

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



COPPER ROCK

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 01.10.2018 |
| 7.1 | 11.10.2018 | 126850-00013 | Date of first issue: 19.05.2015 |

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

1.1 Product identifier

Trade name : COPPER ROCK

SDS-Identcode : 304G

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

1.4 Emergency telephone number

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

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. |
| 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 : Warning
- Hazard statements : H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
- Response:**
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Additional Labelling

EUH208 Contains 2,5-Bis(octyldithio)-1,3,4-thiadiazole, Benzenesulphonic acid, propenated, calcium salts, overbased. May produce an allergic reaction.

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) |
|--|---|--|--------------------------|
| Copper metal powder | 7440-50-8 231-159-6 01-2119480154-42 | Flam. Sol. 1; H228 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 | >= 10 - < 20 |
| Dilithium azelate | 38900-29-7 254-184-4 | Acute Tox. 4; H302 | >= 1 - < 10 |
| Calcium oxide | 1305-78-8 215-138-9 | Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 | >= 3 - < 10 |
| Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony | 15991-76-1 240-130-7 051-003-00-9 | Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 1; H410 | >= 1 - < 2.5 |
| Antimony, dialkyl dithiocarbamate | 15890-25-2 240-028-2 051-003-00-9 | Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 1; | >= 1 - < 2.5 |

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| | | H410 | |
|--|--|--|----------------------|
| Quartz | 14808-60-7 238-878-4 | STOT RE 1; H372 | $\geq 1 - < 10$ |
| 2,5-Bis(octyldithio)-1,3,4-thiadiazole | 13539-13-4 236-912-2 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 | $\geq 0.1 - < 1$ |
| Diocetyl disulphide | 822-27-5 212-494-7 | Acute Tox. 3; H301 Acute Tox. 3; H331 | $\geq 0.1 - < 1$ |
| Benzenesulphonic acid, propenated, calcium salts, over-based | 68610-84-4 271-877-7 | Skin Sens. 1; H317 Aquatic Chronic 4; H413 | $\geq 0.1 - < 0.25$ |
| Hydrogen sulfide | 7783-06-4 231-977-3 016-001-00-4 | Flam. Gas 1; H220 Press. Gas Liquefied gas; H280 Acute Tox. 2; H330 STOT SE 3; H335 Aquatic Acute 1; H400 | $\geq 0.025 - < 0.1$ |

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 if symptoms occur.
- 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.
- 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 if symptoms occur.
Rinse mouth thoroughly with water.

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4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes serious eye irritation.
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 (CO₂)
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
Nitrogen oxides (NO_x)
Sulphur 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.

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.

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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.

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
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 in accordance with the particular national regulations.

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

7.3 Specific end use(s)

Specific use(s) : No data available

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---------------------|---|-------------------------------|----------------------|---------|
| Graphite | 7782-42-5 | TWA (inhalable dust) | 10 mg/m ³ | 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 | | | |
| | | TWA (Respirable dust) | 4 mg/m ³ | 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 | | | |

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| | should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | | |
| Copper metal powder | 7440-50-8 | TWA (Fumes) | 0.2 mg/m ³ (Copper) | GB EH40 |
| | | TWA (Dusts and mists) | 1 mg/m ³ (Copper) | GB EH40 |
| | | STEL (Dusts and mists) | 2 mg/m ³ (Copper) | GB EH40 |
| Talc | 14807-96-6 | TWA (Respirable dust) | 1 mg/m ³ | GB EH40 |
| Further information | <p>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⁻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</p> | | | |
| Calcium oxide | 1305-78-8 | TWA | 2 mg/m ³ | GB EH40 |
| 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/m ³ | 2017/164/EU |
| Further information | Indicative | | | |
| | | STEL (Respirable fraction) | 4 mg/m ³ | 2017/164/EU |
| Further information | Indicative | | | |
| Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony | 15991-76-1 | TWA | 0.5 mg/m ³ (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 | | | |
| Antimony, dialkyl dithiocarbamate | 15890-25-2 | TWA | 0.5 mg/m ³ (antimony) | GB EH40 |
| Further information | Where no specific short-term exposure limit is listed, a figure three times the | | | |

