

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

### 1.1 Product identifier

**antifreeze**  
**Article number: 22270, 22268, 05011, 01089, 31276, 77089, 80933**  
**UFI: J45Y-00PW-W00A-SVAJ**

### 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](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 [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

The product is required to be labelled in accordance with EC-Directives.

#### 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.

**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.  
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.

### 2.3 Other hazards

**Environmental hazards** Does not contain any PBT or vPvB substances.

**Other hazards** none

### SECTION 3: Composition / Information on ingredients

#### 3.1 Substances

not applicable

#### 3.2 Mixtures

The product is a mixture.

Range [%]	Substance
90 - 95	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 - < 2.5	Potassium isononanoate CAS: 84501-71-3, EINECS/ELINCS: 282-991-1 GHS/CLP: Skin Irrit. 2: H315 - Eye Irrit. 2: H319
0.1 - < 0.3	Methyl-1H-benzotriazole CAS: 29385-43-1, EINECS/ELINCS: 249-596-6, Reg-No.: 01-2119979081-35-XXXX GHS/CLP: Acute Tox. 4: H302 - Aquatic Chronic 2: H411 - Repr. 2: H361d

#### Comment on component parts

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

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

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Foam, dry powder, water spray jet, carbon dioxide
<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)

### 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.  
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, 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

Use only in well-ventilated areas.

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.  
Take off contaminated clothing and wash before reuse.

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

Keep only in original container.  
Prevent penetration into the ground.  
  
Do not store together with food and animal food/diet.  
Do not store together with oxidizing agents.  
  
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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**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
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>
Methyl-1H-benzotriazole, CAS: 29385-43-1
Industrial, dermal, Long-term - systemic effects, 300 µg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 21.2 mg/m <sup>3</sup>
general population, oral, Long-term - systemic effects, 10 µg/kg bw/day
general population, dermal, Long-term - systemic effects, 10 µg/kg bw/day
general population, inhalative, Long-term - systemic effects, 350 µg/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
Methyl-1H-benzotriazole, CAS: 29385-43-1
soil, 18.7 µg/kg soil dw
sediment (seawater), 292 µg/kg sediment dw
sediment (freshwater), 117 µg/kg sediment dw
sewage treatment plants (STP), 39.4 mg/L
seawater, 20 µg/L
freshwater, 8 µg/L

## 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>	If there is a risk of splashing: safety glasses
<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
<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. Do not inhale vapours.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, filter P2. (DIN EN 143)
<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>Form</b>	liquid
<b>Color</b>	dark blue
<b>Odor</b>	mild
<b>Odour threshold</b>	not relevant
<b>pH-value</b>	ca. 7.5 - 8.5 (50%)
<b>pH-value [1%]</b>	No information available.
<b>Boiling point [°C]</b>	No information available.
<b>Flash point [°C]</b>	> 100 (DIN 51758))
<b>Flammability</b>	No information available.
<b>Lower explosion limit</b>	No information available.
<b>Upper explosion limit</b>	No information available.
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	< 0.01 kPa (20°C)
<b>Density [g/cm³]</b>	ca. 1.12 (DIN 51 757) (20 °C / 68,0 °F)
<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>	No information available.
<b>Auto-ignition temperature [°C]</b>	No information available.
<b>Decomposition temperature [°C]</b>	No information available.
<b>Particle characteristics</b>	No information available.

## 9.2 Other information

Pour point: --38 (50% in H<sub>2</sub>O) °C

## 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

See SECTION 7.2.

### 10.5 Incompatible materials

Oxidizing agent  
Acids

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

**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, 538.7 mg/kg bw
Substance
Ethylene glycol, CAS: 107-21-1
LD50, oral, Rat, 7712 mg/kg bw
ATE, oral, 500 mg/kg (Acute Tox. 4)
Methyl-1H-benzotriazole, CAS: 29385-43-1
LD50, oral, Rat, 720 mg/kg
NOAEL, oral, Rat, 150 mg/kg bw/day

**Acute dermal toxicity**

Product
dermal, Based on the available information, the classification criteria are not fulfilled.
Substance
Ethylene glycol, CAS: 107-21-1
LD50, dermal, mouse, > 3500 mg/kg bw
Methyl-1H-benzotriazole, CAS: 29385-43-1
LD50, dermal, Rabbit, 2000 mg/kg bw

**Acute inhalational toxicity**

Product
inhalative, Based on the available information, the classification criteria are not fulfilled.
Substance
Ethylene glycol, CAS: 107-21-1
LC50, inhalative, Rat, > 2.5 mg/L air, 6h

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

Substance
Ethylene glycol, CAS: 107-21-1
Eye, Rabbit, In vivo study, non-irritating

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

Substance
Ethylene glycol, CAS: 107-21-1
dermal, Rabbit, In vivo study, non-irritating

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

Substance
Ethylene glycol, CAS: 107-21-1
dermal, Guinea pig, In vivo study, non-sensitizing



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

**Specific target organ toxicity — repeated exposure** Toxicological data of complete product are not available.  
May cause damage to organs through prolonged or repeated exposure.  
Calculation method

Substance
Ethylene glycol, CAS: 107-21-1
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, OECD 471, no adverse effect observed

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

**- Fertility**

Substance
Ethylene glycol, CAS: 107-21-1
NOAEL, oral, Rat, > 1000 mg/kg bw/day, no adverse effect observed

**- Development**

Substance
Ethylene glycol, CAS: 107-21-1
NOAEL, oral, Rat, 500 mg/kg bw/day, no adverse effect observed

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

Substance
Ethylene glycol, CAS: 107-21-1
NOAEL, oral, Rat, 1000 mg/kg bw/day, In vivo study, no adverse effect observed

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

**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.

**11.2 Information on other hazards**

**11.2.1 Endocrine disrupting properties** No information available.

**11.2.2 Other information** none

## SECTION 12: Ecological information

### 12.1 Toxicity

Product
Based on the available information, the classification criteria are not fulfilled.
Substance
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
Methyl-1H-benzotriazole, CAS: 29385-43-1
LC50, (96h), fish, 55 - 180 mg/L
EC50, (72h), Algae, 29 - 75 mg/L
EC50, (48h), Invertebrates, 8.58 - 15.8 mg/L
NOEC, (21d), Invertebrates, 18.4 mg/L

### 12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	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 Endocrine disrupting properties

No information available.

### 12.7 Other adverse effects

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**

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)** 150102  
150104  
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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**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/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

**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 contains  $\geq 0.1\%$  of substances with the following restrictions. 3, 75

According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions.  
3

**TRANSPORT-REGULATIONS** ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2023)

**NATIONAL REGULATIONS (GB):** EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.

- **Observe employment restrictions for people** Observe employment restrictions for mothers-to-be and nursing mothers.  
Observe employment restrictions for young people.

- **VOC (2010/75/CE)** 0 %

**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)

H319 Causes serious eye irritation.  
 H315 Causes skin irritation.  
 H361d Suspected of damaging the unborn child.  
 H411 Toxic to aquatic life with long lasting effects.

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**

SECTION 3 been added: Potassium isononanoate

SECTION 3 deleted: potassium 2-ethylhexanoate

SECTION 2 deleted: P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 2 deleted: P337+P313 If eye irritation persists: Get medical advice / attention.

SECTION 2 deleted: P280 Wear eye protection / face protection.

SECTION 2 deleted: H319 Causes serious eye irritation.

SECTION 2 deleted: Eye Irrit. 2

SECTION 11 deleted: Irritant

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.