

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## ZN-18

Version	Revision Date:	SDS Number:	Date of last issue: 20.07.2018
10.0	01.10.2018	139847-00015	Date of first issue: 27.05.2015

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

#### 1.1 Product identifier

Trade name : ZN-18

SDS-Identcode : 030G

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

Use of the Substance/Mixture : Industrial use, Thread Compound (Pipe Dope) and Jacking grease for use in Offshore industries, Mining, (without offshore industries)

Recommended restrictions on use : Do not use on oxygen lines or in oxygen enriched atmospheres.

#### 1.3 Details of the supplier of the safety data sheet

Company : Bestolife Corporation INTERTEK FRANCE  
2777 N. Stemmons Frwy 27400 HEUDEBOUVILLE  
DALLAS, TX 75207, FRANCE

Telephone : 855-243-9164/972-865-8961 +33 385 991270

Telefax : 214-631-3047 +33 385 991288

E-mail address of person responsible for the SDS : [www.bestolife.com/christian.gimenez@intertek.com/if.reach@intertek.com](http://www.bestolife.com/christian.gimenez@intertek.com/if.reach@intertek.com)

#### 1.4 Emergency telephone number

CHEMTREC: +(44)-870-8200418; Interntnl: +1-703-527-3887 NHS Drct: +44 0845 4647 (Medical only)

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.
Reproductive toxicity, Category 1A	H360D: May damage the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H319 Causes serious eye irritation. H360D May damage the unborn child. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	<b>Prevention:</b> P201 Obtain special instructions before use. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. <b>Response:</b> P308 + P313 IF exposed or concerned: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P391 Collect spillage.

Hazardous components which must be listed on the label:

||Lead

### Additional Labelling

EUH208 Contains Calcium petroleum sulfonates. May produce an allergic reaction.  
Restricted to professional users.

### 2.3 Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Zinc	7440-66-6 231-175-3 030-001-01-9 01-2119467174-37	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20
Calcium oxide	1305-78-8 215-138-9	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	>= 1 - < 3
Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)	Not Assigned 01-2119980985-16	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 10

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Quartz	14808-60-7 238-878-4	STOT RE 1; H372	>= 1 - < 10
Zinc oxide	1314-13-2 215-222-5 030-013-00-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
Calcium petroleum sulfonates	61789-86-4 263-093-9	Skin Sens. 1B; H317	>= 0.1 - < 1
Antimony, dialkyl dithiocarbamate	15890-25-2 240-028-2 051-003-00-9	Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 1; H410	>= 0.25 - < 1
Lead	7439-92-1 231-100-4 082-013-00-1	Carc. 2; H351 Repr. 1A; H360FD Lact.H362 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.03 - < 0.1
Cadmium	7440-43-9 231-152-8 048-002-00-0	Acute Tox. 4; H302 Acute Tox. 1; H330 Muta. 2; H341 Carc. 1B; H350 Repr. 2; H361fd STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.

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In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.

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

Risks : Causes serious eye irritation.  
May damage the unborn child.

May produce an allergic reaction.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : None known.

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides  
Metal oxides  
Silicon 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.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.

#### 6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling : Do not get on skin or clothing.  
Do not swallow.  
Do not get in eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.

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Advice on common storage : Do not store with the following product types:  
Strong oxidizing agents  
Organic peroxides  
Explosives  
Gases

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Talc	14807-96-6	TWA (Respirable dust)	1 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Graphite	7782-42-5	TWA (inhalable dust)	10 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup>			

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	8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
	TWA (Respirable dust)	4 mg/m3	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
Calcium oxide	1305-78-8	TWA	2 mg/m3
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
	TWA (Respirable fraction)	1 mg/m3	2017/164/EU
Further information	Indicative		
	STEL (Respirable fraction)	4 mg/m3	2017/164/EU
Further information	Indicative		
Quartz	14808-60-7	TWA (Respirable dust)	0.1 mg/m3 (Silica)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken		