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| | long-term exposure should be used | | | |
| Quartz | 14808-60-7 | TWA (Respirable dust) | 0.1 mg/m ³ (Silica) | 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 | | | |
| Hydrogen sulfide | 7783-06-4 | TWA | 5 ppm 7 mg/m ³ | 2009/161/EU |
| Further information | Indicative | | | |
| | | STEL | 10 ppm 14 mg/m ³ | 2009/161/EU |
| Further information | Indicative | | | |
| | | TWA | 5 ppm 7 mg/m ³ | GB EH40 |
| | | STEL | 10 ppm 14 mg/m ³ | GB EH40 |

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

Quartz

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

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|---------------------|-----------|-----------------|----------------------------|-----------------------|
| Graphite | Consumers | Inhalation | Long-term local effects | 0.3 mg/m ³ |
| | Consumers | Ingestion | Long-term systemic effects | 813 mg/kg bw/day |
| | Workers | Inhalation | Long-term local effects | 1.2 mg/m ³ |
| Copper metal powder | Workers | Inhalation | Acute systemic effects | 20 mg/m ³ |
| | Workers | Skin contact | Long-term systemic effects | 137 mg/kg bw/day |

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|--|-----------|--------------|----------------------------|-------------------------|
| | Workers | Skin contact | Acute systemic effects | 237 mg/kg bw/day |
| | Consumers | Inhalation | Acute systemic effects | 20 mg/m ³ |
| | Consumers | Inhalation | Long-term local effects | 1 mg/m ³ |
| | Consumers | Inhalation | Acute local effects | 1 mg/m ³ |
| | Consumers | Skin contact | Long-term systemic effects | 137 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 273 mg/kg bw/day |
| Dilithium azelate | Workers | Skin contact | Acute systemic effects | 13.5 mg/kg bw/day |
| | Workers | Skin contact | Long-term systemic effects | 13.5 mg/kg bw/day |
| | Consumers | Skin contact | Long-term systemic effects | 13.5 mg/kg bw/day |
| | Workers | Skin contact | Long-term local effects | 0.172 mg/kg bw/day |
| | Consumers | Skin contact | Long-term local effects | 0.023 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 13.5 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 13.5 mg/kg bw/day |
| | Consumers | Ingestion | Acute systemic effects | 27 mg/kg bw/day |
| Calcium oxide | Workers | Inhalation | Long-term local effects | 1 mg/m ³ |
| | Workers | Inhalation | Acute local effects | 4 mg/m ³ |
| | Consumers | Inhalation | Long-term local effects | 1 mg/m ³ |
| | Consumers | Inhalation | Acute local effects | 4 mg/m ³ |
| Benzenesulphonic acid, propenated, calcium salts, over-based | Workers | Inhalation | Long-term systemic effects | 25.55 mg/m ³ |
| | Workers | Inhalation | Acute systemic effects | 668 mg/m ³ |
| | Workers | Skin contact | Long-term systemic effects | 8.33 mg/kg bw/day |
| | Workers | Skin contact | Acute systemic effects | 100 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 11.8 mg/m ³ |
| | Consumers | Inhalation | Acute systemic effects | 267.2 mg/m ³ |
| | Consumers | Skin contact | Long-term systemic effects | 4.17 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 50 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 1.7 mg/kg bw/day |

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| | Consumers | Ingestion | Acute systemic effects | 50 mg/kg bw/day |
|------------------|-----------|------------|----------------------------|----------------------|
| Hydrogen sulfide | Workers | Inhalation | Long-term systemic effects | 7 mg/m ³ |
| | Workers | Inhalation | Acute systemic effects | 14 mg/m ³ |
| | Workers | Inhalation | Long-term local effects | 7 mg/m ³ |
| | Workers | Inhalation | Acute local effects | 14 mg/m ³ |

