

OKS 265

Version	Revision Date:	Date of last issue: 10.07.2023	Print Date:
2.3	12.07.2023	Date of first issue: 03.06.2014	12.07.2023

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : OKS 265

Manufacturer or supplier's details

Company name of supplier : OKS Spezialschmierstoffe GmbH
Ganghoferstr. 47
D-82216 Maisach-Gernlinden
Tel.: +49 8142 3051 500
Fax.: +49 8142 3051 599
info@oks-germany.com

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

Emergency telephone number : +7 495 628 1687
+49 8142 3051 517

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : Restricted to professional users.

2. HAZARDS IDENTIFICATION

GHS Classification (According to GOST 32423, GOST 32424 and GOST 32425)

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

GHS-Labeling (According to GOST 31340)

Hazard pictograms :



Signal word : Danger

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Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P391 Collect spillage.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical nature : lithium soap
solid lubricant
Synthetic hydrocarbon oil

Components

Chemical name	Concentration (% w/w)	Occupational Exposure Limits		CAS-No.	EC-No.
		MAC value mg/m ³ / TSEL value	Hazard Class		
calcium dihydroxide	>= 10 - < 20	MPC-STEL: 2 mg/m ³ Data Source: RU OEL	3, +	1305-62-0	215-137-3
dizinc pyrophosphate	>= 2,5 - < 10	No data available		7446-26-6	231-203-4
Ethylene, tetrafluoro-, polymer	>= 1 - < 10	MPC-TWA: 10 mg/m ³ Data Source:	f, 4	9002-84-0	618-337-2

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		RU OEL			
thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]	$\geq 1 - < 10$	MPC-STEL: 10 mg/m ³ Data Source: RU OEL	4	41484-35-9	255-392-8
zinc oxide	$\geq 0,25 - < 1$	MPC-TWA: 0,5 mg/m ³ Data Source: RU OEL MPC-STEL: 1,5 mg/m ³ Data Source: RU OEL	2 2	1314-13-2	215-222-5
Benzenesulfonic acid, mono-C15-36-branched alkyl derivs., calcium salts	$\geq 0,1 - < 1$	No data available		90194-49-3	290-660-8

4. FIRST AID MEASURES

- If inhaled : 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.
Wash off immediately with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
Get medical attention immediately.
- If swallowed : Move the victim to fresh air.
Call a physician immediately.
If unconscious, place in recovery position and seek medical advice.

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Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Give small amounts of water to drink.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : corrosive effects
Causes skin irritation.
May cause an allergic skin reaction.
Skin contact may provoke the following symptoms:
Erythema
Allergic appearance

Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
Treat symptomatically.

5. FIREFIGHTING MEASURES

Flammable properties

Flash point : Not applicable
Ignition temperature : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flammability (solid, gas) : Combustible Solids

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
Sulphur oxides
Oxides of phosphorus
Halogenated compounds
Metal oxides

Further information : Standard procedure for chemical fires.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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.

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6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions,
protective equipment and
emergency procedures | : | Evacuate personnel to safe areas.
Use the indicated respiratory protection if the occupational
exposure limit is exceeded and/or in case of product release
(dust).
Do not breathe vapours, aerosols.
Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : | Do not allow contact with soil, surface or ground water.
If the product contaminates rivers and lakes or drains inform
respective authorities. |
| Methods and materials for
containment and cleaning up | : | Clean up promptly by sweeping or vacuum.
Keep in suitable, closed containers for disposal. |

7. HANDLING AND STORAGE

- | | | |
|-----------------------------|---|--|
| Advice on safe handling | : | Avoid contact with skin and eyes.
For personal protection see section 8.
Persons with a history of skin sensitisation problems or
asthma, allergies, chronic or recurrent respiratory disease
should not be employed in any process in which this mixture is
being used.
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.
These safety instructions also apply to empty packaging which
may still contain product residues.
Keep container closed when not in use. |
| 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. |

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Data Source
calcium dihydroxide	1305-62-0	TWA (Respirable fraction)	1 mg/m ³	2017/164/EU (2017-02-01)
		STEL (Respirable fraction)	4 mg/m ³	2017/164/EU (2017-02-01)
		MPC-STEL (aerosol)	2 mg/m ³	RU OEL (2021-02-03)
Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection				
Ethylene, tetrafluoro-, polymer	9002-84-0	MPC-TWA (aerosol)	10 mg/m ³	RU OEL (2021-02-03)
Further information: aerosols of predominantly fibrogenic action, Class 4 - Low hazard				
thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]	41484-35-9	MPC-STEL (aerosol)	10 mg/m ³	RU OEL (2021-02-03)
Further information: Class 4 - Low hazard				
zinc oxide	1314-13-2	MPC-TWA (aerosol)	0,5 mg/m ³	RU OEL (2021-02-03)
Further information: Class 2 - Highly dangerous				
		MPC-STEL (aerosol)	1,5 mg/m ³	RU OEL (2021-02-03)
Further information: Class 2 - Highly dangerous				

Engineering measures : none

Personal protective equipment

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

Filter type : Filter type A-P

Hand protection

Material : Nitrile rubber

Break through time : > 10 min

Protective index : Class 1

Remarks : Wear 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.