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	in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Antimony, dialkyl dithiocarbamate	15890-25-2	TWA	0.5 mg/m3 (antimony)	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Lead	7439-92-1	TWA	0.15 mg/m3 (Lead)	98/24/EC I
Further information	Binding			
Cadmium	7440-43-9	TWA	0.025 mg/m3	GB EH40
Further information	Capable of causing cancer and/or heritable genetic damage., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

**These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.**

Quartz

### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Lead	7439-92-1	Lead (Lead): 40 µg/dl (Blood)		GB EH40 BAT
		Lead (Lead): 50 µg/dl (Blood)		GB EH40 BAT
		Lead (Lead): 30 µg/dl (Blood)		GB EH40 BAT
		Lead (Lead): 50 µg/dl (Blood)		GB EH40 BAT
		Lead (Lead): 60 µg/dl (Blood)		GB EH40 BAT



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		Lead (Lead): 25 µg/dl (Blood)		GB EH40 BAT
		Lead (Lead): 0.7 mg/l (Blood)		98/24/EC II

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Zinc	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg bw/day
	Graphite	Consumers	Inhalation	Long-term local effects
	Consumers	Ingestion	Long-term systemic effects	813 mg/kg bw/day
	Workers	Inhalation	Long-term local effects	1.2 mg/m <sup>3</sup>
	Calcium oxide	Workers	Inhalation	Long-term local effects
	Workers	Inhalation	Acute local effects	4 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	4 mg/m <sup>3</sup>
Calcium bis(di C8-C10, branched, C9 rich, alkyl naphthalenesulphonate)	Workers	Inhalation	Long-term systemic effects	2.23 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	0.32 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	0.32 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.55 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	0.16 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	0.16 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.16 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0.16 mg/kg bw/day
	Zinc oxide	Workers	Inhalation	Long-term systemic effects
	Workers	Inhalation	Long-term local effects	0.5 mg/m <sup>3</sup>

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			fects	
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m3
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg bw/day
Calcium petroleum sulfonates	Workers	Inhalation	Long-term systemic effects	11.75 mg/m3
	Workers	Skin contact	Long-term systemic effects	3.33 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	1.03 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	2.9 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1.667 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0.513 mg/cm2
	Consumers	Ingestion	Long-term systemic effects	0.8333 mg/kg bw/day
Cadmium	Workers	Inhalation	Long-term systemic effects	4 µg/m3
	Consumers	Ingestion	Long-term systemic effects	0.001 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Zinc	Fresh water	20.6 µg/l
	Marine water	6.1 µg/l
	Sewage treatment plant	100 µg/l
	Fresh water sediment	117.8 mg/kg
	Marine sediment	56.5 mg/kg
	Soil	35.6 mg/kg
Calcium oxide	Fresh water	0.37 mg/l
	Marine water	0.24 mg/l
	Intermittent use/release	0.37 mg/l
	Sewage treatment plant	2.27 mg/l
	Soil	817.4 mg/kg dry weight (d.w.)
Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)	Fresh water	0.27 µg/l
	Marine water	0.027 µg/l
	Intermittent use/release	2.7 µg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	4.69 mg/kg
	Marine sediment	0.469 mg/kg
	Soil	0.936 mg/kg
	Oral (Secondary Poisoning)	9.5 mg/kg food
Zinc oxide	Fresh water	20.6 µg/l

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	Marine water	6.1 µg/l
	Sewage treatment plant	100 µg/l
	Fresh water sediment	117.8 mg/kg dry weight (d.w.)
	Marine sediment	56.5 mg/kg dry weight (d.w.)
	Soil	35.6 mg/kg dry weight (d.w.)
Calcium petroleum sulfonates	Fresh water	1 mg/l
	Marine water	1 mg/l
	Intermittent use/release	10 mg/l
	Sewage treatment plant	1000 mg/l
	Fresh water sediment	226000000 mg/kg
	Marine sediment	226000000 mg/kg
	Soil	271000000 mg/kg
	Oral (Secondary Poisoning)	16.667 mg/kg food
Lead	Fresh water	6.5 µg/l
	Marine water	3.4 µg/l
	Sewage treatment plant	100 µg/l
	Fresh water sediment	174 mg/kg
	Marine sediment	164 mg/kg
	Soil	147 mg/kg
	Oral (Secondary Poisoning)	10.9 mg/kg food
Cadmium	Fresh water	0.19 µg/l
	Marine water	1.14 µg/l
	Sewage treatment plant	20 µg/l
	Fresh water sediment	1.8 mg/kg dry weight (d.w.)
	Marine sediment	0.64 mg/kg dry weight (d.w.)
	Soil	0.9 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	0.16 mg/kg food

### 8.2 Exposure controls

#### Engineering measures

Minimize workplace exposure concentrations.

