

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE

KLÜBER
LUBRICATION

Klüberpaste 46 MR 401

Version	Revision Date:	Date of last issue: 02.08.2018	Print Date:
2.4	19.09.2018	Date of first issue: 30.06.2015	13.12.2018

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

1.1 Product identifier

Product name : Klüberpaste 46 MR 401

Article-No. : 005108

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

Use of the Sub-
stance/Mixture : Lubricant

Recommended restrictions
on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Company : Klüber Lubrication München
Geisenhausenerstr. 7
81379 München
Deutschland
Tel: +49 (0) 89 7876 0
Fax: +49 (0) 89 7876 333
info@klueber.com

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

National contact : Klüber Lubrication Deutschland
Geisenhausenerstraße 7
81379 München
Deutschland
Tel.: +49 89 7876 0
Fax: +49 89 7876 565
customer.service.de@klueber.com
www.klueber.com

1.4 Emergency telephone number

Emergency telephone
number : +49 89 7876 700 (24 hrs)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Chronic aquatic toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Hazard statements : H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:
P273 Avoid release to the environment.

Response:
P391 Collect spillage.

Additional Labelling

EUH208 Contains N-alkylated benzotriazole. May produce an allergic reaction.

2.3 Other hazards

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).

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : polyalkylene glycol oil
lithium soap
solid lubricant

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
trizinc bis(orthophosphate)	7779-90-0 231-944-3 030-011-00-6 01-2119485044-40-XXXX	Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	>= 10 - < 20
disodium sebacate	17265-14-4 241-300-3	Eye Irrit.2; H319		>= 1 - < 10

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	01-2120762063-61-XXXX			
antimony compounds	15890-25-2 240-028-2 051-003-00-9	Acute Tox.4; H302 Acute Tox.4; H332 Aquatic Chronic2; H411	Note A, Note 1	>= 1 - < 2,5
2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole	59656-20-1 261-844-5	Aquatic Chronic3; H412		>= 1 - < 2,5
bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine	15721-78-5 239-816-9 01-2119930672-39-XXXX	Aquatic Chronic3; H412		>= 1 - < 2,5
zinc oxide	1314-13-2 215-222-5 030-013-00-7 01-2119463881-32-XXXX	Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	>= 0,25 - < 1
2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol	95-38-5 202-414-9 01-2119777867-13-XXXX	Acute Tox.4; H302 Skin Corr.1C; H314 Eye Dam.1; H318 STOT RE2; H373 Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 10/1	>= 0,25 - < 1
N-alkylated benzotriazole	94270-86-7	Skin Irrit.2; H315 Skin Sens.1B; H317 Aquatic Acute1; H400 Aquatic Chronic2; H411	M-Factor: 1/1	>= 0,1 - < 0,25
Substances with a workplace exposure limit :				
titanium dioxide	13463-67-7 236-675-5 01-2119489379-17-XXXX			>= 10 - < 20
Ethylene, tetrafluoro-polymer	9002-84-0			>= 1 - < 10

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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.
If eye irritation persists, consult a specialist.
- If swallowed : Get medical attention if symptoms occur.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
- 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.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

Risks : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No information available.

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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

Specific hazards during fire-fighting : Fire may cause evolution of:
Carbon oxides
Halogenated compounds
Metal oxides
Nitrogen oxides (NO_x)
Oxides of phosphorus
Sulphur 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. In the case of respirable dust and/or fumes, use self-contained breathing apparatus. Exposure to decomposition products may be a hazard to health.

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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). Avoid breathing dust. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Do not allow contact with soil, surface or ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up promptly by sweeping or vacuum.
Keep in suitable, closed containers for disposal.

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 : 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.
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) : 11, Combustible Solids

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form	Control parameters	Basis
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titanium dioxide	13463-67-7	of exposure) AGW (Inhalable fraction)	10 mg/m ³ (Titanium dioxide)	DE TRGS 900 (2014-04-02)
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m ³ (Titanium dioxide)	DE TRGS 900 (2014-04-02)
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Ethylene, tetrafluoro-, polymer	9002-84-0	AGW (Inhalable fraction)	10 mg/m ³	DE TRGS 900 (2014-04-02)
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m ³	DE TRGS 900 (2014-04-02)
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
trizinc bis(orthophosphate)	Workers	Inhalation	Long-term systemic effects	5 mg/m ³

