

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

### 1.1 Product identifier

**grease**  
**Article number: 31941, 31942**

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

#### 1.2.1 Relevant uses

Grease

#### 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  
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Homepage [www.febi.com](http://www.febi.com)  
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#### 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]

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

**Hazard pictograms** none

**Signal word** none

**Hazard statements** H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements** P273 Avoid release to the environment.  
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.

**Special labelling** Contains: Zinc naphthenate, 5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione. 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.  
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Environmental hazards** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Other hazards** none

## SECTION 3: Composition / Information on ingredients

### 3.1 Substances

not applicable

### 3.2 Mixtures

The product is a mixture.

Range [%]	Substance
5 - < 10	Dilithium azelate CAS: 38900-29-7, EINECS/ELINCS: 254-184-4, Reg-No.: 01-2120119814-57-XXXX GHS/CLP: Acute Tox. 4: H302
1 - < 5	12-hydroxystearic acid CAS: 106-14-9, EINECS/ELINCS: 203-366-1, Reg-No.: 01-2119542189-34-XXXX GHS/CLP: Aquatic Acute 1: H400, M-Factor (acute): 1
1 - < 2,5	Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) CAS: 4259-15-8, EINECS/ELINCS: 224-235-5, Reg-No.: 01-2119493635-27-XXXX GHS/CLP: Eye Dam. 1: H318 - Aquatic Chronic 2: H411 SCL [%]: >50 - 100: Eye Dam. 1: H318
0,1 - < 1	2,2'-Iminodiethanol CAS: 111-42-2, EINECS/ELINCS: 203-868-0, EU-INDEX: 603-071-00-1, Reg-No.: 01-2119488930-28-XXXX GHS/CLP: Acute Tox. 4: H302 - Skin Irrit. 2: H315 - Eye Dam. 1: H318 - Repr. 2: H361fd - STOT RE 2: H373
0,1 - < 1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene CAS: 68411-46-1, EINECS/ELINCS: 270-128-1, Reg-No.: 01-2119491299-23-XXXX GHS/CLP: Repr. 2: H361f - Aquatic Chronic 3: H412
0,1 - < 1	5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione CAS: 72676-55-2, EINECS/ELINCS: 276-763-0, Reg-No.: 01-2120119820-64-XXXX GHS/CLP: Skin Sens. 1B: H317 - Aquatic Chronic 2: H411
0,25 - < 1	2,6-di-tert-butyl-p-cresol CAS: 128-37-0, EINECS/ELINCS: 204-881-4, Reg-No.: 01-2119555270-46-XXXX GHS/CLP: Aquatic Chronic 1: H410 - Aquatic Acute 1: H400, M-Factor (acute): 1, M-Factor (chronic): 1
0,1 - < 1	Zinc naphthenate CAS: 84418-50-8, EINECS/ELINCS: 282-762-6, Reg-No.: 01-2119988500-34-XXXX GHS/CLP: Skin Sens. 1: H317 - Aquatic Chronic 3: H412
0,1 - < 0,3	Hexanoic acid, 2-ethyl-, zinc salt, basic CAS: 85203-81-2, EINECS/ELINCS: 286-272-3, EU-INDEX: 607-230-00-6, Reg-No.: 01-2119979093-30-XXXX GHS/CLP: Repr. 1B: H360D - Eye Irrit. 2: H319 - Aquatic Chronic 3: H412

#### Comment on component parts

For full text of H-statements: see SECTION 16.  
Lubricating grease: Thickener system and additives in synthetic base oil.

## 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 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.

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

Allergic reactions

#### 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

Suitable extinguishing media	Foam, dry powder, water spray jet, carbon dioxide Fire extinguishing method of surrounding areas must be considered.
Extinguishing media that must not be used	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 within the local regulations.  
Cool containers at risk with water spray jet.

### 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 mechanically.  
Take up residues with absorbent material (e.g. oil 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

Use only in well-ventilated areas.  
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 in a well-ventilated place.  
Keep container tightly closed.