#### Personal protective equipment

Eye protection : Wear the following personal protective equipment:  
Safety goggles

Hand protection  
Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to

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chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Combined particulates and organic vapour type (A-P)

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance : Viscous semi-solid  
Colour : grey  
Odour : Petroleum  
Odour Threshold : No data available

pH : Not applicable (not an aqueous solution)

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available  
Flash point :  $\geq 200$  °C  
Method: ASTM D 92, Cleveland open cup  
Distillates (petroleum), hydrotreated heavy naphthenic

Evaporation rate : Not applicable

Flammability (solid, gas) : Not classified as a flammability hazard

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : 1.5

Density : No data available

Solubility(ies)  
Water solubility : negligible  
Partition coefficient: n-octanol/water : Not applicable

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Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

    Viscosity, dynamic : No data available

    Viscosity, kinematic : Not applicable

Flow time : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

### 9.2 Other information

Molecular weight : No data available

Particle size : No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Can react with strong oxidizing agents.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Information on likely routes of exposure : Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

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### Components:

#### **Zinc:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.41 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

#### **Calcium oxide:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 425

Acute inhalation toxicity : (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,500 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials

#### **Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):**

Acute oral toxicity : LD50 (Rat): > 2,500 mg/kg  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Remarks: Based on data from similar materials

#### **Quartz:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

#### **Zinc oxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.7 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

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Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Calcium petroleum sulfonates:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 1.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 4,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### Antimony, dialkyl dithiocarbamate:

Acute oral toxicity : Acute toxicity estimate: 2,000 mg/kg  
Method: Expert judgement  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

### Lead:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Remarks: Based on data from similar materials

### Cadmium:

Acute oral toxicity : LD50 (Mouse): 890 mg/kg

Acute inhalation toxicity : LC50: 0.003 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: Based on data from similar materials

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### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### Calcium oxide:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation
Remarks	: Based on data from similar materials

#### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

Species	: Rabbit
Result	: Skin irritation
Remarks	: Based on data from similar materials

#### Zinc oxide:

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

#### Calcium petroleum sulfonates:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation
Remarks	: Based on data from similar materials

#### Lead:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation
Remarks	: Based on data from similar materials

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Product:

Result : Irritation to eyes, reversing within 21 days

### Components:

#### Zinc:

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

#### Calcium oxide:

Species	: Rabbit
Method	: OECD Test Guideline 405



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||Result : Irreversible effects on the eye

### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

||Species : Rabbit  
||Result : Irritation to eyes, reversing within 21 days  
||Remarks : Based on data from similar materials

### Zinc oxide:

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

### Calcium petroleum sulfonates:

||Species : Rabbit  
||Method : OECD Test Guideline 405  
||Result : No eye irritation  
||Remarks : Based on data from similar materials

### Lead:

||Species : Rabbit  
||Method : OECD Test Guideline 405  
||Result : No eye irritation  
||Remarks : Based on data from similar materials

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

### Components:

#### Calcium oxide:

||Test Type : Local lymph node assay (LLNA)  
||Exposure routes : Skin contact  
||Species : Mouse  
||Method : OECD Test Guideline 429  
||Result : negative  
||Remarks : Based on data from similar materials

### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

||Test Type : Human repeat insult patch test (HRIPT)  
||Exposure routes : Skin contact  
||Result : negative

### Zinc oxide:

||Test Type : Maximisation Test  
||Exposure routes : Skin contact

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Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

### Calcium petroleum sulfonates:

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : positive

Assessment : Probability or evidence of low to moderate skin sensitisation rate in humans

### Lead:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative  
Remarks : Based on data from similar materials

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Zinc:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive  
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

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

#### Calcium oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

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Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials

### Calcium bis(di C8-C10, branched, C9 rich, alkyl)naphthalenesulphonate):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

### Zinc oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: positive

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: equivocal

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

Test Type: Chromosome aberration test in vitro  
Result: positive

Test Type: in vitro micronucleus test  
Result: positive

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: positive

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: equivocal

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 474  
Result: negative

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Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Result: positive

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

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

### Calcium petroleum sulfonates:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

### Antimony, dialkyl dithiocarbamate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: equivocal

### Lead:

Genotoxicity in vitro : Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Result: positive  
Remarks: Based on data from similar materials

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### **Cadmium:**

- Genotoxicity in vitro : Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: equivocal  
Remarks: Based on data from similar materials
- Test Type: Chromosome aberration test in vitro  
Result: equivocal  
Remarks: Based on data from similar materials
- Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive  
Remarks: Based on data from similar materials
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive  
Remarks: Based on data from similar materials
- Test Type: Mammalian bone marrow sister chromatid exchange  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive  
Remarks: Based on data from similar materials
- Germ cell mutagenicity- Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

### **Carcinogenicity**

Not classified based on available information.

### **Product:**

- Carcinogenicity - Assessment : Petroleum distillates have been classified as not carcinogenic based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

Weight of evidence does not support classification as a carcinogen

### **Components:**

#### **Calcium oxide:**

- Species : Rat  
Application Route : Ingestion  
Exposure time : 104 weeks  
Result : negative  
Remarks : Based on data from similar materials

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### Quartz:

Species : Humans  
Application Route : inhalation (dust/mist/fume)  
Result : positive  
Remarks : IARC: (International Agency for Research on Cancer)  
These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

### Zinc oxide:

Species : Mouse  
Application Route : Ingestion  
Exposure time : 1 Years  
Result : negative  
Remarks : Based on data from similar materials

### Lead:

Species : Rat  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

### Cadmium:

Species : Rat  
Application Route : Ingestion  
Exposure time : 77 - 102 weeks  
Result : positive  
Remarks : Based on data from similar materials

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 18 Months  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

### Reproductive toxicity

May damage the unborn child.

### Components:

#### Calcium oxide:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422

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Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

### Zinc oxide:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 414  
Result: negative  
Remarks: Based on data from similar materials

### Calcium petroleum sulfonates:

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 415  
Result: negative  
Remarks: Based on data from similar materials

### Antimony, dialkyl dithiocarbamate:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Result: negative

### Lead:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Result: positive  
Remarks: Based on data from similar materials

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Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: positive  
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Positive evidence of adverse effects on sexual function and fertility from human epidemiological studies., Positive evidence of adverse effects on development from human epidemiological studies., Studies indicating a hazard to babies during the lactation period

### **Cadmium:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Result: positive  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 414  
Result: positive  
Remarks: Based on data from similar materials

Test Type: Embryo-foetal development  
Species: Mouse  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 414  
Result: positive  
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.

### **STOT - single exposure**

Not classified based on available information.

### **Components:**

#### **Calcium oxide:**

Assessment : May cause respiratory irritation.

### **STOT - repeated exposure**

Not classified based on available information.

### **Components:**

#### **Quartz:**

Exposure routes : inhalation (dust/mist/fume)



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Target Organs : Lungs  
Assessment : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

### Zinc oxide:

Assessment : No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

### Lead:

Target Organs : Kidney, Central nervous system, Blood  
Assessment : Causes damage to organs through prolonged or repeated exposure.

### Cadmium:

Exposure routes : Ingestion  
Target Organs : Bone  
Assessment : Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Kidney, Lungs  
Assessment : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

### Repeated dose toxicity

#### Components:

#### Zinc:

Species : Rat  
NOAEL : 31 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

#### Calcium oxide:

Species : Rat  
NOAEL :  $\geq 0.399$  mg/l  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 90 Days  
Method : OECD Test Guideline 413

#### Quartz:

Species : Humans  
LOAEL : 0.053 mg/m<sup>3</sup>  
Application Route : inhalation (dust/mist/fume)  
Remarks : These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

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### Zinc oxide:

