

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

### 1.1 Product identifier

**febi 28193 grease**  
**Article number: 28194, 28193, H-160013**

### 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)

**Company** +49 2333 911-0

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

No classification.

### 2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

**Hazard pictograms** none

**Signal word** none

**Hazard statements** none

**Precautionary statements** none

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

Contains: Naphthenic acids, zinc salts. EUH208 May produce an allergic reaction.

### 2.3 Other hazards

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

**Human health dangers** 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:

3.2 The product is a mixture.

Range [%]	Substance
1 - < 2,5	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts
	CAS: 85940-28-9, EINECS/ELINCS: 288-917-4, Reg-No.: 01-2119521201-61-XXXX
	GHS/CLP: Eye Irrit. 2: H319 - Skin Irrit. 2: H315 - Aquatic Chronic 2: H411
0,1 - < 1	Naphthenic acids, zinc salts
	CAS: 12001-85-3, EINECS/ELINCS: 234-409-2, Reg-No.: 01-2120783834-41
	GHS/CLP: Eye Irrit. 2: H319 - Skin Sens. 1B: 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: 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.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek 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	Seek medical advice immediately. Do not induce vomiting. Rinse out mouth and give plenty of water to drink.

#### 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 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

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 with the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures necessary if used correctly.

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.

### 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

### 8.1 Control parameters

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

not applicable

#### DNEL

Substance
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts, CAS: 85940-28-9
Industrial, dermal, Long-term - systemic effects: 9,6 mg/kg bw/d.
Industrial, inhalative, Long-term - systemic effects: 6,6 mg/m³.
general population, oral, Long-term - systemic effects: 0,19 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 4,8 mg/kg bw/d.
general population, inhalative, Long-term - systemic effects: 1,67 mg/m³.
Naphthenic acids, zinc salts, CAS: 12001-85-3
Industrial, dermal, Long-term - systemic effects: 3.3 mg/kg bw/d (AF=30).
Industrial, inhalative, Long-term - systemic effects: 1.18 mg/m³ (AF=75).
general population, inhalative, Long-term - systemic effects: 0.29 mg/m³ (AF=150).
general population, oral, Long-term - systemic effects: 0.17 ng/kg bw/d (AF=600).
general population, dermal, Long-term - systemic effects: 1.7 mg/kg bw/d (AF=60).

#### PNEC

Substance
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts, CAS: 85940-28-9
soil, 15,7 mg/kg dw.
sediment (seawater), 1,93 mg/kg dw.
sediment (freshwater), 19,3 mg/kg dw.
sewage treatment plants (STP), 100 mg/l (AF=100).
seawater, 0,0002 mg/l (AF=10000).
freshwater, 0,002 mg/l (AF=1000).
Naphthenic acids, zinc salts, CAS: 12001-85-3
soil, 0.001 mg/kg dw.
sediment (seawater), 0.002 mg/kg dw.
sediment (freshwater), 0.015 mg/kg dw.
sewage treatment plants (STP), 689.7 µg/L (AF= 1).
seawater, 0 mg/L (AF= 10000).
freshwater, 0.004 mg/L (AF= 1000).

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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>	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). > 0,4 mm; Butyl 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.
<b>Respiratory protection</b>	Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, combination filter A-P1. (DIN EN 14387)
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposure</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>	pasty
<b>Color</b>	green
<b>Odor</b>	characteristic
<b>Odour threshold</b>	not applicable
<b>pH-value</b>	not applicable
<b>pH-value [1%]</b>	not applicable
<b>Boiling point [°C]</b>	No information available.
<b>Flash point [°C]</b>	not applicable
<b>Flammability (solid, gas) [°C]</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>	No information available.
<b>Density [g/ml]</b>	ca. 0,9 (DIN 51757) (15 °C / 59,0 °F)
<b>Bulk density [kg/m³]</b>	not applicable
<b>Solubility in water</b>	immiscible
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Viscosity</b>	NLGI 3
<b>Relative vapour 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>	No information available.
<b>Decomposition temperature [°C]</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.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Oxidizing agent  
strong acids  
Strong basic compounds

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product
oral, Based on the available information, the classification criteria are not fulfilled.:
inhalative, Based on the available information, the classification criteria are not fulfilled.:
dermal, Based on the available information, the classification criteria are not fulfilled.:
Substance
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts, CAS: 85940-28-9
LD50, oral, Rat: 3080 mg/kg bw.
LD50, dermal, Rabbit: > 20 000 mg/kg bw.
LC50, inhalation (vapour ), Rat: > 2,3 mg/L/4h.
Naphthenic acids, zinc salts, CAS: 12001-85-3
LD50, oral, Rat: > 2000 mg/kg.

**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** May produce an allergic reaction.  
Calculation method

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

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

**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.  
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.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product
Based on the available information, the classification criteria are not fulfilled.:
Substance
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts, CAS: 85940-28-9
LL50, (96h), Oncorhynchus mykiss: 4,5 mg/l.
Naphthenic acids, zinc salts, CAS: 12001-85-3
EC50, (72h), Algae: 4 mg/L.
EL50, (48h), Daphnia magna: 35 mg/L.
LL50, (96h), fish: 100 mg/L.

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## 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>	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

Ecological data of complete product are not available.  
Do not discharge product unmonitored into the environment.  
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 c 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

In according to RoHS!  
Coordinate disposal with the disposal contractor/authorities if necessary.  
Dispose of as hazardous waste.

**Waste no. (recommended)** 120112\* spent waxes and fats

### 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\*  
150102  
150104

# SECTION 14: Transport information

## 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



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**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

**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 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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	not applicable
- VOC (2010/75/CE)	0 %

### 15.2 Chemical safety assessment

not applicable

## SECTION 16: Other information

### 16.1 Hazard statements (SECTION 03)

H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.  
H315 Causes skin irritation.

### 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  
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  
LC0 = lethal concentration, 0%  
LOAEL = lowest-observed-adverse-effect level  
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

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**Modified position**

SECTION 3 been added: Naphthenic acids, zinc salts

SECTION 2 been added: EUH208 May produce an allergic reaction.

SECTION 11 been added: May produce an allergic reaction.