

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

### 1.1 Product identifier

**febi 19400 antifreeze**  
**Article number: 22278, 22276, 19402, 19400, 33831, 79400**

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

#### 1.2.1 Relevant uses

Anti-freezing agents

#### 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](http://www.febi.com)  
E-mail [info@febi.com](mailto:info@febi.com)

#### Address enquiries to

**Technical information** [info@febi.com](mailto:info@febi.com)  
**Safety Data Sheet** [info@febi.com](mailto:info@febi.com)

### 1.4 Emergency telephone number

**Advisory body** +49 (0)89-19240 (24h) (English)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Acute Tox. 4: H302 Harmful if swallowed.  
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.  
Eye Irrit. 2: H319 Causes serious eye irritation.  
Repr. 2: H361d Suspected of damaging the unborn child.

### 2.2 Label elements

The product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200 (HCS 2012)

#### Hazard pictograms



#### Signal word

WARNING

#### Contains:

Ethylene glycol EINECS: 203-473-3  
potassium 2-ethylhexanoate EINECS: 221-625-7

#### Hazard statements

H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H319 Causes serious eye irritation.  
H361d Suspected of damaging the unborn child.

#### 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 vapors.  
P270 Do not eat, drink or smoke when using this product.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P314 Get medical advice/attention if you feel unwell.  
GHS.P501-2  
P280 Wear eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

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Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 2 / 13

**2.3 Other hazards**

<b>Human health dangers</b>	If swallowed or in the event of vomiting, risk of product entering the lungs. Frequent persistent contact with the skin can cause skin irritation.
<b>Environmental hazards</b>	Does not contain any PBT or vPvB substances.
<b>Other hazards</b>	none

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

**Product-type:**

3.2 The product is a mixture.

Range [%]	Substance
80 - 90	Ethylene glycol CAS: 107-21-1
1 - < 2,5	potassium 2-ethylhexanoate CAS: 3164-85-0

**Comment on component parts** Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.  
For full text of H-statements and R-phrases: see SECTION 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>General information</b>	Take off contaminated clothing and wash before reuse.
<b>Inhalation</b>	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
<b>Skin contact</b>	In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Do not induce vomiting. Consult a doctor immediately. Rinse out mouth and give plenty of water to drink.

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

Headache  
Drowsiness

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

Treat symptomatically.  
Forward this sheet to the doctor.

**SECTION 5: Fire-fighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	Carbon dioxide. Water spray jet. Dry powder. Foam.
<b>Extinguishing media that must not be used</b>	Full water jet.

**5.2 Special hazards arising from the substance or mixture**

Risk of formation of toxic pyrolysis products.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus.

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.  
Forms slippery surfaces with water.

### 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.  
The product is combustible.  
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 together with food and animal food/diet.  
Keep container tightly closed.  
Keep container in a well-ventilated place.  
Protect from heat/overheating.

### 7.3 Specific end use(s)

See product use, SECTION 1.2



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Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 4 / 13

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Ingredients with occupational exposure limits to be monitored (US)**

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 <sup>3</sup> , EU
Short-term exposure (15-minute): 40 ppm, 104 mg/m <sup>3</sup>

**DNEL**

Substance
Ethylene glycol, CAS: 107-21-1
Industrial, dermal, Long-term - systemic effects: 106 mg/m <sup>3</sup> .
Industrial, inhalative, Long-term - local effects: 35 mg/m <sup>3</sup> .
general population, dermal, Long-term - systemic effects: 53 mg/m <sup>3</sup> .
general population, inhalative, Long-term - local effects: 7 mg/m <sup>3</sup> .
potassium 2-ethylhexanoate, CAS: 3164-85-0
Industrial, dermal, Long-term - systemic effects: 5,95 mg/kg bw/d.
Industrial, inhalative, Long-term - systemic effects: 32 mg/m <sup>3</sup> .
general population, oral, Long-term - systemic effects: 2,5 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 2,98 mg/kg bw/d.
general population, inhalative, Long-term - systemic effects: 8 mg/m <sup>3</sup> .

**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/l (AF=10).
sediment (seawater), 3,7 mg/kg.
potassium 2-ethylhexanoate, CAS: 3164-85-0
soil, 1.06 mg/kg.
sediment (seawater), 637 µg/kg.
sediment (freshwater), 6.37 mg/kg.
sewage treatment plants (STP), 71.7 mg/L.
seawater, 36 µg/L.
freshwater, 360 µg/L.

