

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Thermal Protect Ready-Mix Low Conductivity
Article number: 1001092; 1001093, 1001094

1.2 Relevant identified uses of the substance or mixture and uses advised against**1.2.1 Relevant uses**

Cooling fluid

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet**Company**

Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 47
58256 Ennepetal / GERMANY
Phone +49 2333 911-0
Fax +49 2333 911-444
Homepage www.febi.com
E-mail info@febi.com

Address enquiries to**Technical information**info@febi.com**Safety Data Sheet**info@febi.com**1.4 Emergency telephone number****Advisory body**

Call NHS 111 or a doctor

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture [REGULATION (GB) 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**Hazard pictograms**

The product is required to be labelled in accordance with regulation CLP.

Signal word

WARNING

Contains:

Ethylene glycol

Hazard statements

H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P260 Do not breathe vapours.
P270 Do not eat, drink or smoke when using this product.
P314 Get medical advice / attention if you feel unwell.
P501 Dispose of contents / container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards**Human health dangers**

Contains no ingredients with endocrine-disrupting properties.

Environmental hazards

Does not contain any PBT or vPvB substances.
Contains no ingredients with endocrine-disrupting properties.

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients**3.1 Substances**

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
45 - < 50	Ethylene glycol
	CAS: 107-21-1, EINECS/ELINCS: 203-473-3, EU-INDEX: 603-027-00-1, Reg-No.: 01-2119456816-28-XXXX
	GHS/CLP: Acute Tox. 4: H302 - STOT RE 2: H373

Comment on component parts

For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Take off contaminated clothing and wash before reuse.
If you feel unwell, seek medical advice.

Inhalation

Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact

In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion

Consult a doctor immediately.
Rinse out mouth and give plenty of water to drink.
Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
If swallowed or in the event of vomiting, risk of product entering the lungs.
Forward this sheet to your doctor.

SECTION 5: Fire-fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Fire extinguishing method of surrounding areas must be considered.
Foam, dry powder, water spray jet, carbon dioxide

Extinguishing media that must not be used

Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Do not inhale explosion and/or combustion gases.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

High risk of slipping due to leakage/spillage of product.
Ensure adequate ventilation.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid contact with eyes and skin. Use personal protective equipment.

Take off contaminated clothing and wash before reuse.
Do not eat, drink or smoke when using this product.
Use barrier skin cream.
Wash hands before breaks and after work.
Contaminated work clothing should not be allowed out of the workplace.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.
Do not store together with oxidizing agents.
Do not store with alkalies.
Do not store together with acids.
Do not store together with food and animal food/diet.
Keep container tightly closed.
Keep container in a well-ventilated place.
Protect from heat/overheating and from sun.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection**8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (UK)**

Substance
Ethylene glycol
CAS: 107-21-1, EINECS/ELINCS: 203-473-3, EU-INDEX: 603-027-00-1, Reg-No.: 01-2119456816-28-XXXX
Long-term exposure: 20 ppm, 52 mg/m ³ , Vapour, particulate: 10 mg/m ³
Short-term exposure (15-minute): 40 ppm, 104 mg/m ³

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

Substance / EC LIMIT VALUES
Ethylene glycol
CAS: 107-21-1, EINECS/ELINCS: 203-473-3, EU-INDEX: 603-027-00-1, Reg-No.: 01-2119456816-28-XXXX
Eight hours: 20 ppm, 52 mg/m ³ , H
Short-term (15-minute): 40 ppm, 104 mg/m ³

DNEL

Substance
Ethylene glycol, CAS: 107-21-1
Industrial, dermal, Long-term - systemic effects, 106 mg/kg bw/d
Industrial, inhalative, Long-term - local effects, 35 mg/m ³
general population, dermal, Long-term - systemic effects, 53 mg/kg bw/d
general population, inhalative, Long-term - local effects, 7 mg/m ³

PNEC

Substance
Ethylene glycol, CAS: 107-21-1
freshwater, 10 mg/L
seawater, 1 mg/L
sediment (freshwater), 37 mg/kg
soil, 1,53 mg/kg
sewage treatment plants (STP), 199,5 mg/kg
sediment (seawater), 3,7 mg/kg

8.2 Exposure controls**Additional advice on system design**

Ensure adequate ventilation on workstation.
Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

Eye protection

Safety glasses. (EN 166:2001)

Hand protection

The details concerned are recommendations. Please contact the glove supplier for further information.
> 0,4 mm Nitrile rubber, >480 min (EN 374-1/-2/-3).