#### 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 (UK)

Substance
2,6-di-tert-butyl-p-cresol
CAS: 128-37-0, EINECS/ELINCS: 204-881-4, Reg-No.: 01-2119555270-46-XXXX
Long-term exposure: 10 mg/m <sup>3</sup>
2,2'-Iminodiethanol
CAS: 111-42-2, EINECS/ELINCS: 203-868-0, EU-INDEX: 603-071-00-1, Reg-No.: 01-2119488930-28-XXXX
Long-term exposure: 3 ppm, 13 mg/m <sup>3</sup>

#### Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

#### DNEL

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
Industrial, inhalative, Long-term - systemic effects, 1.76 mg/m <sup>3</sup>
Industrial, dermal, Long-term - systemic effects, 500 µg/kg bw/day
general population, inhalative, Long-term - systemic effects, 435 µg/m <sup>3</sup>
general population, dermal, Long-term - systemic effects, 250 µg/kg bw/day
general population, oral, Long-term - systemic effects, 250 µg/kg bw/day
Dilithium azelate, CAS: 38900-29-7
Industrial, dermal, Acute - local effects, 46 µg/cm <sup>2</sup>
general population, dermal, Acute - systemic effects, 23 µg/cm <sup>2</sup>
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
Industrial, dermal, Long-term - systemic effects, 9,6 mg/kg bw/d
Industrial, inhalative, Long-term - systemic effects, 6,6 mg/m <sup>3</sup>
general population, inhalative, Long-term - systemic effects, 1,67 mg/m <sup>3</sup>
general population, dermal, Long-term - systemic effects, 4,8 mg/kg bw/d
general population, oral, Long-term - systemic effects, 0,19 mg/kg bw/d
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
Industrial, inhalative, Long-term - systemic effects, 20.83 mg/m <sup>3</sup>
Industrial, dermal, Long-term - systemic effects, 6,41 mg/kg bw/d
general population, inhalative, Long-term - systemic effects, 10,42 mg/m <sup>3</sup>
general population, oral, Long-term - systemic effects, 3,21 mg/kg bw/d
general population, dermal, Long-term - systemic effects, 3,21 mg/kg bw/d
2,2'-Iminodiethanol, CAS: 111-42-2
Industrial, inhalative, Long-term - systemic effects, 0,75 mg/m <sup>3</sup>
Industrial, inhalative, Long-term - local effects, 0,5 mg/m <sup>3</sup>
Industrial, dermal, Long-term - systemic effects, 0,13 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0,125 mg/m <sup>3</sup>
general population, inhalative, Long-term - local effects, 0,125 mg/m <sup>3</sup>
general population, dermal, Long-term - systemic effects, 0,07 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0,06 mg/kg bw/day
Zinc naphthenate, CAS: 84418-50-8
There are no DNEL values established for the substance.
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
Industrial, inhalative, Long-term - systemic effects, 3.29 mg/m <sup>3</sup> (AF=75)
Industrial, dermal, Long-term - systemic effects, 0.93 mg/kg bw/d (AF=300)
general population, dermal, Long-term - systemic effects, 0.33 mg/kg bw/d (AF=600)
general population, inhalative, Long-term - systemic effects, 0.56 mg/m <sup>3</sup> (AF=150)
general population, oral, Long-term - systemic effects, 0.17 mg/kg bw/d (AF=600)

**PNEC**

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
Industrial, inhalative, Long-term - systemic effects, 0,31 mg/m <sup>3</sup>
Industrial, dermal, Long-term - systemic effects, 0,44 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0,08 mg/m <sup>3</sup>
general population, dermal, Long-term - systemic effects, 0,22 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0,05 mg/kg bw/day
Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
freshwater, 199 ng/L
sediment (seawater), 19.9 ng/L
sewage treatment plants (STP), 17 µg/L
sediment (freshwater), 458.19 µg/kg sediment dw
sediment (seawater), 45.82 µg/kg sediment dw
oral (food), 16.67 mg/kg food
Dilithium azelate, CAS: 38900-29-7
freshwater, 23 µg/L
seawater, 2,3 µg/L
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
freshwater, 4 µg/L (AF= 100)
seawater, 4.6 µg/L (AF= 10 000)
sewage treatment plants (STP), 3.8 mg/L (AF= 100)
sediment (freshwater), 0.322 mg/kg dw
sediment (seawater), 0.0322 mg/kg dw
soil, 0.062 mg/kg dw
oral (food), 8.33 mg/kg food (AF=300)
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
freshwater, 89,6 µg/L
seawater, 26,5 µg/L
sewage treatment plants (STP), 226 µg/L
sediment (freshwater), 8,17 mg/kg sediment dw
sediment (seawater), 0,817 mg/kg sediment dw
soil, 1,36 mg/kg soil dw
2,2'-Iminodiethanol, CAS: 111-42-2
freshwater, 0,021 mg/L
seawater, 0,002 mg/L
sewage treatment plants (STP), 100 mg/L
sediment (freshwater), 0,096 mg/kg sediment dw
sediment (seawater), 0,009 mg/kg sediment dw
soil, 1,63 mg/kg soil dw
oral (food), 1,04 mg/kg
Zinc naphthenate, CAS: 84418-50-8
freshwater, 6,39 µg/L
seawater, 0,64 µg/L
sewage treatment plants (STP), 147,73 µg/L
sediment (freshwater), 31,93 mg/kg Sediment dw
sediment (seawater), 3,19 mg/kg Sediment dw
soil, 6,38 mg/kg Boden dw
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
freshwater, 0.003 mg/L (AF=1000)
seawater, 0 mg/L (AF=10 000)
sewage treatment plants (STP), 0.31 mg/L (AF=10)
sediment (freshwater), 0.039 mg/kg dw
sediment (seawater), 0.004 mg/kg dw