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

| Substance name | Environmental Compartment | Value |
|--|----------------------------|-------------------------------|
| Distillates (petroleum), hydrotreated heavy paraffinic | Oral (Secondary Poisoning) | 9.33 mg/kg food |
| Copper metal powder | Fresh water | 7.8 µg/l |
| | Marine water | 5.2 µg/l |
| | Sewage treatment plant | 230 µg/l |
| | Fresh water sediment | 87 mg/kg |
| | Marine sediment | 676 mg/kg |
| | Soil | 65 mg/kg |
| Dilithium azelate | Fresh water | 0.023 mg/l |
| | Marine water | 0.002 mg/l |
| | Intermittent use/release | 0.23 mg/l |
| 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.) |
| Benzenesulphonic acid, propenated, calcium salts, over-based | 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 | 43500 mg/kg |
| | Marine sediment | 3480 mg/kg |
| | Soil | 8850 mg/kg |
| Oral (Secondary Poisoning) | 33333 mg/kg food | |
| Hydrogen sulfide | Fresh water | 0.00005 mg/l |
| | Marine water | 0.0149 mg/l |
| | Intermittent use/release | 0.0005 mg/l |
| | Sewage treatment plant | 1.33 mg/l |

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

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| 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 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 | : | copper |
| 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 | : | >= 204 °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 | : | 1.3 |

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Density : No data available

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

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.

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

Components:

Copper metal powder:

Acute oral toxicity : LD50 (Rat): > 2,500 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Dilithium azelate:

Acute oral toxicity : LD50 (Rat): > 300 - 2,000 mg/kg
Method: OECD Test Guideline 420
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Calcium oxide:

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

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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

Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony:

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

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
Remarks: Based on data from similar materials

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

Quartz:

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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:

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

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Acute inhalation toxicity : LC50 (Rat): 3.08 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

Diocetyl disulphide:

Acute oral toxicity : LD50 (Rat): > 290 - 500 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 5.05 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

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

Benzenesulphonic acid, propenated, calcium salts, overbased:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

Hydrogen sulfide:

Acute inhalation toxicity : LC50 (Rat): 444 ppm
Exposure time: 4 h
Test atmosphere: gas

Skin corrosion/irritation

Not classified based on available information.

Components:

Copper metal powder:

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

Dilithium azelate:

Method : OECD Test Guideline 439
Result : No skin irritation
Remarks : Based on data from similar materials

Calcium oxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

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Remarks : Based on data from similar materials

2,5-Bis(octyldithio)-1,3,4-thiadiazole:

Species : Rabbit
Result : Skin irritation

Benzenesulphonic acid, propenated, calcium salts, overbased:

Species : Rabbit
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:

Copper metal powder:

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

Dilithium azelate:

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

Calcium oxide:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

2,5-Bis(octyldithio)-1,3,4-thiadiazole:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

Benzenesulphonic acid, propenated, calcium salts, overbased:

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

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

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Respiratory sensitisation

Not classified based on available information.

Components:

Copper metal powder:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Dilithium azelate:

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 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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:

Exposure routes : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Benzenesulphonic acid, propenated, calcium salts, overbased:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Not classified based on available information.

Components:

Copper metal powder:

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

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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
Method: Directive 67/548/EEC, Annex V, B.12.
Result: negative
Remarks: Based on data from similar materials

Dilithium azelate:

Genotoxicity in vitro : 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: negative
Remarks: Based on data from similar materials

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

Calcium oxide:

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

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

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

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Benzenesulphonic acid, propenated, calcium salts, overbased:

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

Hydrogen sulfide:

Genotoxicity in vitro : 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: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: inhalation (gas)
Result: negative

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).

Components:

Calcium oxide:

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

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.

Reproductive toxicity

Not classified based on available information.

Components:

Copper metal powder:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion

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Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

Dilithium azelate:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

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
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

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

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Hydrogen sulfide:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (gas)
Result: negative

STOT - single exposure

Not classified based on available information.

Components:

Calcium oxide:

Assessment : May cause respiratory irritation.