Species	: Rat, male
NOAEL	: 0.0015 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 3 Months
Method	: OECD Test Guideline 413

### Calcium petroleum sulfonates:

Species	: Rat
	: > 1000 mg/kg
Application Route	: Skin contact
Exposure time	: 28 Days
Method	: OECD Test Guideline 410
Remarks	: Based on data from similar materials

### Antimony, dialkyl dithiocarbamate:

Species	: Rat
NOAEL	: >= 1,000 mg/kg
Application Route	: Ingestion
Exposure time	: 54 Days

### Lead:

Species	: Rat
NOAEL	: 0.0015 mg/kg
LOAEL	: 0.005 mg/kg
Application Route	: Ingestion
Exposure time	: 6 - 12 Months
Remarks	: Based on data from similar materials

### Cadmium:

Species	: Rat
NOAEL	: 0.2 mg/kg
LOAEL	: 0.5 mg/kg
Application Route	: Ingestion
Exposure time	: 12 Months
Remarks	: Based on data from similar materials

Species	: Rat
LOAEL	: 0.000025 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 13 Weeks
Remarks	: Based on data from similar materials

### Aspiration toxicity

Not classified based on available information.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Components:

##### **Zinc:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.78 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.83 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : IC50 (Pseudokirchneriella subcapitata (green algae)): 0.15 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 : 5.2 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.199 mg/l  
Exposure time: 30 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.1 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

##### **Calcium oxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

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		EC10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 : > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 1 mg/l Exposure time: 14 d Species: Crangon crangon (shrimp) Remarks: Based on data from similar materials

### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 100 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC10 : 110 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

### Quartz:

#### Ecotoxicology Assessment

Acute aquatic toxicity	:	No toxicity at the limit of solubility
Chronic aquatic toxicity	:	No toxicity at the limit of solubility

### Zinc oxide:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): > 0.1 - 1 mg/l

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		Exposure time: 96 h Remarks: Based on data from similar materials
		NOEC ( <i>Selenastrum capricornutum</i> (green algae)): > 0.001 - 0.01 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
M-Factor (Acute aquatic toxicity)	: 10	
Toxicity to fish (Chronic toxicity)	: NOEC: > 0.01 - 0.1 mg/l Exposure time: 25 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout) Remarks: Based on data from similar materials	
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: > 0.01 - 0.1 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) Remarks: Based on data from similar materials	
M-Factor (Chronic aquatic toxicity)	: 10	

### Calcium petroleum sulfonates:

Toxicity to fish	: LL50 ( <i>Cyprinodon variegatus</i> (sheepshead minnow)): > 10,000 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203	
Toxicity to daphnia and other aquatic invertebrates	: EC50 ( <i>Daphnia magna</i> (Water flea)): > 1,000 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials	
Toxicity to algae	: EC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): > 1,000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials	
		NOEC ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 1,000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials
Toxicity to microorganisms	: EC50 : > 10,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209	

### Antimony, dialkyl dithiocarbamate:

Toxicity to daphnia and other	: NOEC: 0.02 mg/l	
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aquatic invertebrates (Chronic toxicity)      Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity)      :    1

### Ecotoxicology Assessment

Chronic aquatic toxicity      :    Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Lead:

Toxicity to fish      :    LC50 (Oncorhynchus mykiss (rainbow trout)): 0.107 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates      :    EC50 (Ceriodaphnia dubia (water flea)): 0.029 mg/l  
Exposure time: 48 h

Toxicity to algae      :    ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.025 mg/l  
Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 6.1 µg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity)      :    10

Toxicity to fish (Chronic toxicity)      :    EC10: 20 µg/l  
Exposure time: 30 d  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)      :    EC10: 1.7 µg/l  
Exposure time: 7 d  
Species: Ceriodaphnia dubia (water flea)

M-Factor (Chronic aquatic toxicity)      :    10

### Cadmium:

Toxicity to fish      :    LC50 (Carassius auratus (goldfish)): > 0.1 - 1 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates      :    EC50 (Daphnia magna (Water flea)): 36 µg/l  
Exposure time: 48 h

Toxicity to algae      :    ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.01 - 0.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