soil, 0.166 mg/kg soil dw
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
freshwater, 0,034 mg/L
seawater, 0,003 mg/L
sewage treatment plants (STP), 10 mg/L
sediment (freshwater), 0,446 mg/kg sediment dw
sediment (seawater), 0,045 mg/kg sediment dw
soil, 17,6 mg/kg soil dw
oral (food), 0,833 mg/kg food

## 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. General exposure limit for oil mist should be noted.
<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. > 0,38 mm; Nitrile rubber, >480 min (EN 374-1/-2/-3).
<b>Skin protection</b>	Protective clothing (EN 340)
<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>	Not required under normal conditions.
<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

Physical state	solid
Form	pasty
Color	light brown
Odor	characteristic
Odour threshold	not relevant
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point or initial boiling point and boiling range [°C]	No information available.
Flash point [°C]	not applicable
Flammability	no
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not applicable
Density [g/cm <sup>3</sup> ]	1 (DIN 51757) (25°C)
Relative density	not determined
Bulk density [kg/m <sup>3</sup> ]	not applicable
Solubility in water	immiscible
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	No information available.
Kinematic viscosity	No information available.
Relative vapour density	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	No information available.

### 9.2 Other information

Drop point: 250 °C (IP 396)  
NLGI (National Lubricating Grease Institute) consistency number: 2

## 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

Oxidizing agent  
Strong acids.  
Strong bases

#### **10.6 Hazardous decomposition products**

No hazardous decomposition products known.  
In the event of fire: See SECTION 5.



## 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, 37600 mg/kg bw
Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
LD50, oral, Rat, 2930 - 6000 mg/kg bw
Dilithium azelate, CAS: 38900-29-7
LD50, oral, Rat, 300 mg/kg bw
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
LD50, oral, Rat, 3100 mg/kg bw, OECD 401
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
LD50, oral, Rat, 2000 - 5000 mg/kg bw
2,2'-Iminodiethanol, CAS: 111-42-2
LD50, oral, Rat, 676 - 2500 mg/kg bw
Zinc naphthenate, CAS: 84418-50-8
LD50, oral, Rat, > 2000 mg/kg bw
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
LD50, oral, Rat, > 2000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LC50, oral, Rat, > 5000 mg/kg, OECD 401

#### Acute dermal toxicity

Product
dermal, Based on the available information, the classification criteria are not fulfilled.
Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
LD50, dermal, Rat, > 2000 mg/kg bw
Dilithium azelate, CAS: 38900-29-7
LD50, dermal, Rat, > 2000 mg/kg bw
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
LD50, dermal, Rabbit, > 5000 mg/kg bw, OECD 402
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
LD50, dermal, Rat, > 2 000 mg/kg
2,2'-Iminodiethanol, CAS: 111-42-2
LD50, dermal, Rabbit, 12200-12970 mg/kg
Zinc naphthenate, CAS: 84418-50-8
LD50, dermal, Rat, > 2000 mg/kg bw
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
LD50, dermal, Rabbit, > 2000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LD50, dermal, Rat, > 2000 mg/kg, OECD 402

#### Acute inhalational toxicity

Product
inhalative, Based on the available information, the classification criteria are not fulfilled.
Substance
2,2'-Iminodiethanol, CAS: 111-42-2
LC0, inhalative, Rat, 3,35 mg/L (4h)