Hydrogen sulfide:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

Quartz:

Exposure routes : inhalation (dust/mist/fume)
Target Organs : 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:

Copper metal powder:

Species : Rat
NOAEL : ≥ 2 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 28 Days

Dilithium azelate:

Species : Rat
NOAEL : 1,089.75 mg/kg
Application Route : Skin contact
Exposure time : 28 Days
Remarks : Based on data from similar materials

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Calcium oxide:

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

Antimony, dialkyl dithiocarbamate:

Species : Rat
NOAEL : $\geq 1,000$ mg/kg
Application Route : Ingestion
Exposure time : 54 Days

Quartz:

Species : Humans
LOAEL : 0.053 mg/m³
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.

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Copper metal powder:

Toxicity to fish : LC50 : $> 10 - 100$ μ g/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: $> 1 - 10$ μ g/l

M-Factor (Chronic aquatic toxicity) : 10

Dilithium azelate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): $> 10 - 100$ 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)): $> 10 - 100$ mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

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Remarks: Based on data from similar materials

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

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

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

Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony:

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

M-Factor (Chronic aquatic : 1

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toxicity)

Ecotoxicology Assessment

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

Antimony, dialkyl dithiocarbamate:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.02 mg/l
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.

Quartz:

Ecotoxicology Assessment

Acute aquatic toxicity : No toxicity at the limit of solubility

Chronic aquatic toxicity : No toxicity at the limit of solubility

Benzenesulphonic acid, propenated, calcium salts, overbased:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 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 : EL50 (Daphnia magna (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 : NOELR (Pseudokirchneriella subcapitata (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
Remarks: Based on data from similar materials

Hydrogen sulfide:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.0144 mg/l
Exposure time: 96 h

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (water flea)): 0.12 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Scenedesmus subspicatus): 1.87 mg/l
Exposure time: 24 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 : 29 mg/l
Method: ISO 8192

12.2 Persistence and degradability

Components:

Dilithium azelate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 30 d
Method: OECD Test Guideline 301D
Remarks: Based on data from similar materials

Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

Antimony, dialkyl dithiocarbamate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 20 %
Exposure time: 28 d

Benzenesulphonic acid, propenated, calcium salts, overbased:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 12.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

Hydrogen sulfide:

Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential

Components:

Dilithium azelate:

Partition coefficient: n-octanol/water : log Pow: -3.53

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Benzenesulphonic acid, propenated, calcium salts, overbased:

Partition coefficient: n-octanol/water : log Pow: 5.8

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.
(Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamate-S,S'] antimony)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

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(Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)

IATA : Environmentally hazardous substance, solid, n.o.s.
(Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)

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)
Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956

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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 : Not applicable

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

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

E1 ENVIRONMENTAL HAZARDS
34 Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet

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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)

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

- H220 : Extremely flammable gas.
H228 : Flammable solid.
H280 : Contains gas under pressure; may explode if heated.
H301 : Toxic if swallowed.
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.
H331 : Toxic if inhaled.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
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.
H413 : May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



COPPER ROCK

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| Acute Tox. | : Acute toxicity |
| Aquatic Acute | : Short-term (acute) aquatic hazard |
| Aquatic Chronic | : Long-term (chronic) aquatic hazard |
| Eye Dam. | : Serious eye damage |
| Eye Irrit. | : Eye irritation |
| Flam. Gas | : Flammable gases |
| Flam. Sol. | : Flammable solids |
| Press. Gas | : Gases under pressure |
| Skin Irrit. | : Skin irritation |
| Skin Sens. | : Skin sensitisation |
| STOT RE | : Specific target organ toxicity - repeated exposure |
| STOT SE | : Specific target organ toxicity - single exposure |
| 2009/161/EU | : Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC |
| 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 |
| GB EH40 | : UK. EH40 WEL - Workplace Exposure Limits |
| 2009/161/EU / TWA | : Limit Value - eight hours |
| 2009/161/EU / STEL | : Short term exposure limit |
| 2017/164/EU / STEL | : Short term exposure limit |
| 2017/164/EU / TWA | : Limit Value - eight hours |
| GB EH40 / TWA | : Long-term exposure limit (8-hour TWA reference period) |
| GB EH40 / STEL | : Short-term exposure limit (15-minute 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,

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tion, 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

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 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Classification procedure:

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

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.

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