## OKS 404 高性能和高温润滑脂

| Version | Revision Date: | Date of last issue: - | |
|---|---|---|---|
| 5.0 | 2026-10-16 | Date of first issue: 2026-10-16 | Print Date: 2026-10-16 |

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : OKS 404 高性能和高温润滑脂

Chemical nature : Mineral oil.
Synthetic hydrocarbon oil
special lithium soap

**Manufacturer or supplier's details**

Company : OKS Spezialschmierstoffe GmbH
Ganghoferstr. 47
82216 Maisach
Germany
Tel.: +49 8142 3051-500
info@oks-germany.com

E-mail address of person responsible for the SDS : mcm@oks-germany.com

National contact : Klüber Lubrication (Shanghai) Co., Ltd.
No.88 Tuo Qing Road
Qingpu Industrial Zone
Shanghai 201700
China
Phone: +86 21 69225666
Email: info@cn.klueber.com
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Klüber Lubrication China Limited
Room 1012 Shatin Galleria
18-24 Shan Mei Street, Fotan, Shatin, N.T.
Hong Kong
China
Phone: +852 26920191
Email: info@cn.klueber.com
www.klueber.com.cn

Emergency telephone number : +86 532 8388 9090 (NRCC, only for hazardous chemicals)
+86 21 69225521

**Recommended use of the chemical and restrictions on use**

Recommended use : Grease

Restrictions on use : Restricted to professional users.

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## 2. HAZARDS IDENTIFICATION

### Emergency Overview

**Appearance** : paste
**Colour** : brown
**Odour** : characteristic

Not a hazardous substance or mixture.

### GHS Classification

Not a hazardous substance or mixture.

### GHS label elements

Not a hazardous substance or mixture.

### Physical and chemical hazards

Not classified based on available information.

### Health hazards

Not classified based on available information.

### Environmental hazards

Not classified based on available information.

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| dilithium azelate | 38900-29-7 | >= 1 -< 10 |
| Poly(1,2-dihydro-2,2,4-trimethylquinoline) | 26780-96-1 | >= 2.5 -< 10 |
| zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) | 4259-15-8 | >= 1 -< 2.5 |
| dilithium tetraborate | 12007-60-2 | >= 0.1 -< 1 |
| Naphthenic acids, zinc salts | 12001-85-3 | >= 0.25 -< 1 |
| Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts | 1471316-72-9 | >= 0.1 -< 1 |
| dipentylammonium dipentyldithiocarbamate | 71902-20-0 | >= 0.1 -< 0.25 |

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### 4. FIRST AID MEASURES

| | | |
|---|---|---|
| If inhaled | : | Obtain medical attention.<br>Remove person to fresh air. If signs/symptoms continue, get medical attention.<br>Keep patient warm and at rest.<br>If unconscious, place in recovery position and seek medical advice.<br>Keep respiratory tract clear.<br>If breathing is irregular or stopped, administer artificial respiration. |
| In case of skin contact | : | Take off all contaminated clothing immediately.<br>Get medical attention immediately if irritation develops and persists.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse.<br>Wash off immediately with plenty of water. |
| In case of eye contact | : | Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.<br>If eye irritation persists, consult a specialist. |
| If swallowed | : | Move the victim to fresh air.<br>If unconscious, place in recovery position and seek medical advice.<br>Keep respiratory tract clear.<br>Do NOT induce vomiting.<br>Obtain medical attention.<br>Rinse mouth with water.<br>Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | No symptoms known or expected. |
| Notes to physician | : | Treat symptomatically. |

### 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable extinguishing media | : | High volume water jet |

| | | |
|---|---|---|
| Hazardous combustion products | : | Carbon oxides<br>Nitrogen oxides (NOx)<br>Sulphur oxides<br>Oxides of phosphorus<br>Metal oxides |
| Specific extinguishing methods | : | Standard procedure for chemical fires. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment.<br>Exposure to decomposition products may be a hazard to health. |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Evacuate personnel to safe areas.<br>Use personal protective equipment.<br>Ensure adequate ventilation.<br>Do not breathe vapours or spray mist.<br>Do not breathe vapours, aerosols.<br>Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : | Try to prevent the material from entering drains or water courses.<br>Prevent further leakage or spillage if safe to do so.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). |

