABC Extinguishing powder

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

Fires in the immediate vicinity may cause the development of dangerous vapours.

Furthermore, there may develop: carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting 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

Do not breathe mist/vapours/spray. Avoid contact with the substance.

If possible, eliminate leakage. Provide adequate ventilation.

Take off contaminated clothing and wash it before reuse.

Wear appropriate protective equipment. Keep unprotected people away.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

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: Provide adequate ventilation, and local exhaust as needed. Do not breathe mist/vapours/spray.
Do not get in eyes, on skin, or on clothing. Take off contaminated clothing and wash it before reuse.
Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Have eye wash bottle or eye rinse ready at work place.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep containers in a dry, well-ventilated and cool place. Protect from heat and direct sunlight. Store only in original container. Store carefully closed containers upright to prevent any leaks. storage temperature: 5 - 35 °C

Hints on joint storage:

keep away from: oxidizing agents, strong acids, strong bases.
Keep away from food, drink and animal feedingstuffs.

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)

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DNEL/DMEL: Information about Ethane diol (CAS 107-21-1):
 DNEL, workers, inhalative, local, long-term: 35 mg/m³
 DNEL, workers, dermal, systemic, long-term: 106 mg/kg bw/d
 DNEL consumers, inhalative, local, long-term: 7 mg/m³
 DNEL consumers, dermal, systemic, long-term: 53 mg/kg bw/d
 Information about Sodium 2-ethylhexanoate (CAS 19766-89-3):
 DNEL, workers, inhalative, systemic, long-term: 14 mg/m³
 DNEL, workers, dermal, systemic, long-term: 2 mg/kg bw/d
 DNEL, consumers, inhalative, systemic, long-term: 3.5 mg/m³
 DNEL, consumers, dermal, systemic, long-term: 1 mg/kg bw/d
 DNEL, consumers, oral, systemic, long-term: 1 mg/kg bw/d

PNEC: Information about Sodium 2-ethylhexanoate (CAS 19766-89-3):
 PNEC water (freshwater): 0.36 mg/L
 PNEC water (marine water): 0.036 mg/L
 PNEC sediment (freshwater): 0.301 mg/kg dw
 PNEC sediment (marine water): 0.03 mg/kg dw
 PNEC soil: 0.0579 mg/kg dw
 PNEC sewage treatment plant: 71.7 mg/L

8.2 Exposure controls

Provide adequate ventilation, and local exhaust as needed.

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.
 The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Hand protection: Protective gloves according to BS EN ISO 374-1.
 Glove material: low-density polyethylene (LDPE),
 Layer thickness: ≥ 0.062 mm
 Breakthrough time: > 480 min
 Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to BS EN ISO 16321-1.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:
 Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing.
 Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
 Take off contaminated clothing and wash it before reuse.
 Have eye wash bottle or eye rinse ready at work place. Take off contaminated clothing and wash it before reuse.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

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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: transparent, pink
Odour:	characteristic
Odour threshold:	No data available
pH:	at 20 °C: 6 - 8
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	119 °C
Flash point/flash point range:	> 60 °C
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapour pressure:	at 20 °C: 20.65 hPa at 50 °C: 108.84 hPa
Vapour density:	No data available
Density:	at 20 °C: 1.057 g/mL
Solubility:	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	400 °C
Decomposition temperature:	No data available
Viscosity, dynamic:	at 20 °C: 1.49 mPa*s
Viscosity, kinematic:	at 20 °C: 1.41 mm ² /s
Explosive properties:	No data available
Oxidizing characteristics:	No data available

9.2 Other information

Additional information:	No data available
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SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possibility of hazardous reactions".

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.

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10.4 Conditions to avoid

Protect against heat /sun rays. Avoid unenclosed light, fire and other ignition sources.

10.5 Incompatible materials

Oxidizing agents, strong acids, strong bases

10.6 Hazardous decomposition products

No decomposition when used properly.