Zinc naphthenate, CAS: 84418-50-8
LC50, inhalative, Rat, > 0.42 mg/l/4h

**Serious eye damage/irritation** No classification due to substance-specific concentration limits.  
Calculation method

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
Eye, non-irritating
Dilithium azelate, CAS: 38900-29-7
Rabbit, OECD 406, non-irritating
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
Eye, Rabbit, OECD 405, corrosive
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
Eye, irritant
2,2'-Iminodiethanol, CAS: 111-42-2
Eye, Causes serious eye damage.
Zinc naphthenate, CAS: 84418-50-8
Eye, Rabbit, OECD 405, non-irritating
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
Eye, non-irritating
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
Eye, OECD 405, non-irritating

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

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
dermal, non-irritating
Dilithium azelate, CAS: 38900-29-7
dermal, non-irritating
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
dermal, Rabbit, OECD 404, non-irritating
2,2'-Iminodiethanol, CAS: 111-42-2
dermal, irritant
Zinc naphthenate, CAS: 84418-50-8
dermal, Rabbit, OECD 404, non-irritating
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
dermal, non-irritating
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
dermal, non-irritating

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

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
dermal, non-sensitizing
Dilithium azelate, CAS: 38900-29-7
dermal, mouse, OECD 429, non-sensitizing
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
dermal, Guinea pig, OECD 406, non-sensitizing
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
dermal, non-sensitizing
2,2'-Iminodiethanol, CAS: 111-42-2
dermal, non-sensitizing
Zinc naphthenate, CAS: 84418-50-8
dermal, Guinea pig, OECD 406, sensitising

**Ferdinand Bilstein GmbH + Co. KG**

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5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
dermal, sensitising
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
dermal, Guinea pig, OECD 406, non-sensitizing

**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.

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
NOAEL, oral, Rat, 25 - 70 mg/kg bw/day
Dilithium azelate, CAS: 38900-29-7
NOAEL, dermal, Rat, 298 mg/kg bw/day (systemic effects), no adverse effect observed
NOAEL, dermal, Rat, 230 µg/cm² (local effects), adverse effect observed
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
NOAEL, oral, Rat, 125 mg/kg bw/day (28d), OECD 407
2,2'-Iminodiethanol, CAS: 111-42-2
LOAEL, oral, Rat, 14 - 25 mg/kg bw/day, adverse effect observed
LOAEL, oral, Rat, 160 - 320 ppm, adverse effect observed
Zinc naphthenate, CAS: 84418-50-8
NOAEL, oral, Rat, 50 mg/kg bw/day
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
NOAEL, oral, Rat, 300 mg/kg bw/day

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

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
in vitro, negativ
in vivo, negativ
Dilithium azelate, CAS: 38900-29-7
OECD 471, no adverse effect observed
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
InVitro, OECD 471, negativ
InVivo, OECD 474, negativ
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
in vitro, negativ
in vivo, negativ
Zinc naphthenate, CAS: 84418-50-8
InVitro, OECD 471, negativ
InVivo, OECD 474, negativ
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
in vitro, positive
in vivo, negativ
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
in vitro, negativ

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

**- Fertility**

Substance
Dilithium azelate, CAS: 38900-29-7
NOAEL, Rat, 298,5 mg/kg bw/d (Effect on fertility), no adverse effect observed
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
NOAEL, Rat, 30 mg/kg bw/day, OECD 421

2,2'-Iminodiethanol, CAS: 111-42-2
oral, adverse effect observed
dermal, adverse effect observed
inhalative, adverse effect observed
Zinc naphthenate, CAS: 84418-50-8
NOAEL, oral, Rat, 250 mg/kg bw/day
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
NOAEL, oral, Rat, 300 mg/kg bw/d (Effect on fertility)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
NOAEL, oral, Rat, 54 mg/kg bw/day, adverse effect observed

#### - Development

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
NOAEL, oral, Rat, 25 mg/kg bw/day
Dilithium azelate, CAS: 38900-29-7
NOAEL, Rat, 298,5 mg/kg bw/d (Effect on developmental toxicity, no adverse effect observed)
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
NOAEL, Rat, 30 mg/kg bw/day, OECD 421
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
NOAEL, oral, Rat, 100 mg/kg bw/day, adverse effect observed
2,2'-Iminodiethanol, CAS: 111-42-2
oral, adverse effect observed
dermal, adverse effect observed
inhalative, adverse effect observed
Zinc naphthenate, CAS: 84418-50-8
NOAEL, oral, Rat, 188 mg/kg bw/day

#### 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

Frequent persistent contact with the skin can cause dermatitis.