## 7. HANDLING AND STORAGE

**Handling**

| | | |
|---|---|---|
| Advice on safe handling | : | Do not breathe vapours or spray mist.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Wash hands and face before breaks and immediately after |

handling the product.
Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.
Do not repack.
Do not re-use empty containers.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in use.

Avoidance of contact : No materials to be especially mentioned.

**Storage**

Conditions for safe storage : Store in original container.
Keep container closed when not in use.
Keep in a dry, cool and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with the particular national regulations.
Keep in properly labelled containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | 64742-52-5 | TWA (Inhalable particulate matter) | 5 mg/m3 | ACGIH (2013-03-01) |
| lithium 12-hydroxystearate | 7620-77-1 | TWA (Inhalable particulate matter) | 10 mg/m3 | ACGIH (2025-01-01) |
| | | TWA (Respirable particulate matter) | 3 mg/m3 | ACGIH (2025-01-01) |
| dilithium tetraborate | 12007-60-2 | TWA (Inhalable particulate | 2 mg/m3 (Borate) | ACGIH (2025-01-01) |

| | | | | |
|---|---|---|---|---|
| | | matter) | | |
| | | STEL (Inhalable particulate matter) | 6 mg/m3 (Borate) | ACGIH (2025-01-01) |

**Engineering measures** : Handle only in a place equipped with local exhaust (or other appropriate exhaust).

**Personal protective equipment**

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type P

Eye/face protection : Safety glasses with side-shields

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hand protection
- Material : Nitrile rubber
- Break through time : > 10 min
- Protective index : Class 1

Remarks : For prolonged or repeated contact use protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

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| | | |
|---|---|---|
| Form | : | paste |
| Colour | : | brown |
| Odour | : | characteristic |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Melting point/ range | : | > 260 °C<br>(1,013 hPa) |
| Boiling point/boiling range | : | No data available |
| Flash point | : | > 200 °C |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | Sustains combustion |
| Self-ignition | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapour pressure | : | < 0.001 hPa (20 °C) |
| Relative vapour density | : | No data available |
| Relative density | : | 0.93 (20 °C)<br>Reference substance: Water<br>The value is calculated |
| Density | : | 0.93 g/cm3 (20 °C) |
| Bulk density | : | No data available |
| Solubility(ies) | | |

| | | |
|---|---|---|
| Water solubility | : | insoluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Evaporation rate | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | No data available |
| Sublimation point | : | No data available |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | No hazards to be specially mentioned. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | : | No conditions to be specially mentioned. |
| Incompatible materials | : | No materials to be especially mentioned. |
| Hazardous decomposition products | : | No decomposition if stored and applied as directed. |

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

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

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Remarks: This information is not available. |
| Acute dermal toxicity | : | Symptoms: Redness, Local irritation |

**Components:**

**dilithium azelate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 300 mg/kg<br>Method: OECD Test Guideline 420<br>GLP: yes |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg<br>Assessment: The substance or mixture has no acute dermal toxicity |

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, male): 3,100 mg/kg<br>Method: OECD Test Guideline 401<br>GLP: no |
| Acute dermal toxicity | : | LD50 (Rabbit, male): > 5,000 mg/kg<br>Method: OECD Test Guideline 402<br>GLP: no |

**dilithium tetraborate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 500 mg/kg<br>Method: OECD Test Guideline 423<br>GLP: yes |

**Naphthenic acids, zinc salts:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 4,920 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): > 11.6 mg/l<br>Exposure time: 4 h |

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
GLP: yes

**dipentylammonium dipentyldithiocarbamate:**

Acute oral toxicity : LD50 (Rat): > 300 mg/kg

**Skin corrosion/irritation**

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

**Product:**

Remarks : This information is not available.