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Acute Tox. 4; H302 = Harmful if swallowed.
ATEmix calculated: 300 mg/kg < ATEmix ≤ 2,000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix calculated: > 2,000 mg/kg

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
ATEmix calculated (vapours): > 20 mg/L/4h

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

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

Contains Mixture of 5-chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one(3:1). May produce an allergic reaction.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

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

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

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure.

Target organ: Kidneys.

Exposure route: In case of ingestion.

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

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Other information: Information about Ethane diol (CAS 107-21-1):
ATE oral: 500 mg/kg
LD50 Mouse, dermal: > 3,500 mg/kg
LD50 Rat, inhalative (vapour): > 20 mg/L/4h
Information about Sodium 2-ethylhexanoate (CAS 19766-89-3):
LD50 Rat, oral: > 2,000 mg/kg
LD50 Rat, dermal: > 3,500 mg/kg
Information about Mixture of 5-chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (CAS 55965-84-9):
LD50 Rat, oral: 64 mg/kg
LD50 Mouse, dermal: 87.12 mg/kg
LD50 Rat, inhalative (dust/mist): 0.33 mg/L/4h

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about Ethane diol (CAS 107-21-1):
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): 53,000 mg/L/96h
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 51,000 mg/L/48h
Algae toxicity:
EC50 Selenastrum capricornutum (green algae): 24,000 mg/L/168h

12.2 Persistence and degradability

Further details: Information about Ethane diol (CAS 107-21-1):
Biodegradability: 90% / 14d.
Easily bio-degradable.
BOD5: 0.47 g O₂/g
COD: 1.29 g O₂/g
BOD5/COD: 0.36

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
No data available

12.4 Mobility in soil

Information about Ethane diol (CAS 107-21-1):
Henry's Law Constant: 0.1327 Pa m³/mol
Surface tension: 0.04989 N/m

12.5 Results of PBT and vPvB assessment

The product does not contain any substances classified as PBT or vPvB.

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12.6 Other adverse effects

General information: Do not allow to penetrate into soil, waterbodies 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: Dispose of waste according to applicable legislation.

Package

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

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

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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, 75

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Classification procedure: Health hazards: calculation method

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

H301 = Toxic if swallowed.
H302 = Harmful if swallowed.
H310 = Fatal in contact with skin.
H314 = Causes severe skin burns and eye damage.
H317 = May cause an allergic skin reaction.
H318 = Causes serious eye damage.
H330 = Fatal if inhaled.
H360D = May damage the unborn child.
H373 = May cause damage to organs (kidney) through prolonged or repeated exposure (oral).
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.
EUH071 = Corrosive to the respiratory tract.
EUH208 = Contains Mixture of 5-chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one(3:1). May produce an allergic reaction.

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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
- Aquatic Acute: Hazardous to the aquatic environment - acute
- Aquatic Chronic: Hazardous to the aquatic environment - chronic
- AS/NZS: Australian Standards/New Zealand Standards
- ATE: Acute toxicity estimate
- 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: European Community
- EC50: Effective Concentration 50%
- EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
- EN: European Standard
- EQ: Excepted quantities
- Eye Dam.: Eye damage
- Eye Irrit.: Eye irritation
- 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
- IMO: International Maritime Organization
- LC50: Median lethal concentration
- LD50: Lethal dose 50%
- MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
- M-factor: Multiplication factor
- 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
- Repr.: Reproductive toxicity
- RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
- Skin Corr.: Skin corrosion
- Skin Irrit.: Skin irritation
- Skin Sens.: Skin sensitisation
- STOT RE: Specific target organ toxicity - repeated exposure
- TLV: Threshold Limit Value
- TRGS: Technical Rules for Hazardous Substances
- UFI: Unique Formula Identifier
- vPvB: Very persistent and very bioaccumulative
- WEL: Workplace Exposure Limit

Reason of change: Changes in section 1: UFI
 Changes in section 2: Classification, labelling
 Changes in section 3: Composition/information on ingredients
 Changes in section 7: Storage class
 Changes in section 15: National regulations
 General revision

Date of first version: 20/12/2017

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.