Eye protection : Tightly fitting safety goggles

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- 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.
- 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 : paste
- Colour : white
- Odour : odourless
- Odour Threshold : No data available
- pH : Not applicable
substance/mixture is non-soluble (in water)
- Melting point/range : Not applicable
- Boiling point/boiling range : No data available
- Flash point : Not applicable
- Evaporation rate : No data available
- Flammability (solid, gas) : Combustible Solids
- Self-ignition : No data available
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available

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Vapour pressure	:	< 0,001 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	0,95 (20 °C) Reference substance: Water The value is calculated
Density	:	0,95 g/cm ³ (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	:	Not applicable
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	:	>280 °C danger of forming toxic fluorine-containing pyrolysis

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products

products.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Symptoms: Pain, Stomach/intestinal disorders

Acute inhalation toxicity : Remarks: Risk of delayed pulmonary oedema.
Effects of breathing high concentrations of vapour may include:
Irritating to respiratory system.

Acute toxicity estimate: > 10 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Symptoms: Blistering, Redness, Local irritation

Components:

calcium dihydroxide:

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 6,04 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.500 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

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dizinc pyrophosphate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 4,73 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Guinea pig): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

Ethylene, tetrafluoro-, polymer:

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

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

Acute inhalation toxicity : LC50 (Rat): > 6,3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

zinc oxide:

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

Acute inhalation toxicity : LC50 (Rat): > 5,7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Remarks : Causes skin burns.
Irritating to skin.

Components:

calcium dihydroxide:

Species : human skin
Assessment : Irritating to skin.
Method : OECD Test Guideline 431
Result : Irritating to skin.
GLP : yes

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : Irritating to skin.
GLP : yes

dizinc pyrophosphate:

Species : human skin
Assessment : No skin irritation
Method : OECD Test Guideline 439
Result : No skin irritation
GLP : yes

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Ethylene, tetrafluoro-, polymer:

Species	:	Rabbit
Assessment	:	No skin irritation
Result	:	No skin irritation

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

zinc oxide:

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

Serious eye damage/eye irritation

Product:

Remarks	:	Causes eye burns.
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Components:

calcium dihydroxide:

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

dizinc pyrophosphate:

Species	:	Bovine cornea
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 437
GLP	:	yes

Ethylene, tetrafluoro-, polymer:

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

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

zinc oxide:

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

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

calcium dihydroxide:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.
GLP : yes

dizinc pyrophosphate:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 429
Result : Did not cause sensitisation on laboratory animals.
GLP : yes

Ethylene, tetrafluoro-, polymer:

Assessment : Did not cause sensitisation on laboratory animals.
Result : Did not cause sensitisation on laboratory animals.

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thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

zinc oxide:

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

Benzenesulfonic acid, mono-C15-36-branched alkyl derivs., calcium salts:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro	: Remarks: No data available
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Genotoxicity in vivo	: Remarks: No data available
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Components:

calcium dihydroxide:

Genotoxicity in vitro	: Test Type: Ames test
	Method: OECD Test Guideline 471
	Result: negative
	GLP: yes

	Test Type: Chromosome aberration test in vitro
	Method: OECD Test Guideline 473
	Result: negative
	GLP: yes

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Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
GLP: yes

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Hamster
Method: Mutagenicity (micronucleus test)
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

zinc oxide:

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

Carcinogenicity

Product:

Remarks : No data available

Components:

calcium dihydroxide:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Ethylene, tetrafluoro-, polymer:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

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zinc oxide:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

calcium dihydroxide:

Reproductive toxicity - Assessment : - Fertility -
No toxicity to reproduction
- Teratogenicity -
No effects on or via lactation

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Reproductive toxicity - Assessment : - Fertility -
No toxicity to reproduction
- Teratogenicity -
Animal testing did not show any effects on foetal development.

zinc oxide:

Reproductive toxicity - Assessment : - Fertility -
No toxicity to reproduction
- Teratogenicity -
No toxicity to reproduction

STOT - single exposure

Product:

Remarks : No data available

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Components:

calcium dihydroxide:

Assessment : May cause respiratory irritation.