**Components:**

**dilithium azelate:**

Assessment : No skin irritation
Result : No skin irritation

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

**Naphthenic acids, zinc salts:**

Species : reconstructed human epidermis (RhE)
Assessment : No skin irritation
Method : OECD Test Guideline 439
Result : No skin irritation
GLP : yes

**Serious eye damage/eye irritation**

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

**Product:**

Result : No eye irritation

Assessment : No eye irritation

**Components:**

**dilithium azelate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Assessment | : | No eye irritation |

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Risk of serious damage to eyes. |
| Assessment | : | Risk of serious damage to eyes. |
| Method | : | OECD Test Guideline 405 |
| GLP | : | yes |

**dilithium tetraborate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Risk of serious damage to eyes. |
| Assessment | : | Risk of serious damage to eyes. |
| Method | : | OECD Test Guideline 405 |
| GLP | : | yes |

**Naphthenic acids, zinc salts:**

| | | |
|---|---|---|
| Result | : | Severe eye irritation |
| Assessment | : | Irritating to eyes. |
| Method | : | OECD Test Guideline 492 |
| GLP | : | yes |

**Respiratory or skin sensitisation**

**Skin sensitisation**

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

**Respiratory sensitisation**

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

**Product:**

Remarks : This information is not available.

**Components:**

**dilithium azelate:**

| | | |
|---|---|---|
| Assessment | : | Does not cause skin sensitisation. |
| Result | : | Does not cause skin sensitisation. |

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Test Type | : | Maximisation Test |
| Species | : | Guinea pig |
| Assessment | : | Did not cause sensitisation on laboratory animals. |
| Method | : | OECD Test Guideline 406 |
| Result | : | Did not cause sensitisation on laboratory animals. |
| GLP | : | yes |

**Naphthenic acids, zinc salts:**

| | | |
|---|---|---|
| Assessment | : | The product is a skin sensitiser, sub-category 1B. |
| Method | : | OECD Test Guideline 442D |
| Result | : | The product is a skin sensitiser, sub-category 1B. |
| GLP | : | yes |

**Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts:**

| | | |
|---|---|---|
| Assessment | : | The product is a skin sensitiser, sub-category 1B. |
| Result | : | The product is a skin sensitiser, sub-category 1B. |

**dipentylammonium dipentyldithiocarbamate:**

| | | |
|---|---|---|
| Assessment | : | The product is a skin sensitiser, sub-category 1B. |
| Method | : | OECD Test Guideline 429 |
| Result | : | The product is a skin sensitiser, sub-category 1B. |

**Germ cell mutagenicity**

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

**Product:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Remarks: No data available |
| Genotoxicity in vivo | : | Remarks: No data available |

**Components:**

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Test system: Salmonella typhimurium<br>Metabolic activation: with and without metabolic activation<br>Method: OECD Test Guideline 471<br>Result: negative<br>GLP: yes |
| Genotoxicity in vivo | : | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse (male and female)<br>Application Route: Intraperitoneal<br>Method: OECD Test Guideline 474<br>Result: negative<br>GLP: yes |

**Naphthenic acids, zinc salts:**

| | | |
|---|---|---|
| Germ cell mutagenicity - Assessment | : | Weight of evidence does not support classification as a germ cell mutagen. |

**Carcinogenicity**

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

**Product:**

| | | |
|---|---|---|
| Remarks | : | No data available |

**Reproductive toxicity**

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

**Product:**

| | | |
|---|---|---|
| Effects on fertility | : | Remarks: No data available |
| Effects on foetal development | : | Remarks: No data available |

**Components:**

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Reproductive toxicity - Assessment | : | - Fertility -<br>Weight of evidence does not support classification for |

reproductive toxicity

**dilithium tetraborate:**

Reproductive toxicity - Assessment : - Fertility -

Some evidence of adverse effects on development, based on animal experiments.