Skin protection

Protective clothing (EN 340)

Other

Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Avoid contact with eyes and skin.
Do not inhale vapours.

Respiratory protection

If workplace limit values are exceeded or if there is insufficient ventilation:
Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

Thermal hazards

none

Delimitation and monitoring of the environmental exposition

Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state	liquid
Form	liquid
Color	blue
Odor	characteristic
Odour threshold	No information available.
pH-value	7,3 (20°C; ASTM D 1287)
pH-value [1%]	No information available.
Boiling point or initial boiling point and boiling range [°C]	No information available.
Flash point [°C]	> 60
Flammability	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/cm ³]	1,069 (20°C; ASTM D 1122)
Relative density	No information available.
Bulk density [kg/m ³]	not applicable
Solubility in water [g/L]	No information available.
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	not applicable
Kinematic viscosity	3,7 mm ² /s (20°C; ASTM D 445)
Relative vapour density	No information available.
Melting point [°C]	-37 (OECD 102)
Auto-ignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	No information available.
Particle characteristics	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity**10.1 Reactivity**

Reactions with strong oxidizing agents, strong acids and alkalis.
Reactions with reducing agents.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

See SECTION 10.3.

10.4 Conditions to avoid

Excessive heating
Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

In the case of heating following (decomposition) products may occur:

Toxic gases/vapours.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity Based on the available information, the classification criteria are fulfilled.

Product
ATE-mix, oral, 603,75 mg/kg
Substance
Ethylene glycol, CAS: 107-21-1
LD50, oral, Rat, > 2000 mg/kg (IUCLID)
LD50, oral, Human, 786 mg/kg (RTECS)

Acute dermal toxicity Based on the available information, the classification criteria are not fulfilled.

Substance
Ethylene glycol, CAS: 107-21-1
LD50, dermal, mouse, > 3500 mg/kg (ECHA)
LD50, dermal, Rabbit, > 5000 mg/kg

Acute inhalational toxicity Based on the available information, the classification criteria are not fulfilled.

Substance
Ethylene glycol, CAS: 107-21-1
LC50, inhalativ (mist), Rat, > 2,5 mg/l/6h (ECHA)

Serious eye damage/irritation Based on the available information, the classification criteria are not fulfilled.

Skin corrosion/irritation Based on the available information, the classification criteria are not fulfilled.

Respiratory or skin sensitisation Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — single exposure Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure May cause damage to organs through prolonged or repeated exposure.
Calculation method

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Aspiration hazard Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties Contains no ingredients with endocrine-disrupting properties.

11.2.2 Other information none

SECTION 12: Ecological information**12.1 Toxicity**

Based on the available information, the classification criteria are not fulfilled.

Substance
Ethylene glycol, CAS: 107-21-1
LC50, (96h), Oncorhynchus mykiss, > 18500 mg/l
EC50, (24h), Daphnia magna, 74000 mg/l
EC5, (16h), Pseudomonas putida, > 10000 mg/l (Lit.)
IC5, Scenedesmus quadricauda (alga), > 10000 mg/l/7d (Lit.)

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability

Substance
Ethylene glycol, CAS: 107-21-1
The product is readily biodegradable.

12.3 Bioaccumulative potential

Substance
Ethylene glycol, CAS: 107-21-1
log Pow, -1,93

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

Ecological data of complete product are not available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Disposal in an incineration plant in accordance with the regulations of the local authorities.

Waste no. (recommended)

160114*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information**14.1 UN number or ID number**

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

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Date printed 06.02.2026, Revision 06.02.2026

Version 1.0

Page 9 / 10

14.4 Packing group

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EG (2000/532/EC); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 2024/573; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707
- Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances $\geq 0.1\%$ that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances $\geq 0.1\%$ that are restricted. According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions. 3
TRANSPORT-REGULATIONS	ADR (2025); IMDG-Code (2025, 42. Amdt.); IATA-DGR (2026, 67th Edition)
NATIONAL REGULATIONS (UK):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for young people.
- VOC (2010/75/CE)	No information available.

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H373 May cause damage to organs through prolonged or repeated exposure.
H302 Harmful if swallowed.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 EL50 = Median effective loading
 ELINCS = European List of Notified Chemical Substances
 EmS = Emergency Schedules
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 IVIS = In vitro irritation score
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 LL50 = Median lethal loading
 LQ = Limited Quantities
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV®/TWA = Threshold limit value – time-weighted average
 TLV®STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Acute Tox. 4: H302 Harmful if swallowed. (Calculation method)
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)

Modified position

none