Ethylene, tetrafluoro-, polymer:

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

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

zinc oxide:

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

STOT - repeated exposure

Product:

Remarks : No data available

Components:

Ethylene, tetrafluoro-, polymer:

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

zinc oxide:

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.

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Components:

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Species	:	Rat
NOAEL	:	>= 138 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 408

Aspiration toxicity

Product:

This information is not available.

Components:

dizinc pyrophosphate:

No aspiration toxicity classification

Ethylene, tetrafluoro-, polymer:

No aspiration toxicity classification

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

No aspiration toxicity classification

zinc oxide:

No aspiration toxicity classification

Further information

Product:

Remarks	:	Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance. Ingestion causes burns of the upper digestive and respiratory tracts.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

Components:

calcium dihydroxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 50,6 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)): 49,1 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 184,57 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Ecotoxicology Assessment

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

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

dizinc pyrophosphate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 1,948 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)): < 5,6 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,233 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 57 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: Aquatic toxicity is unlikely due to low solubility.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes
Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test

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Method: OECD Test Guideline 201
GLP: yes
Remarks: No toxicity at the limit of solubility

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 10 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC20 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Ecotoxicology Assessment

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

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

zinc oxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,55 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,136 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

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M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): 0,04 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
GLP: yes

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

calcium dihydroxide:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Biodegradability : Primary biodegradation
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 7 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

zinc oxide:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

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Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): ≤ 12
Exposure time: 56 d
Method: OECD Test Guideline 305C

Partition coefficient: n-octanol/water : log Pow: 10 (25 °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 : Toxic to aquatic life with long lasting effects.

Components:

dizinc pyrophosphate:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ethylene, tetrafluoro-, polymer:

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

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thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]:

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

zinc oxide:

Results of PBT and vPvB : Remarks: Not applicable assessment

Hygienic standards:

(Allowable concentration in air, water, including fishery waters, soil)

Components	Air	Water	Soil	Data Source
calcium dihydroxide	Concentration that prevents irritation, reflex reactions, odors when exposed to 20-30 minutes - maximum one-time: 0,03 mg/m ³ Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately dangerous Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average daily: 0,01 mg/m ³ Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately dangerous	No data available	No data available	List 1
thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]	TSEL value: 0,1 mg/m ³	No data available	No data available	List 2
zinc oxide	Concentration that provides admissible (acceptable) levels of risk when	No data available	No data available	List 1

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	<p>exposed to at least 24 hours - average daily: 0,05 mg/m³ (Zinc) Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately dangerous Concentration that provides permissible (acceptable) levels of risk for chronic (at least 1 year) exposure - average annual: 0,035 mg/m³ (Zinc) Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately dangerous</p>			
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For explanation of abbreviations see section 16.

13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : 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.
- 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

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

14. TRANSPORT INFORMATION

ADR

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(dizinc pyrophosphate)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90
Tunnel restriction code : (-)
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(dizinc pyrophosphate)
Class : 9
Packing group : III
Labels : Miscellaneous Dangerous Goods
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(dizinc pyrophosphate)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.



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15. REGULATORY INFORMATION

National regulatory information

Federal Law of 21.07.1997 No. 116-FZ (amended on 11.06.2021) "On industrial safety of hazardous production facilities".

Federal Law of 24.06.1998 No. 89-FZ (amended on 02.07.2021) "On production and consumption waste".

Federal Law of 30.03.1999 No. 52-FZ (amended on 02.07.2021) "On the Sanitary and Epidemiological Well-Being of the Population" (amended and supplemented, entered into force on 31.10.2021).

Federal Law of 04.05.1999 No. 96-FZ "On the protection of atmospheric air" (as amended on December 8, 2020).

Federal Law of 27.12.2002 No. 184-FZ (amended on 02.07.2021) "On Technical Regulation" (amended and supplemented, entered into force on 01.09.2021).

Federal Law of 10.01.2002 No. 7-FZ (amended on 02.07.2021) "On environmental protection".

Federal Law of 22.07.2008 No. 123-FZ "Technical Regulations on Fire Safety Requirements" TECHNICAL REGULATIONS OF THE CUSTOMS UNION TR CU 030/2012 On requirements for lubricants, oils and special fluids (amended on 03.03.2017).