**Naphthenic acids, zinc salts:**

Reproductive toxicity - Assessment : - Fertility -

Weight of evidence does not support classification for reproductive toxicity

**STOT - single exposure**

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

**Product:**

Remarks : No data available

**Components:**

**dilithium azelate:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure**

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

**Product:**

Remarks : No data available

**Components:**

**dilithium azelate:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity**

**Product:**

Remarks : This information is not available.

**Components:**

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Species | : | Rat, male and female |
| NOAEL | : | 125 mg/kg |
| Application Route | : | oral (gavage) |
| Exposure time | : | 28 d |
| Number of exposures | : | daily |
| Method | : | OECD Test Guideline 407 |
| GLP | : | yes |

**Aspiration toxicity**

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

**Product:**

This information is not available.

**Components:**

**dilithium azelate:**

No aspiration toxicity classification

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

No aspiration toxicity classification

**Further information**

**Product:**

Remarks : Information given is based on data on the components and the toxicology of similar products.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Product:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

**Components:**

**dilithium azelate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

**Poly(1,2-dihydro-2,2,4-trimethylquinoline):**

### Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 4.4 mg/l<br>End point: mortality<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Analytical monitoring: no<br>Method: OECD Test Guideline 203<br>GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 75 mg/l<br>End point: Immobilization<br>Exposure time: 48 h<br>Test Type: static test<br>Analytical monitoring: no<br>Method: OECD Test Guideline 202<br>GLP: yes |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): 240 mg/l<br>End point: Growth inhibition<br>Exposure time: 72 h<br>Test Type: static test<br>Analytical monitoring: no<br>Method: OECD Test Guideline 201<br>GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): > 0.8 mg/l<br>End point: reproduction rate<br>Exposure time: 21 d<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 211<br>GLP: yes<br>Remarks: Information given is based on data obtained from similar substances. |
| Toxicity to microorganisms | : | EC50 (Pseudomonas putida): 380 mg/l<br>Exposure time: 16 h<br>Test Type: static test<br>GLP: yes |

**Naphthenic acids, zinc salts:**

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Cyprinus carpio (Carp)): > 100 mg/l<br>Exposure time: 96 h<br>Analytical monitoring: yes |

Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 35 mg/l
Exposure time: 48 h
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 4 mg/l
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

**dipentylammonium dipentyldithiocarbamate:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.59 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

**Persistence and degradability**

**Product:**

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

**Components:**

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

Biodegradability : aerobic
Result: Not rapidly biodegradable
Biodegradation: < 5 %
Exposure time: 27 d

Method: OECD Test Guideline 301D
GLP: no

**dipentylammonium dipentyldithiocarbamate:**

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Result: Not rapidly biodegradable
Biodegradation: 46.41 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

**Bioaccumulative potential**

**Product:**

Bioaccumulation : Remarks: No data available

**Components:**

**dilithium azelate:**

Bioaccumulation : Bioconcentration factor (BCF): 3.0

Partition coefficient: n-octanol/water : log Pow: -3.56

**Poly(1,2-dihydro-2,2,4-trimethylquinoline):**

Partition coefficient: n-octanol/water : log Pow: 3.9

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

Partition coefficient: n-octanol/water : log Pow: 3.59 (22 °C)
pH: 5
Method: OECD Test Guideline 107
GLP: yes

**Naphthenic acids, zinc salts:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.10 (20 °C)

**Mobility in soil**

**Product:**

| | | |
|---|---|---|
| Mobility | : | Remarks: No data available |
| Distribution among environmental compartments | : | Remarks: No data available |

**Other adverse effects**

**Product:**

| | | |
|---|---|---|
| Additional ecological information | : | No information on ecology is available. |

**Components:**

**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate):**

| | | |
|---|---|---|
| Results of PBT and vPvB assessment | : | Non-classified PBT substance Non-classified vPvB substance |

