

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

**febi 171998 antifreeze Ready Mix G11 (-35°C)**  
**Article number: 171998, 171999, 172003**  
**UFI: 0TAC-MG39-G00Y-GY1G**

**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**

For all uses not specified in SECTION 1.2.1

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

**Company** +49 2333 911-0

**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 if swallowed. (kidneys)

**2.2 Label elements****Hazard pictograms****Signal word**

WARNING

**Contains:**

Ethylene glycol

**Hazard statements**

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

**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 / spray.  
 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.  
 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.

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## 2.3 Other hazards

<b>Human health dangers</b>	It is essential for pregnant women to avoid inhaling the product and not to let it come in contact with the skin.
<b>Environmental hazards</b>	Does not contain any PBT or vPvB substances.
<b>Other hazards</b>	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
40 - 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
1 - 2	Sodium 2-ethylhexanoate CAS: 19766-89-3, EINECS/ELINCS: 243-283-8 GHS/CLP: Repr. 2: H361d

**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: see SECTION 16.

## SECTION 4: First aid measures

## 4.1 Description of first aid measures

<b>General information</b>	Change soaked clothing.
<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>	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.
<b>Ingestion</b>	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

Tiredness  
Unconsciousness  
Headache  
Vertigo

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

Treat symptomatically.  
Forward this sheet to your 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, carbon monoxide (CO), not combusted hydrocarbons

## 5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance with 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.

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 with the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provide solvent-resistant and impermeable floor.

Use solvent-resistant equipment.

Use only in well-ventilated areas.

Keep away from all sources of ignition - Refrain from smoking.

Take precautionary measures against static discharges.

Vapours can form an explosive mixture with air.

Remove soiled or soaked clothing immediately.

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

Wash hands before breaks and after work.

Use barrier skin cream.

Contaminated work clothing should not be allowed out of the workplace.

Take off contaminated clothing and wash before reuse.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not store together with oxidizing agents.

Do not store with alkalis.

Do not store together with food and animal food/diet.

Protect from heat/overheating and from sun.

Keep container in a well-ventilated place.

Keep container tightly closed.

Recommended storage temperature: < 40°C

### 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 (GB)**

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> , Vapour, particulate: 10 mg/m <sup>3</sup>
Short-term exposure (15-minute): 40 ppm, 104 mg/m <sup>3</sup>

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

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

**DNEL**

Substance
Sodium 2-ethylhexanoate, CAS: 19766-89-3
Industrial, dermal, Long-term - systemic effects, 2 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 14 mg/m <sup>3</sup>
general population, oral, Long-term - systemic effects, 1 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 1 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 3.5 mg/m <sup>3</sup>
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>

**PNEC**

Substance
Sodium 2-ethylhexanoate, CAS: 19766-89-3
soil, 57.9 µg/kg soil dw
sediment (seawater), 30.1 µg/kg sediment dw
sediment (freshwater), 301 µg/kg sediment dw
sewage treatment plants (STP), 71.7 mg/L
seawater, 36 µg/L
freshwater, 360 µg/L
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

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## 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. 0,45 mm Nitrile rubber, >480 min (EN 374-1/-2/-3).
<b>Skin protection</b>	Light protective clothing.
<b>Other</b>	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. It is essential for pregnant women to avoid inhaling the product and not to let it come in contact with the skin.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)
<b>Thermal hazards</b>	none
<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>Physical state</b>	liquid
<b>Color</b>	blue
<b>Odor</b>	characteristic
<b>Odour threshold</b>	No information available.
<b>pH-value</b>	7,5 - 11
<b>pH-value [1%]</b>	not determined
<b>Boiling point [°C]</b>	>107
<b>Flash point [°C]</b>	No information available.
<b>Flammability (solid, gas) [°C]</b>	not applicable
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	0,123 hPA (25°C)
<b>Density [g/cm³]</b>	1,06 - 1,08
<b>Relative density</b>	not determined
<b>Bulk density [kg/m³]</b>	not applicable
<b>Solubility in water</b>	miscible
<b>Solubility other solvents</b>	No information available.
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Kinematic viscosity</b>	No information available.
<b>Relative vapour density</b>	No information available.
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	-35
<b>Auto-ignition temperature</b>	440
<b>Decomposition temperature [°C]</b>	No information available.
<b>Particle characteristics</b>	No information available.

## 9.2 Other information

none

## 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 strong oxidizing agents.  
Reactions with acids.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

No information available.