**Ferdinand Bilstein GmbH + Co. KG**

Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 5 / 13

**8.2 Exposure controls**

<b>Additional advice on system design</b>	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.
<b>Eye protection</b>	Safety glasses. (EN 166:2001)
<b>Hand protection</b>	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).
<b>Skin protection</b>	Light protective clothing.  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 vapors.
<b>Respiratory protection</b>	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
<b>Thermal hazards</b>	No information available.
<b>Delimitation and monitoring of the environmental exposition</b>	Comply with applicable environmental regulations limiting discharge to air, water and soil.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

<b>Form</b>	liquid
<b>Color</b>	violet
<b>Odor</b>	faintly
<b>Odor threshold</b>	No information available.
<b>pH-value</b>	7,5 - 9 (33%)
<b>pH-value [1%]</b>	No information available.
<b>Boiling point [°C]</b>	No information available.
<b>Flash point [°C]</b>	> 110 (DIN 51758)
<b>Flammability [°C]</b>	not applicable
<b>Lower explosion limit</b>	No information available.
<b>Upper explosion limit</b>	No information available.
<b>Oxidizing properties</b>	no
<b>Vapor pressure/gas pressure [kPa]</b>	<0,01 (20°C)
<b>Density [g/ml]</b>	ca. 1,123 (DIN 51757) (20 °C / 68,0 °F)
<b>Bulk density [kg/m<sup>3</sup>]</b>	not applicable
<b>Solubility in water</b>	miscible
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Viscosity</b>	ca. > 22 mm <sup>2</sup> /s (20°C) (DIN 51562)
<b>Relative vapor density determined in air</b>	No information available.
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	No information available.
<b>Autoignition temperature [°C]</b>	> 400 (DIN 51757)
<b>Decomposition temperature [°C]</b>	No information available.

**9.2 Other information**

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reactions known if used as directed.

### 10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

### 10.3 Possibility of hazardous reactions

Reactions with acids, alkalies and oxidizing agents.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

See SECTION 10.3.  
Oxidizing agent  
strong acids

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.



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Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 7 / 13

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

Product
inhalative, Based on the information available, the classification criteria have not been fulfilled.:
dermal, Based on the information available, the classification criteria have not been fulfilled.:
ATE-mix, oral, 524,6 mg/kg bw.
Substance
Ethylene glycol, CAS: 107-21-1
LD50, dermal, mouse: > 3500 mg/kg.
LD50, oral, Rat: 7712 mg/kg.
LC50, inhalative, Rat: > 2,5 mg/l 6h.
LDLo, oral, Human: ca. 1600 mg/kg.
potassium 2-ethylhexanoate, CAS: 3164-85-0
LD50, dermal, Rabbit: 2000 mg/kg bw.
LD50, oral, Rat: 2043 mg/kg bw.
LC50, inhalative, Rat: 110 mg/m <sup>3</sup> (8 h).

<b>Serious eye damage/irritation</b>	Toxicological data of complete product are not available. Irritant Calculation method
<b>Skin corrosion/irritation</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>Respiratory or skin sensitisation</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>Specific target organ toxicity — repeated exposure</b>	Toxicological data of complete product are not available. May cause damage to organs through prolonged or repeated exposure. Calculation method
<b>Mutagenicity</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>Reproduction toxicity</b>	Suspected of damaging the unborn child. Calculation method
<b>Carcinogenicity</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>Aspiration hazard</b>	Based on the information available, the classification criteria have not been fulfilled.
<b>General remarks</b>	Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.



**Ferdinand Bilstein GmbH + Co. KG**

Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 8 / 13

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product
Based on the information available, the classification criteria have not been fulfilled.:
Substance
Ethylene glycol, CAS: 107-21-1
LC50, (96h), Pimephales promelas: 72 860 mg/l.
EC50, (96h), Selenastrum capricornutum: 6500 - 13000 mg/l.
EC50, (48h), Daphnia magna: > 100 mg/l OECD 202.
potassium 2-ethylhexanoate, CAS: 3164-85-0
LC50, (96h), fish: 100 mg/L.
EC50, (6d), Algae: 49.3 mg/L.
EC50, (48h), Crustacea: 85.4 mg/L.

**12.2 Persistence and degradability**

<b>Behaviour in environment compartments</b>	not determined
<b>Behaviour in sewage plant</b>	not determined
<b>Biological degradability</b>	Inherently biodegradable.

**12.3 Bioaccumulative potential**

No information available.