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	Workers	Skin contact	Long-term systemic effects	83 mg/kg
disodium sebacate	Workers	Skin contact	Long-term systemic effects	10 mg/kg
	Workers	Inhalation	Long-term systemic effects	35,26 mg/m ³
2,5-bis(tert-dodecylthio)-1,3,4-thiadiazole	Workers	Inhalation	Long-term systemic effects	4,408 mg/m ³
	Workers	Skin contact	Long-term systemic effects	6,25 mg/kg bw/day
bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine	Workers	Inhalation	Long-term systemic effects	13,127 mg/m ³
	Workers	Inhalation	Acute systemic effects	39,38 mg/m ³
	Workers	Skin contact	Long-term systemic effects	0,938 mg/kg
	Workers	Skin contact	Acute systemic effects	2,81 mg/kg
zinc oxide	Workers	Inhalation	Long-term systemic effects	5 mg/m ³
	Workers	Inhalation	Long-term local effects	0,5 mg/m ³
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol	Workers	Skin contact	Long-term exposure, Systemic effects	0,6 mg/kg
	Workers	Inhalation	Long-term exposure, Systemic effects	0,46 mg/m ³
	Workers	Skin contact	Short-term exposure, Systemic effects	2 mg/kg
	Workers	Inhalation	Short-term exposure, Systemic effects	14 mg/m ³
N-alkylated benzotriazole	Industrial use	Inhalation	Long-term systemic effects	1,3 mg/m ³
	Industrial use	Skin contact	Long-term systemic effects	0,4 mg/kg

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

Substance name	Environmental Compartment	Value
trizinc bis(orthophosphate)	Fresh water	0,0206 mg/l
	Marine water	0,0061 mg/l
	Microbiological Activity in Sewage Treatment Systems	0,100 mg/l
	Fresh water sediment	117,8 mg/kg

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	Marine sediment	56,5 mg/kg
	Soil	35,6 mg/kg
disodium sebacate	Fresh water	0,018 mg/l
	Marine water	0,002 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0,548 mg/kg
	Marine sediment	0,055 mg/kg
	Soil	0,099 mg/kg
2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole	Fresh water	0,041 mg/l
	Marine water	0,0041 mg/l
	Intermittent use/release	0,41 mg/l
	Microbiological Activity in Sewage Treatment Systems	8000 mg/l
	Fresh water sediment	380,62 mg/kg
	Marine sediment	38,06 mg/kg
	Soil	308,98 mg/kg
	Oral	6,67 mg/kg
bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine	Fresh water	0 mg/l
Remarks:	No data available	
zinc oxide	Fresh water	0,0206 mg/l
	Marine water	0,0061 mg/l
	Microbiological Activity in Sewage Treatment Systems	0,100 mg/l
	Fresh water sediment	117,8 mg/kg
	Marine sediment	56,5 mg/kg
	Soil	35,6 mg/kg
2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol	Fresh water	0,00003 mg/l
	Marine water	0,000003 mg/l
	Fresh water sediment	0,376 mg/kg
	Marine sediment	0,0376 mg/kg
	Soil	0,075 mg/kg
N-alkylated benzotriazole	Fresh water	0,000976 mg/l
	Marine water	0,000098 mg/l
	Intermittent use/release	0,00976 mg/l
	Soil	0,00184 - 0,842 mg/kg
	Fresh water sediment	0,0121 - 4,23 mg/kg
	Marine sediment	0,00121 - 0,423 mg/kg
	Microbiological Activity in Sewage Treatment Systems	0,69 mg/l

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8.2 Exposure controls

Engineering measures

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

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Hand protection

Material : Nitrile rubber
Protective index : Class 1

Remarks : Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. 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.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : paste

Colour : white

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable

Melting point/range : No data available

Boiling point/boiling range : No data available

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Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Combustible Solids
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	< 0,001 hPa (20 °C)
Relative vapour density	:	No data available
Density	:	1,23 g/cm ³ (20 °C)
Bulk density	:	Not applicable
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
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

Sublimation point	:	Not applicable
Self-ignition	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

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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

Hazardous decomposition products : >280 °C danger of forming toxic fluorine-containing pyrolysis products.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Remarks: This information is not available.

Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

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Assessment: The substance or mixture has no acute dermal toxicity

antimony compounds:

Acute oral toxicity : LD50 (Rat): > 300 - 2.000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute toxicity estimate: 500,0 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : LC50 (Rat): > 2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

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

Acute inhalation toxicity : LC50 (Rat): > 2,75 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.
Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Information given is based on data obtained from similar substances.

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

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

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toxicity

zinc oxide:

- 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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

- Acute oral toxicity : LD50 (Rat): 1.265 mg/kg
Method: OECD Test Guideline 401
GLP: yes
- Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

N-alkylated benzotriazole:

- Acute oral toxicity : LD50 (Rat): 3.313 mg/kg
Method: OECD Test Guideline 401
- Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

titanium dioxide:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
- Acute inhalation toxicity : (Rat): > 5,09 mg/l
Method: OECD Test Guideline 403
GLP: no

Ethylene, tetrafluoro-, polymer:

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

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Skin corrosion/irritation

Product:

Remarks: This information is not available.

Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

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

antimony compounds:

Species: Rabbit
Remarks: slight irritation

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

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

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

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

zinc oxide:

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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4

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hours and observations up to 14 days.
GLP: yes

N-alkylated benzotriazole:

Species: Rabbit
Assessment: Irritating to skin.
Method: Draize Test
Result: Irritating to skin.

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

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

Serious eye damage/eye irritation

Product:

Remarks: This information is not available.

Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

Species: Rabbit
Assessment: Irritating to eyes.
Method: OECD Test Guideline 437
Result: Irritating to eyes.
GLP: yes

antimony compounds:

Species: Rabbit
Remarks: Moderate eye irritation

2,5-bis(tert-dodecylthio)-1,3,4-thiadiazole:

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

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

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

zinc oxide:

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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Species: Rabbit
Assessment: Corrosive
Method: OECD Test Guideline 405
Result: Corrosive

N-alkylated benzotriazole:

Species: Rabbit
Assessment: No eye irritation
Method: Draize Test
Result: No eye irritation

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

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

Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

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Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

Species: Guinea pig
Assessment: Did not cause sensitisation on laboratory animals.
Result: Did not cause sensitisation on laboratory animals.

2,5-bis(tert-dodecylidithio)-1,3,4-thiadiazole:

Test Type: Buehler 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.

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

Species: Guinea pig
Assessment: Did not cause sensitisation on laboratory animals.
Result: Did not cause sensitisation on laboratory animals.

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.

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

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

N-alkylated benzotriazole:

Test Type: Maximisation Test
Species: Guinea pig
Assessment: The product is a skin sensitiser, sub-category 1B.
Method: OECD Test Guideline 406
Result: The product is a skin sensitiser, sub-category 1B.

titanium dioxide:

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Species: Mouse
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

Ethylene, tetrafluoro-, polymer:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

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

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Species: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

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

zinc oxide:

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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

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

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N-alkylated benzotriazole:

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

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

titanium dioxide:

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

Carcinogenicity

Product:

Remarks: No data available

Components:

trizinc bis(orthophosphate):

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

zinc oxide:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

N-alkylated benzotriazole:

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

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Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

trizinc bis(orthophosphate):

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

disodium sebacate:

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

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Effects on fertility : Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 1.000 mg/kg body weight
General Toxicity F1: NOAEL: 1.000 mg/kg body weight
Method: OECD Test Guideline 421
Remarks: Information given is based on data obtained from similar substances.

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

zinc oxide:

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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.
Did not show teratogenic effects in animal experiments.

N-alkylated benzotriazole:

Effects on fertility : Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 45 mg/kg body weight
General Toxicity F1: NOAEL: 45 mg/kg body weight
Fertility: NOAEL: 150 mg/kg body weight
Method: OECD Test Guideline 422

Effects on foetal development : Species: Rat
Application Route: Oral
Duration of Single Treatment: 28 h
General Toxicity Maternal: NOAEL: 45 mg/kg body weight

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Developmental Toxicity: NOAEL: 45 mg/kg body weight
Method: OECD Test Guideline 422

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

titanium dioxide:

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

STOT - single exposure

Components:

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

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.

N-alkylated benzotriazole:

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

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

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

STOT - repeated exposure

Components:

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

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.

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2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Exposure routes: Ingestion

Target Organs: Digestive organs, thymus gland

Assessment: May cause damage to organs through prolonged or repeated exposure.

N-alkylated benzotriazole:

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

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

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:

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Species: Rat

NOAEL: 250 mg/kg

Application Route: Oral

Method: OECD Test Guideline 421

Remarks: Information given is based on data obtained from similar substances.

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Species: Rat

100 mg/kg

NOAEL: 20 mg/kg

Application Route: Oral

N-alkylated benzotriazole:

Species: Rat

NOAEL: 45 mg/kg

Application Route: Oral

Exposure time: 28

Method: OECD Test Guideline 422

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Aspiration toxicity

Product:

This information is not available.