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | The product should not be allowed to enter drains, water courses or the soil.<br>Do not dispose of with domestic refuse.<br>Dispose of as hazardous waste in compliance with local and national regulations. |
| Contaminated packaging | : | Packaging that is not properly emptied must be disposed of as the unused product.<br>Dispose of waste product or used containers according to local regulations. |

## 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

Not regulated as a dangerous good

| | | |
|---|---|---|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |

| | | |
|---|---|---|
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| Environmentally hazardous | : | no |

**IATA-DGR**

Not regulated as a dangerous good

| | | |
|---|---|---|
| UN/ID No. | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| Packing instruction (cargo aircraft) | : | Not applicable |
| Packing instruction (passenger aircraft) | : | Not applicable |

**IMDG-Code**

Not regulated as a dangerous good

| | | |
|---|---|---|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| EmS Code | : | Not applicable |
| Marine pollutant | : | no |

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

Not applicable for product as supplied.

**National Regulations**

**GB 6944/12268**

Not regulated as a dangerous good

| | | |
|---|---|---|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| Marine pollutant | : | no |

**JT/T 617**

| | | |
|---|---|---|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |

Environmentally hazardous no

**Special precautions for user**
Not applicable

## 15. REGULATORY INFORMATION

**National regulatory information**
Law on the Prevention and Control of Occupational Diseases

**Regulations on Safety Management of Hazardous Chemicals**

| | | |
|---|---|---|
| Catalogue of Hazardous Chemicals | : | This product is not listed in the catalogue of hazardous chemicals and it does not meet the definition of hazardous chemicals and its principles of determination. |
| Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218) | : | Not listed |
| Hazardous Chemicals for Priority Management under SAWS | : | Not listed |

**Regulations on Labour Protection in Workplaces where Toxic Substances are Used**

| | | |
|---|---|---|
| Catalogue of Highly Toxic Chemicals | : | Not listed |

**Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

| | | |
|---|---|---|
| China Severely Restricted Toxic Chemicals | : | Not listed |

**Regulation on the Administration of Precursor Chemicals**

| | | |
|---|---|---|
| Catalogue and Classification of Precursor Chemicals | : | Not listed |

**Regulations of Ozone Depleting Substances Management**

| | | |
|---|---|---|
| List of Controlled Ozone Depleting Substances | : | Not listed |
| List of Controlled Ozone Depleting Substances Import and Export | : | Not listed |

**Environmental Protection Law**

| | | |
|---|---|---|
| List of Priority Controlled Chemicals | : | Not listed |
| List of Key Controlled New Pollutants | : | Not listed |

| | | |
|---|---|---|
| List of Toxic and Hazardous Water Pollutants | : | Not listed |
| List of Toxic and Hazardous Air Pollutants | : | Not listed |
| List of Toxic and Hazardous Soil Pollutants | : | Not listed |

**Measures for the Administration on Import and Export Licenses for Dual-Use Items and Technologies**

| | | |
|---|---|---|
| Catalogue for Dual-Use Items and Technologies | : | Not listed |

**Other international regulations**

| | | |
|---|---|---|
| Montreal Protocol | : | Not applicable |
| Rotterdam Convention (Prior Informed Consent) | : | Not applicable |
| Stockholm Convention (Persistent Organic Pollutants) | : | Not applicable |

**The components of this product are reported in the following inventories:**

| | | |
|---|---|---|
| CN IECSC | : | On the inventory, or in compliance with the inventory |

## 16. OTHER INFORMATION

| | | |
|---|---|---|
| Revision Date | : | 2026-10-16 |
| Date format | : | yyyy/mm/dd |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing

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| Version | Revision Date: | Date of last issue: - | |
|---|---|---|---|
| 5.0 | 2026-10-16 | Date of first issue: 2026-10-16 | Print Date: 2026-10-16 |

Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LSPN - List of Hazardous Notified Substances (Chile); MARPOL - International Convention for the Prevention of Pollution from Ships; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

|| Relevant changes compared to the last edition are highlighted at the left margin. This version replaces all previous editions.

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