International Regulations

Montreal Protocol : Not applicable

Rotterdam Convention (Prior Informed Consent) : Not applicable

Stockholm Convention (Persistent Organic Pollutants) : Not applicable

16. OTHER INFORMATION

List of data sources used in the preparation of the Safety Data Sheet

GOST 30333-2007. Interstate standard. Safety data sheet for chemical products. Primary requirements.

GOST 12.1.004-91 System of labor safety standards (SSBT). Fire safety. General requirements.

GOST 12.1.007-76 Occupational safety standards system. Noxious substances. Classification and general safety requirements

GOST 12.1.044-89 SSBT. Fire and explosion hazard of substances and materials. Nomenclature of indicators and methods for their determination.

GOST 12.4.021 System of labor safety standards (SSBT). Ventilation systems. General requirements.

GOST 12.4.137-2001 Special footwear with leather uppers for protection against oil, oil products, acids, alkalis, non-toxic and explosive dust. Technical conditions.

GOST 12.4.252-2013 System of labor safety standards (SSBT). Means of individual protection of hands. Gloves. General technical requirements. Test methods.

GOST 14192-96. Interstate standard. Cargo marking. Minsk, 1998.

GOST 19433-88 Dangerous goods. Classification and labeling.

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GOST 31340-2013. Interstate standard. Precautionary labeling of chemical products. General requirements.

GOST 32419-2013 Classification of the hazard of chemical products. General requirements.

GOST 32421-2013 Classification of chemical products, the hazard of which is due to physical and chemical properties. Test methods for explosive chemical products.

GOST 32423-2013 Hazard classification of mixed chemical products by their effects on the body.

GOST 32424-2013 Classification of the hazard of chemical products by their impact on the environment. Basic provisions.

GOST 32425-2013 Hazard classification of mixed chemical products in terms of environmental impact.

GOST R 53264-2019 Fire fighting equipment. Special protective clothing for firefighters. General technical requirements. Test methods.

GOST R 53265-2019 Fire fighting equipment. Personal protective equipment for the feet of the firefighter. General technical requirements. Test methods.

GOST R 53268-2009 Fire fighting equipment. Fire rescue belts. General technical requirements. Test methods.

GOST R 53269-2019 Fire fighting equipment. Firefighters helmets. General technical requirements. Test methods.

SanPiN 1.2.2353-08 "Carcinogenic factors and basic requirements for the prevention of carcinogenic hazard".

SanPiN 1.2.3685-21 "Hygienic standards and requirements for ensuring the safety and (or) harmlessness to humans of environmental factors" dated 28.01.2021.

SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of the territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, living quarters, the operation of industrial, public premises, the organization and implementation of sanitary and anti-epidemic (preventive) measures".

SanPiN 2.2.0.555-96. 2.2. Labor hygiene. Hygienic requirements for working conditions for women. Sanitary rules and regulations.

Carriage of dangerous goods, International maritime dangerous goods (IMDG) code.

Water quality standards for fishery water bodies, including standards for maximum permissible concentrations of harmful substances in the waters of fishery water bodies (approved by order of the Ministry of Agriculture of Russia dated December 13, 2016 No. 552).

Regulations for the carriage of dangerous goods (Appendix 1 and 2) to the Agreement on International Goods Transport by Rail (SMGS), 2009.

Agreement on International Goods Transport by Rail (SMGS).

UN Recommendations on the Transport of Dangerous Goods. Typical rules. Twenty-second revised edition. United Nations, New York and Geneva, 2021.

Montreal Protocol (Ozone Depleting Substances)

Stockholm Convention (Persistent Organic Pollutants)

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
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
RU OEL	: SanPiN 1.2.3685-21 Table 2.1, Table 2.8, Table 2.16 & Table 2.17 Maximum permissible concentrations (MPC) in the air of

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	the working area
2017/164/EU / STEL	: Short term exposure limit
2017/164/EU / TWA	: Limit Value - eight hours
RU OEL / MPC-STEEL	: Maximum Permissible Concentration - Short Term Exposure
RU OEL / MPC-TWA	: Maximum Permissible Concentration - Time Weighted Average
List 1	: SanPiN 1.2.3685-21 Table 1.1, Table 1.10, & Table 1.11 Maximum permissible concentration (MPC) in the air of urban and rural settlements
List 2	: SanPiN 1.2.3685-21 Table 1.2, Table 1.12 & Table 1.13 Tentative Safe Exposure Levels (TSEL) in the air of urban and rural settlements

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; 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; GHS - Globally Harmonized 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 Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; 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); 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 - Organization 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; TCSI - Taiwan Chemical Substance Inventory; 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

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from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.