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

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## SECTION 11: Toxicological information

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

## Acute oral toxicity

Product
ATE-mix, oral, > 300 mg/kg bw
Substance
Sodium 2-ethylhexanoate, CAS: 19766-89-3
LD50, oral, Rat, 2043 mg/kg bw, OECD 401
Ethylene glycol, CAS: 107-21-1
LD50, oral, Rat, 7712 mg/kg bw
ATE, oral, 500 mg/kg (Acute Tox. 4)

## Acute dermal toxicity

Substance
Sodium 2-ethylhexanoate, CAS: 19766-89-3
LD50, dermal, Rat, 2000 mg/kg bw, OECD 402, 24h
Ethylene glycol, CAS: 107-21-1
LD50, dermal, mouse, >3500 mg/kg bw

## Acute inhalational toxicity

Substance
Sodium 2-ethylhexanoate, CAS: 19766-89-3
LC0, inhalative, Rat, 0.11 mg/L air, OECD 403, 8h
Ethylene glycol, CAS: 107-21-1
LC50, inhalative, Rat, >2.5 mg/L air, 6h

## Serious eye damage/irritation

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

Substance
Ethylene glycol, CAS: 107-21-1
Eye, non-irritating

## Skin corrosion/irritation

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

Substance
Ethylene glycol, CAS: 107-21-1
dermal, non-irritating

## Respiratory or skin sensitisation

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

Substance
Ethylene glycol, CAS: 107-21-1
dermal, non-sensitizing

## Specific target organ toxicity — single exposure

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

## Specific target organ toxicity — repeated exposure

May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys)  
Calculation method

Substance
Ethylene glycol, CAS: 107-21-1

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NOAEL, dermal, Dog, 2200 mg/kg bw/day, adverse effect observed

NOEL, oral, Rat, 150 mg/kg bw/day, OECD 408, adverse effect observed

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

Substance

Ethylene glycol, CAS: 107-21-1

in vitro, no adverse effect observed

**Reproduction toxicity** (CAS: 19766-89-3): This product contains one or more substances of categorie Repr. 2 (CLP). Based on the available information, the classification criteria are not fulfilled.  
Calculation method

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

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

**General remarks**

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. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

**11.2 Information on other hazards**

**Endocrine disrupting properties** No information available.

**Other information** none

**SECTION 12: Ecological information****12.1 Toxicity**

Substance

Sodium 2-ethylhexanoate, CAS: 19766-89-3

LC50, (96h), *Oryzias latipes*, >100 mg/l (OECD 203)EC50, (72h), *Desmodemus subspicatus*, 49,3 mg/lNOEC, (21d), *Daphnia magna*, 25 mg/l (OECD 211)EC0, (48h), *Daphnia magna*, 62,5 mg/l (Directive 79/831/EEC, Annex V, Part C)

Ethylene glycol, CAS: 107-21-1

LC50, (28d), fish, 1,5 g/L

LC50, (3d), fish, 72.86 g/L

EC50, (4d), Invertebrates, 3,536 - 13 g/L

EC50, (21d), Invertebrates, 33,911 g/L

EC50, (48h), Invertebrates, 100 mg/L

**12.2 Persistence and degradability**

**Behaviour in environment compartments** not determined

**Behaviour in sewage plant** not determined

**Biological degradability** The product is biodegradable.

**12.3 Bioaccumulative potential**

Product has having no bioaccumulation potential.

**12.4 Mobility in soil**

No information available.





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**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**

No information available.

**12.7 Other adverse effects**

Ecological data of complete product are not available.

Do not discharge product unmonitored into the environment or into the drainage.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

**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**

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.

**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"



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**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

**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**

<b>EEC-REGULATIONS</b>	2008/98/EC 2000/532/EC; 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
<b>TRANSPORT-REGULATIONS</b>	ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2022)
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
<b>- Observe employment restrictions for people</b>	Observe employment restrictions for young people. Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for women of child-bearing age.
<b>- VOC (2010/75/CE)</b>	0 %

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## 15.2 Chemical safety assessment

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

## SECTION 16: Other information

## 16.1 Hazard statements (SECTION 3)

H361d Suspected of damaging the unborn child.

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 if swallowed. (kidneys) (Calculation method)

## Modified position

none

**Safety Data Sheet (UK REACH) (GB)**

**febi 171998 antifreeze Ready Mix G11 (-35°C) Article number 171998, 171999,  
172003**



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