Components:

trizinc bis(orthophosphate):

No aspiration toxicity classification

disodium sebacate:

No aspiration toxicity classification

zinc oxide:

No aspiration toxicity classification

N-alkylated benzotriazole:

No aspiration toxicity classification

titanium dioxide:

No aspiration toxicity classification

Ethylene, tetrafluoro-, polymer:

No aspiration toxicity classification

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: 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 : Remarks: No data available

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Toxicity to microorganisms :
Remarks: No data available

Components:

trizinc bis(orthophosphate):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0,14 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,08 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,136 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

disodium sebacate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : EL50 (Skeletonema costatum (marine diatom)): 38,7 mg/l
Exposure time: 72 h
Test Type: static test
Method: ISO 10253
GLP: yes

antimony compounds:

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

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2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1.000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 41 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

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

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting 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 : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,136 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

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

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GLP:

Toxicity to fish (Chronic toxicity) : NOEC: $\geq 0,054$ mg/l
Exposure time: 32 d
Species: Danio rerio (zebra fish)
Test Type: flow-through test
Method: OECD Test Guideline 210

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

M-Factor (Chronic aquatic toxicity) : 1

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 0,3 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,136 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 0,03 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): 26 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

M-Factor (Chronic aquatic toxicity) : 1

N-alkylated benzotriazole:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 1,3 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,05 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 0,762 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC20 (activated sludge): 15 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
- M-Factor (Chronic aquatic toxicity) : 1

Ecotoxicology Assessment

- Acute aquatic toxicity : Very toxic to aquatic life.
- Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

titanium dioxide:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

12.2 Persistence and degradability

Product:

- Biodegradability : Remarks: No data available
- Physico-chemical removability : Remarks: No data available

Components:

trizinc bis(orthophosphate):

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

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disodium sebacate:

Biodegradability : Result: Biodegradable
Biodegradation: 89 %
Exposure time: 28 d

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Biodegradability : Test Type: Primary biodegradation
Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

Biodegradability : Test Type: aerobic
Result: Not rapidly biodegradable
Biodegradation: 1,38 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

zinc oxide:

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

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Biodegradability : Test Type: Primary biodegradation
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

N-alkylated benzotriazole:

Biodegradability : Test Type: Primary biodegradation
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: < 10 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

12.3 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).

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Components:

disodium sebacate:

Partition coefficient: n-octanol/water : log Pow: -4,9 (20 °C)
pH: 7,8

antimony compounds:

Partition coefficient: n-octanol/water : log Pow: 12,69 (20 °C)

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 3,16

Partition coefficient: n-octanol/water : log Pow: 8 (20 °C)

bis(4-(1,1,3,3-tetramethylbutyl)phenyl)amine:

Partition coefficient: n-octanol/water : log Pow: 10,82 (25 °C)

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol:

Bioaccumulation : Bioconcentration factor (BCF): 371,8
Remarks: Does not accumulate in organisms.

Partition coefficient: n-octanol/water : log Pow: 7,51

N-alkylated benzotriazole:

Bioaccumulation : Bioconcentration factor (BCF): 1.676

Partition coefficient: n-octanol/water : Remarks: Not applicable

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 mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).. This mixture contains no substance considered to be very persistent and very bio-

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accumulating (vPvB)..

: 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:

trizinc bis(orthophosphate):

Assessment : Remarks: Not applicable

2,5-bis(tert-dodecyldithio)-1,3,4-thiadiazole:

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

zinc oxide:

Assessment : Remarks: Not applicable

titanium dioxide:

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

Ethylene, tetrafluoro-, polymer:

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

12.6 Other adverse effects

Product:

Additional ecological information : Toxic to aquatic life with long lasting effects.

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 : The following Waste Codes are only suggestions:

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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.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3077
IMDG : UN 3077
IATA : UN 3077

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Zinc Phosphate)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Zinc Phosphate)
IATA : Environmentally hazardous substance, solid, n.o.s.
(Zinc Phosphate)

14.3 Transport hazard class(es)

ADR : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F
IATA (Cargo)
Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

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IATA (Passenger)

Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

No special precautions required.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

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 - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

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Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

E1

34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2.500 t	25.000 t
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Water contaminating class (Germany) : WGK 3 highly water endangering
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : Total dust:
others: 38,33 %

Inorganic substances in powdered form:
portion Class 3: 1,79 %

Inorganic substances in vapour or gaseous form:
Not applicable
Organic Substances:
others: 59,87 %

Carcinogenic substances:
Not applicable
Mutagenic:
Not applicable
Toxic to reproduction:
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Remarks: Not applicable

15.2 Chemical safety assessment

This information is not available.

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SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed.
H314 : Causes severe skin burns and eye damage.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful if inhaled.
H373 : May cause damage to organs through prolonged or repeated exposure if swallowed.
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

Note 1 : The concentration stated or, in the absence of such concentrations, the generic concentrations set out in this Regulation are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

Note A : Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as "... compounds" or "... salts". In this case, the supplier is required to state on the label the correct name, due account being taken of section 1.1.1.4.

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; 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 Harmonized System;

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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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance 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

Classification of the mixture:

Aquatic Chronic 2 H411

Classification procedure:

Calculation method

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