**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 Other adverse effects**

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.  
Do not discharge product unmonitored into the environment or into the drainage.  
Ecological data of complete product are not available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

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

**Contaminated packaging**

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

**RCRA Hazard Class (40 CFR 261)**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.





Ferdinand Bilstein GmbH + Co. KG

Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 9 / 13

## SECTION 14: Transport

### 14.1 UN 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

DOT Road Shipment Information (49 CFR) 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"

DOT Road Shipment Information (49 CFR) 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

DOT Road Shipment Information (49 CFR) not applicable



**Ferdinand Bilstein GmbH + Co. KG**

Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 10 / 13

**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

DOT Road Shipment Information (49 CFR) 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

DOT Road Shipment Information (49 CFR) no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

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

not applicable

## SECTION 15: Regulatory information

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

#### US Regulations

##### National regulations

29 CFR 1910.1200-HCS 2012, OSHA-PEL, ACGIH-TLV, NTP, IARC, SARA Title III, NFPA, TSCA, California - Prop. 65

- SARA, 302
- SARA, 311
- SARA, 313
- CA Proposition 65



WARNING: This product can expose you to chemicals including "Ethylene glycol (ingested)-CAS 107-21-1", which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)."

##### - TSCA

All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.

##### - FDA

##### American Conference of Governmental Industrial Hygienists - ACGIH

##### International Agency for Research on Cancer IARC

##### National Toxicology Program - NTP HAP-VOC

Ethylene glycol is named in the NTP - National Toxicology Program.

##### Transport-regulations

DOT-Classification, ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)

### 15.2 Chemical safety assessment

not applicable

## SECTION 16: Other information

### 16.1 Hazard statements (SECTION 03)

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H361d Suspected of damaging the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H302 Harmful if swallowed.



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Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 12 / 13

## 16.2 Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists;  
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;  
CAS = Chemical Abstracts Service;  
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;  
CFR = Code of Federal Regulations;  
CPR = Controlled Products Regulations;  
DMEL = Derived Minimum Effect Level;  
DNEL = Derived No Effect Level;  
DOT = Department of Transportation;  
EC50 = Median effective concentration;  
EPA = Environmental Protection Agency;  
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;  
IARC = International Agency of Research on Cancer;  
IATA = International Air Transport Association;  
TSCA = Toxic Substance Control Act;  
HMIS = Hazardous Materials Identification System;  
NFFPA = National Fire Protection Association;  
NIOSH = National Institute for Occupational Safety and Health;  
OSHA = Occupational Safety and Health Administration;  
LC50 = Lethal concentration, 50%;  
LD50 = Median lethal dose, 50%;  
MARPOL = International Convention for the Prevention of Marine Pollution from Ships;  
PBT = Persistent, Bioaccumulative and Toxic substance;  
PNEC = Predicted No-Effect Concentration;  
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals;  
SARA = Superfund Amendments and Reauthorization Act;  
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;



**Ferdinand Bilstein GmbH + Co. KG**

Date printed 28.10.2019, Revision 28.10.2019

Version 08. Supersedes version: 07

Page 13 / 13

**16.3 Ratings**

**NFPA Ratings**



TOP, FLAMMABILITY: 1 - Slight Hazard  
 LEFT, HEALTH: 2 - Moderate Hazard  
 RIGHT, REACTIVITY: 1 - Slight Hazard  
 BOTTOM, SPECIAL NOTICE: -

**HMIS Ratings**

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X

2\* - Moderate chronic Hazard  
 1 - Slight Hazard  
 1 - Slight Hazard  
 X - Personal protection rating to be supplied by user depending on use conditions

**PERSONAL PROTECTION:**

- A - Safety Glasses
- B - Safety Glasses and Gloves
- C - Safety Glasses, Gloves and Protection Apron
- D - Face Shield, Gloves and Protection Apron
- E - Safety Glasses, Gloves and Dust Respirator
- F - Safety Glasses, Gloves, Protection Apron and Dust Respirator
- G - Safety Glasses, Gloves and Vapor Respirator.
- H - Splash Goggles, Gloves, Protection Apron and Vapor Respirator.
- I - Safety Glasses, Gloves, Dust Respirator and Vapor Respirator.
- J - Splash Goggles, Gloves, Protection Apron, Dust Respirator and Vapor Respirator.
- K - Airline Mask or Hood, Gloves, Full Suit and Boots.
- X - Personal protection rating to be supplied by user depending on use conditions

**Modified position**

SECTION 15 been added: WARNING: This product can expose you to chemicals including "[x]", which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)."

SECTION 15 deleted: WARNING: This product can expose you to chemicals including "[x]", which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

SECTION 15 been added: WARNING: This product can expose you to chemicals including "[x]", which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

SECTION 15 deleted: