OKS 404

Version	Revision Date:	Date of last issue: -	Print Date:
5.0	16.10.2026	Date of first issue: 16.10.2026	16.10.2026

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

1.1 Product identifier

Product name : OKS 404

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

Use of the Substance/Mixture : Grease

Recommended restrictions on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

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 Deutschland GmbH & Co. KG
Geisenhausenerstraße 7
81379 München
Germany
Tel.: +49 (0) 89 7876 0
customer.service.de@klueber.com

1.4 Emergency telephone number

Emergency telephone number : +49 8142 3051 517

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Additional Labelling

EUH208 Contains Naphthenic acids, zinc salts; Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts; dipentylammonium dipentyldithiocarbamate. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3 Other 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.

Ecological information: 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.

Toxicological information: 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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	specific concentration limit M-Factor Notes Acute toxicity estimate	Concentration (% w/w)
dilithium azelate	38900-29-7 254-184-4 01-2120119814-57-XXXX 01-2120119814-57-XXXX	Acute Tox. 4; H302		>= 1 - < 10

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	01-2120119814-57-XXXX 01-2120119814-57-XXXX			
Poly(1,2-dihydro-2,2,4-trimethylquinoline)	26780-96-1 500-051-3	Aquatic Chronic 3; H412		>= 2,5 - < 10
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	4259-15-8 224-235-5 01-2119493635-27-XXXX	Eye Dam. 1; H318 Aquatic Chronic 2; H411	> 50 % Eye Dam.1, H318	>= 1 - < 2,5
Naphthenic acids, zinc salts	12001-85-3 234-409-2 01-2120783834-41-XXXX	Eye Irrit. 2; H319 Skin Sens. 1B; H317 Aquatic Chronic 2; H411		>= 0,25 - < 1
Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts	1471316-72-9	Skin Sens. 1B; H317		>= 0,1 - < 1
Reaction products of boric acid and lithium hydroxide	701-475-3 01-2120772309-47-xxxx	Acute Tox. 4; H302 Eye Dam. 1; H318 Repr. 2; H361d	>= 7,9 % Repr.2, ATE (Oral): 500 mg/kg	>= 0,1 - < 1
dipentylammonium dipentyldithiocarbamate	71902-20-0 276-172-8 01-2120793078-43-XXXX	Acute Tox. 4; H302 Skin Sens. 1B; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	M-Factor: 1/1 ATE (Oral): 500 mg/kg	>= 0,1 - < 0,25
Substances with a workplace exposure limit :				
Distillates (petroleum), hydrotreated heavy	64742-52-5 265-155-0	Not classified		>= 30 - < 50

naphthenic; Baseoil — unspecified	649-465-00-7 01-2119467170-45-XXXX		Note L	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Obtain medical attention.
Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
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.
If eye irritation persists, consult a specialist.

If swallowed : Move the victim to fresh air.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do NOT induce vomiting.
Obtain medical attention.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus
Metal oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

Further information : Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.
Do not breathe vapours or spray mist.
Do not breathe vapours, aerosols.
Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water courses.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for 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).

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
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.

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

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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.

Storage class (TRGS 510) : 10, Combustible liquids

7.3 Specific end use(s)

Specific use(s) : Specific instructions for handling, not required.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis

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Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified	64742-52-5	AGW (Vapour and aerosols)	5 mg/m3	DE TRGS 900 (2018-06-07)
	Peak-limit: excursion factor (category): 4;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified	Workers	Inhalation	Long-term local effects	5,58 mg/m3
	Workers	Inhalation	Long-term systemic effects	2,73 mg/m3
	Workers	Skin contact	Long-term systemic effects	0,97 mg/kg
dilithium azelate	Workers	Dermal	Long-term systemic effects	13,5 mg/kg bw/day
	Workers	Dermal	Long-term local effects	0,172 mg/cm2
Poly(1,2-dihydro-2,2,4-trimethylquinoline)	Workers	Inhalation	Long-term systemic effects	7 mg/m3
	Workers	Dermal	Long-term systemic effects	1 mg/kg bw/day
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	Workers	Inhalation	Long-term systemic effects	6,6 mg/m3
	Workers	Skin contact	Long-term systemic effects	9,6 mg/m3
Naphthenic acids, zinc salts	Workers	Inhalation	Long-term systemic effects	1,18 mg/m3
	Workers	Dermal	Long-term systemic effects	3,3 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified	Oral	9,33 mg/kg
dilithium azelate	Fresh water	0,023 mg/l
	Marine water	0,002 mg/l
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	Fresh water	0,004 mg/l
	Marine water	0,0046 mg/l

	Sewage treatment plant	3,8 mg/l
	Fresh water sediment	0,322 mg/l
	Marine sediment	0,032 mg/l
	Soil	0,062 mg/l
Naphthenic acids, zinc salts	Soil	3,873 mg/kg dry weight (d.w.)
	Fresh water	0,004 mg/l
	Fresh water sediment	19,438 mg/kg dry weight (d.w.)
	Marine water	0,0004 mg/l
	Marine sediment	1,944 mg/kg dry weight (d.w.)
	Microbiological Activity in Sewage Treatment Systems	0,6897 mg/l

8.2 Exposure controls

Engineering measures

Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Eye/face protection : Safety glasses with side-shields

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.
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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.

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

Filter type : Filter type P

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

Environmental exposure controls

Air : No special environmental precautions required.

Soil	:	The product should not be allowed to enter drains, water courses or the soil.
Water	:	The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	paste
Colour	:	brown
Odour	:	characteristic
Odour Threshold	:	No data available
Melting point/ range	:	> 260 °C (1.013 hPa)
Boiling point/boiling range	:	No data available
Flammability	:	Flammability (solid, gas): Not applicable Flammability (liquids): Sustains combustion
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	> 200 °C
Auto-ignition temperature	:	No data available

Decomposition temperature	:	No data available
pH	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	< 0,001 hPa (20 °C)
Relative density	:	0,93 (20 °C) Reference substance: Water The value is calculated
Density	:	0,93 g/cm3 (20 °C)
Bulk density	:	No data available
Relative vapour density	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	No data available
Self-ignition	:	No data available

Evaporation rate	:	No data available
Sublimation point	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

10.5 Incompatible materials

Materials to avoid : No materials to be especially mentioned.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2.000 mg/kg 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

Method: OECD Test Guideline 420
GLP: yes

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
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
Method: OECD Test Guideline 401
GLP: no

Acute dermal toxicity : LD50 (Rabbit, male): > 5.000 mg/kg
Method: OECD Test Guideline 402
GLP: no

Naphthenic acids, zinc salts:

Acute oral toxicity : LD50 (Rat): 4.920 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 11,6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
GLP: yes

Reaction products of boric acid and lithium hydroxide:

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

dipentylammonium dipentyldithiocarbamate:

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

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 5,53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

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

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

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

Serious eye damage/eye irritation

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

Product:

Assessment : No eye irritation
Result : No eye irritation

Components:

dilithium azelate:

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

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

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

Naphthenic acids, zinc salts:

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

Reaction products of boric acid and lithium hydroxide:

Assessment	:	Risk of serious damage to eyes.
Result	:	Risk of serious damage to eyes.

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
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.

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

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

GLP: yes

Naphthenic acids, zinc salts:

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

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

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

Product:

Remarks : No data available

Components:

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

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 - : - Fertility -

Assessment		Weight of evidence does not support classification for reproductive toxicity

Naphthenic acids, zinc salts:

Reproductive toxicity - Assessment	:	- Fertility - Weight of evidence does not support classification for reproductive toxicity

Reaction products of boric acid and lithium hydroxide:

Reproductive toxicity - Assessment	:	- Fertility - Some evidence of adverse effects on development, based on animal experiments.

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Effects on foetal development	:	Species: Rat Application Route: Dermal General Toxicity Maternal: LOAEL: 125 mg/kg body weight Teratogenicity: NOAEL: >= 2.000 mg/kg body weight Developmental Toxicity: NOAEL: >= 2.000 mg/kg body weight Embryo-foetal toxicity: NOAEL: >= 2.000 mg/kg body weight Method: OECD Test Guideline 414 Result: No effects on fertility and early embryonic development were detected.
Reproductive toxicity - Assessment	:	- Fertility - No toxicity to reproduction - Teratogenicity - No toxicity to reproduction

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.

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

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.

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

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

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:
No aspiration toxicity classification

11.2 Information on other hazards

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

Product:

Assessment	:	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.

Further information

Product:

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

SECTION 12: Ecological information

12.1 Toxicity

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 End point: mortality Exposure time: 96 h Test Type: semi-static test Analytical monitoring: no Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 75 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 240 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): 380 mg/l Exposure time: 16 h Test Type: static test GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 0,8 mg/l End point: reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes Remarks: Information given is based on data obtained from similar substances.

Naphthenic acids, zinc salts:

Toxicity to fish	:	LL50 (Cyprinus carpio (Carp)): > 100 mg/l Exposure time: 96 h 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

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10.000 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	LC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity)	:	NOELR: >= 1.000 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Remarks: The value is calculated
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: Reproduction Test Method: OECD Test Guideline 211

12.2 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	:	Test Type: aerobic Result: Not rapidly biodegradable Biodegradation: < 5 % Exposure time: 27 d Method: OECD Test Guideline 301D GLP: no

dipentylammonium dipentyldithiocarbamate:

Biodegradability	:	Test Type: aerobic Inoculum: activated sludge, non-adapted Result: Not rapidly biodegradable Biodegradation: 46,41 % Exposure time: 28 d Method: OECD Test Guideline 301B

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Biodegradability	:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Biodegradation: 3 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: yes

12.3 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)

12.4 Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : 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.

Components:

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

Assessment : Non-classified PBT substance. Non-classified vPvB substance

Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil — unspecified:

Assessment : Non-classified PBT substance. Non-classified vPvB substance

12.6 Endocrine disrupting properties

Product:

Assessment : 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

Product:

Additional ecological information : No information on ecology is available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Waste codes should be assigned by the user based on the application for which the product was used.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

The following Waste Codes are only suggestions:

Waste Code : used product, unused product
12 01 12*, spent waxes and fats

uncleaned packagings
15 01 10*, packaging containing residues of or contaminated by hazardous substances

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SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA (Cargo)	:	Not regulated as a dangerous good
IATA (Passenger)	:	Not regulated as a dangerous good

14.5 Environmental hazards

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). (EU SVHC)	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
Regulation (EU) No 2024/590 on substances that deplete the ozone layer (EC 2024/590)	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) (EU POP)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals (EU PIC)	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV) (EU. REACH-Annex XIV)	:	Not applicable
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors		Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous		Not applicable

substances.

Water hazard class (Germany)	:	WGK 2 obviously hazardous to water Classification according to AwSV, Annex 1 (5.2)
TA Luft List (Germany)	:	5.2.1: Total dust: others: 36,5 % 5.2.2: Inorganic substances in powdered form: Class 3: 0,9 % 5.2.5: Organic Substances: Class 1: 50,05 %
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0,15 %

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H361d	:	Suspected of damaging the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Note L	:	The harmonised classification as a carcinogen applies unless it can be shown that the substance contains less than 3 % of

		dimethyl sulphoxide extract as measured by IP 346 ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method"Institute of Petroleum, London), in which case a classification in accordance with Title II of this Regulation shall be performed also for that hazard class.
Repr.	:	Reproductive toxicity
Skin Sens.	:	Skin sensitisation
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; BGW - Biological Limit Values; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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

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