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		NOEC (Pseudokirchneriella subcapitata (green algae)): 2.4 µg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	: 10	
Toxicity to fish (Chronic toxicity)	: NOEC: > 0.001 - 0.01 mg/l Exposure time: 36 Months Species: Salvelinus fontinalis (Brook trout) Remarks: Based on data from similar materials	
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EC10: > 0.001 - 0.01 mg/l Exposure time: 28 d Species: Mysidopsis bahia (opossum shrimp) Remarks: Based on data from similar materials	
M-Factor (Chronic aquatic toxicity)	: 10	

### 12.2 Persistence and degradability

#### Components:

##### **Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):**

Biodegradability	: Result: Not readily biodegradable. Biodegradation: 16 % Exposure time: 28 d Method: OECD Test Guideline 301B Remarks: Based on data from similar materials
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##### **Calcium petroleum sulfonates:**

Biodegradability	: Result: Not readily biodegradable. Biodegradation: 8.6 % Exposure time: 28 d Method: OECD Test Guideline 301F
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##### **Antimony, dialkyl dithiocarbamate:**

Biodegradability	: Result: Not readily biodegradable. Biodegradation: 20 % Exposure time: 28 d
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### 12.3 Bioaccumulative potential

#### Components:

##### **Zinc:**

Bioaccumulation	: Species: Fish Bioconcentration factor (BCF): 177
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##### **Zinc oxide:**

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Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 78 - 2,060

### Calcium petroleum sulfonates:

Partition coefficient: n-octanol/water : log Pow: > 6.65

### Cadmium:

Partition coefficient: n-octanol/water : log Pow: -0.07  
Remarks: Calculation

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADN : UN 3077  
ADR : UN 3077  
RID : UN 3077  
IMDG : UN 3077  
IATA : UN 3077

### 14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
(Zinc, Zinc oxide)



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**ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Zinc, Zinc oxide)

**RID** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Zinc, Zinc oxide)

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Zinc, Zinc oxide)

**IATA** : Environmentally hazardous substance, solid, n.o.s.  
(Zinc, Zinc oxide)

### 14.3 Transport hazard class(es)

**ADN** : 9

**ADR** : 9

**RID** : 9

**IMDG** : 9

**IATA** : 9

### 14.4 Packing group

**ADN**  
Packing group : III  
Classification Code : M7  
Hazard Identification Number : 90  
Labels : 9

**ADR**  
Packing group : III  
Classification Code : M7  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)

**RID**  
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

**IATA (Passenger)**

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

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

#### IATA (Passenger)

Environmentally hazardous : yes

#### IATA (Cargo)

Environmentally hazardous : yes

### 14.6 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.

### 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) : Not applicable  
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 : Lead  
Cadmium  
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Lead (Number on list 30)

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

E1 ENVIRONMENTAL

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#### Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

DSL : All components of this product are on the Canadian DSL

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

AICS : All ingredients listed or exempt.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

#### Full text of H-Statements

H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.  
H319 : Causes serious eye irritation.  
H330 : Fatal if inhaled.  
H332 : Harmful if inhaled.  
H335 : May cause respiratory irritation.  
H341 : Suspected of causing genetic defects.  
H350 : May cause cancer.  
H351 : Suspected of causing cancer.  
H360FD : May damage fertility. May damage the unborn child.  
H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.  
H362 : May cause harm to breast-fed children.  
H372 : Causes damage to organs through prolonged or repeated exposure.  
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard

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Aquatic Chronic	: Long-term (chronic) aquatic hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Lact.	: Effects on or via lactation
Muta.	: Germ cell mutagenicity
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2017/164/EU	: Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
98/24/EC I	: Europe. Chemical Agents Directive - Annex I: Binding occupational exposure limit values
98/24/EC II	: Chemical Agents Directive - Annex II: Binding biological limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT	: UK. Biological monitoring guidance values
2017/164/EU / STEL	: Short term exposure limit
2017/164/EU / TWA	: Limit Value - eight hours
98/24/EC I / TWA	: Occupational Exposure Limit Value
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)

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; 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;

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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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

### Classification of the mixture:

Eye Irrit. 2	H319
Repr. 1A	H360D
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

### Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN