

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

### 1.1 Product identifier

**febi 21829 gear oil**  
**Article number 21829**

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

#### 1.2.1 Relevant uses

Lubricant

#### 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

No classification.

### 2.2 Label elements

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

**Hazard pictograms** none

**Signal word** none

**Hazard statements** none

**Precautionary statements** none

**Special labelling** EUH210 Safety data sheet available on request.

Contains: Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.. EUH208 May produce an allergic reaction.

### 2.3 Other hazards

**Physico-chemical hazards** No particular hazards known.

**Human health dangers** If swallowed or in the event of vomiting, risk of product entering the lungs. Frequent persistent contact with the skin can cause skin irritation.

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

**Other hazards** none

### SECTION 3: Composition / Information on ingredients

#### Product-type:

The product is a mixture.

Range [%]	Substance
0,1 - < 1	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.
	CAS: 61791-44-4, EINECS/ELINCS: 263-177-5
	GHS/CLP: Skin Sens. 1: H317 - Skin Corr. 1B: H314 - Acute Tox. 4: H302 - Aquatic Chronic 3: H412
0,1 - < 1	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
	EINECS/ELINCS: 931-384-6
	GHS/CLP: Acute Tox. 4: H302 - Eye Dam. 1: H318 - Skin Sens. 1: H317 - Aquatic Chronic 2: H411

#### 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

##### General information

Change soaked clothing.

##### Inhalation

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

##### Skin contact

When in contact with the skin, clean 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

Do not induce vomiting.  
Rinse out mouth and give plenty of water to drink.  
Supply with medical care.

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

Irritant effects

#### 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

##### Suitable extinguishing media

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

Not combusted hydrocarbons.  
Risk of formation of toxic pyrolysis products.  
Carbon monoxide (CO)

#### 5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.  
Use self-contained breathing apparatus.  
Cool containers at risk with water spray jet.  
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

Take up with absorbent material (e.g. general-purpose binder).  
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

Avoid formation of aerosols.

Do not eat, drink or smoke when using this product.  
Use barrier skin cream.  
Wash hands before breaks and after work.  
Cloths contaminated with product should not be kept in trouser pockets.  
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.  
Keep container tightly closed.  
Keep container in a well-ventilated place.

### 7.3 Specific end use(s)

See product use, SECTION 1.2

## SECTION 8: Exposure controls / personal protection

### Ingredients with occupational exposure limits to be monitored (GB)

### 8.1 Control parameters

not applicable

## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation.
<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). > 0,4 mm: Neoprene, >480 min (EN 374).
<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 of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin.
<b>Respiratory protection</b>	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P1.
<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>	light yellow
<b>Odor</b>	characteristic
<b>Odour threshold</b>	not determined
<b>pH-value</b>	not applicable
<b>pH-value [1%]</b>	not applicable
<b>Boiling point [°C]</b>	not determined
<b>Flash point [°C]</b>	221 (ISO 2592)
<b>Flammability (solid, gas) [°C]</b>	not determined
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Oxidizing properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	not determined
<b>Density [g/ml]</b>	0,87 (DIN 51757) (15 °C / 59,0 °F)
<b>Bulk density [kg/m<sup>3</sup>]</b>	not applicable
<b>Solubility in water</b>	immiscible
<b>Partition coefficient [n-octanol/water]</b>	not determined
<b>Viscosity</b>	40,8 mm <sup>2</sup> /s (40°C); (DIN 51562)
<b>Relative vapour density determined in air</b>	not determined
<b>Evaporation speed</b>	not determined
<b>Melting point [°C]</b>	not determined
<b>Autoignition temperature [°C]</b>	not applicable
<b>Decomposition temperature [°C]</b>	not determined

### 9.2 Other information

none

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reactions known if used as directed.

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10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
0,1 - < 1	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
	LD50, oral, Rat: 2000 mg/kg.

Serious eye damage/irritation	not determined
Skin corrosion/irritation	not determined
Respiratory or skin sensitisation	not determined
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	not determined
Reproduction toxicity	not determined
Carcinogenicity	not determined
General remarks	

No classification on the basis of the calculation procedure of the preparation directive.  
Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
0,1 - < 1	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
	LC50, (96h), fish: 24 mg/l.
	EC50, (48h), Daphnia magna: 91,4 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

### 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

No classification on the basis of the calculation procedure of the preparation directive.  
Ecological data of complete product are not available.  
Do not discharge product unmonitored into the environment or into the drainage.

## 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.  
In according to RoHS!  
Coordinate disposal with the authorities if necessary.

#### Waste no. (recommended)

130205\* mineral-based non-chlorinated engine, gear and lubricating oils

#### 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\*

## SECTION 14: Transport information

### 14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

### 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)

See SECTION 14.2 in accordance with UN shipping name

### 14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

#### 14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

#### 14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

### SECTION 15: Regulatory information

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

<b>EEC-REGULATIONS</b>	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	no
- VOC (1999/13/CE)	0 %

#### 15.2 Chemical safety assessment

not applicable

### SECTION 16: Other information

#### 16.1 Hazard statements (SECTION 3)

H411 Toxic to aquatic life with long lasting effects.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.

## 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  
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  
ELINCS = European List of Notified Chemical Substances  
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  
LC50 = Lethal concentration, 50%  
LD50 = Median lethal dose  
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  
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

Modified position none