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

### 11.2.1 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 11.2.2 Other information

none

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
2,6-di-tert-butyl-p-cresol, CAS: 128-37-0
LC50, (96h), Fish, 199 - 570 µg/L
EC50, (48h), Invertebrates, 480 - 610 µg/L
EC50, (96h), Algae, 758 µg/L
NOEC, (21d), Invertebrates, 23 - 316 µg/L
NOEC, (33d), Fish, 53 µg/L
Dilithium azelate, CAS: 38900-29-7
LC50, (96h), Fish, 100 mg/L
EC50, (48h), Crustacea, 100 mg/L
EC50, (72h), Algae, 100 mg/L
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
EL50, (48h), Daphnia magna, 75 mg/l (OECD 202)
NOEC, (21d), Daphnia magna, 0,4 mg/l (OECD 211)
LL50, (96h), Rainbow trout, 4,4 mg/l (OECD 203)
ErL50, (72h), Scenedesmus subspicatus, 410 mg/l (OECD 201)
EbL50, (72h), Scenedesmus subspicatus, 240 mg/l (OECD 201)
Hexanoic acid, 2-ethyl-, zinc salt, basic, CAS: 85203-81-2
LC50, (4d), Fish, 112 - 100000 µg/L
LC50, (48h), Invertebrates, 95 - 1220 µg/L
EC50, (72h), Algae, 49,3 mg/L
2,2'-Iminodiethanol, CAS: 111-42-2
LC50, (96h), Pimephales promelas, 1460 mg/l (DIN 38412-8)
EC50, (48h), Daphnia magna, 10-180 mg/l
EC50, (96h), Pseudokirchneriella subcapitata, 2,2 mg/l
IC50, (72h), Selenastrum capricornutum, 3,3-3,6 mg/l
IC50, (72h), Skeletonema costatum, 548 mg/l
Zinc naphthenate, CAS: 84418-50-8
LC50, (4d), Fish, 112 - 5620 µg/L
EC50, (48h), Invertebrates, 155 - 20 000 µg/L
EC50, (72h), Algae, 3,62 - 29,6 mg/L
5,5'-Dithiodi-1,3,4-thiadiazole-2(3H)-thione, CAS: 72676-55-2
LC50, (96h), Pimephales promelas, > 454 mg/L
EC50, (48h), Daphnia magna, 3 mg/L
EC50, (72h), Pseudokirchneriella subcapitata, 20 mg/L
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LC50, (96h), Fish, > 100 mg/l, OECD 203
EC50, (72h), Algae, > 100 mg/l, OECD 201
EC50, (48h), Daphnia magna, 51 mg/l, OECD 202
12-hydroxystearic acid, CAS: 106-14-9
LC50, (96h), Fish, 0,447 mg/l

## 12.2 Persistence and degradability

**Behaviour in environment compartments** No information available.

**Behaviour in sewage plant** No information available.

**Biological degradability** No information available.

Substance
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
(27h), < 5%, OECD 301 D, The product is not readily biodegradable.
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
The product is not readily biodegradable.

## 12.3 Bioaccumulative potential

No information available.

Substance
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate), CAS: 4259-15-8
log Pow, 3,59
log Kow, 3,6

## 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

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 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 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

In according to RoHS!

Coordinate disposal with the disposal contractor/authorities if necessary.

#### 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\* packaging containing residues of or contaminated by hazardous substances  
150102  
150104

## 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

### 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/EG (2000/532/EC ); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707
- 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. 30, 72, 75  According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is not subject to any restrictions.
TRANSPORT-REGULATIONS	ADR (2025); IMDG-Code (2025, 42. Amdt.); IATA-DGR (2025)
NATIONAL REGULATIONS (UK):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	no
- VOC (2010/75/CE)	< 3 %

#### 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)

H360D May damage the unborn child.  
H319 Causes serious eye irritation.  
H410 Very toxic to aquatic life with long lasting effects.  
H317 May cause an allergic skin reaction.  
H412 Harmful to aquatic life with long lasting effects.  
H361f Suspected of damaging fertility.  
  
H373 May cause damage to organs through prolonged or repeated exposure.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
H315 Causes skin irritation.  
H411 Toxic to aquatic life with long lasting effects.  
H318 Causes serious eye damage.  
H400 Very toxic to aquatic life.  
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

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)

### Modified position

2.3, 3.2, 15.1