# SAFETY DATA SHEET

# API MODIFIED

| Version | Revision Date: | MSDS Number: | Date of last issue: - |
|---|---|---|---|
| 1.0 | 26.05.2015 | 133780-00001 | Date of first issue: 26.05.2015 |

## 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | API MODIFIED |
| Product code | : | 000000000000613357 |
| SDS-Identcode | : | 057G |

**Manufacturer or supplier's details**

| | | |
|---|---|---|
| Company | : | Bestolife Corporation |
| Address | : | 2777 N. Stemmons Frwy Ste 1800<br>Dallas TX 75207, |
| Telephone | : | 855-243-9164/972-865-8961 |
| Emergency telephone number | : | CHEMTREC: 800-101-2201, International: +1-703-527-3887 |
| Telefax | : | 214-631-3047 |

**Recommended use of the chemical and restrictions on use**

| | | |
|---|---|---|
| Recommended use | : | Industrial use<br>Thread Compound (Pipe Dope) and Jacking grease for use in Offshore industries<br>Mining, (without offshore industries) |
| Restrictions on use | : | Do not use on oxygen lines or in oxygen enriched atmospheres. |

## 2. HAZARDS IDENTIFICATION

**GHS Classification**

| | | |
|---|---|---|
| Carcinogenicity | : | Category 2 |
| Reproductive toxicity | : | Category 1A |
| Specific target organ toxicity - repeated exposure | : | Category 1 |
| Acute aquatic toxicity | : | Category 1 |
| Chronic aquatic toxicity | : | Category 1 |

**GHS Label element**

Hazard pictograms :

Signal word : Danger

Hazard statements : H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
**Response:**
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.
**Storage:**
P405 Store locked up.
**Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Hazardous components**

| Chemical Name | CAS-No. | Concentration (%) |
|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | 64742-52-5 | >= 30 - < 50 |
| Lead | 7439-92-1 | >= 30 - < 50 |
| Graphite | 7782-42-5 | >= 10 - < 20 |
| Zinc | 7440-66-6 | >= 10 - < 20 |
| Copper | 7440-50-8 | >= 1 - < 10 |
| 12-Hydroxy lithium stearate | 7620-77-1 | >= 1 - < 10 |
| Lead oxide | 1317-36-8 | >= 1 - < 10 |
| Distillates (petroleum), hydrotreated light naph- | 64742-53-6 | >= 1 - < 10 |

| | | |
|---|---|---|
| thenic | | |
| Barium dinonyl naphthalenesulphonate | 25619-56-1 | >= 1 - < 10 |
| Quartz | 14808-60-7 | >= 0.1 - < 1 |
| Zinc oxide | 1314-13-2 | >= 0.1 - < 1 |

## 4. 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.

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.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

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

Most important symptoms and effects, both acute and delayed : Suspected of causing cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

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.

Notes to physician : Treat symptomatically and supportively.

## 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

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

| | | |
|---|---|---|
| Hazardous combustion products | : | Carbon oxides<br>Lead compounds<br>Metal oxides<br>Sulphur oxides |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice and personal protective equipment recommendations. |
| Environmental precautions | : | Discharge into the environment must be avoided.<br>Prevent further leakage or spillage if safe to do so.<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Sweep up or vacuum up spillage and collect in suitable container for disposal.<br>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.<br>Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

## 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | Use with local exhaust ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing.<br>Do not swallow.<br>Avoid contact with eyes.<br>Handle in accordance with good industrial hygiene and safety practice.<br>Keep container tightly closed.<br>Take care to prevent spills, waste and minimize release to the environment. |

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

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | 64742-52-5 | PEL (long term) (Mist) | 5 mg/m3 | SG OEL |
| | | PEL (short term) (Mist) | 10 mg/m3 | SG OEL |
| | | TWA (Inhalable fraction) | 5 mg/m3 | ACGIH |
| Lead | 7439-92-1 | PEL (long term) (Dust and fume) | 0.15 mg/m3 (Lead) | SG OEL |
| | | TWA | 0.05 mg/m3 (Lead) | ACGIH |
| Graphite | 7782-42-5 | PEL (long term) (Respirable dust) | 2 mg/m3 | SG OEL |
| | | TWA (Respirable fraction) | 2 mg/m3 | ACGIH |
| Copper | 7440-50-8 | PEL (long term) (Dusts and mists) | 1 mg/m3 (Copper) | SG OEL |
| | | PEL (long term) (Fumes) | 0.2 mg/m3 | SG OEL |
| | | TWA (Dust and mist) | 1 mg/m3 (Copper) | ACGIH |
| | | TWA (Fumes) | 0.2 mg/m3 (Copper) | ACGIH |
| 12-Hydroxy lithium stearate | 7620-77-1 | PEL (long term) | 10 mg/m3 | SG OEL |
| | | TWA | 10 mg/m3 | ACGIH |
| Lead oxide | 1317-36-8 | TWA | 0.05 mg/m3 (Lead) | ACGIH |
| Distillates (petroleum), hydrotreated light naphthenic | 64742-53-6 | PEL (long term) (Mist) | 5 mg/m3 | SG OEL |
| | | PEL (short term) (Mist) | 10 mg/m3 | SG OEL |

| | | | | |
|---|---|---|---|---|
| | | TWA (Inhalable fraction) | 5 mg/m3 | ACGIH |
| Barium dinonyl naphthalenesulphonate | 25619-56-1 | PEL (long term) | 0.5 mg/m3 (Barium) | SG OEL |
| | | TWA | 0.5 mg/m3 (Barium) | ACGIH |
| Quartz | 14808-60-7 | PEL (long term) (Respirable dust) | 0.1 mg/m3 | SG OEL |
| | | TWA (Respirable fraction) | 0.025 mg/m3 (Silica) | ACGIH |
| Zinc oxide | 1314-13-2 | PEL (long term) (Dust) | 10 mg/m3 | SG OEL |
| | | PEL (long term) (Fumes) | 5 mg/m3 | SG OEL |
| | | PEL (short term) (Fumes) | 10 mg/m3 | SG OEL |
| | | TWA (Respirable fraction) | 2 mg/m3 | ACGIH |
| | | STEL (Respirable fraction) | 10 mg/m3 | ACGIH |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| Lead | 7439-92-1 | Lead (Lead) | Blood | | 50 µg/dl | SG BTLV |
| | | Lead (Lead) | Blood | | 30 µg/dl | SG BTLV |
| | | Lead (Lead) | Hb | | 11 g/dl | SG BTLV |
| | | Lead (Lead) | Hb | | 10 g/dl | SG BTLV |
| | | Lead (Lead) | In blood | Not critical | 30 µg/ 100 ml | ACGIH BEI |
| Lead oxide | 1317-36-8 | Lead (Lead) | Blood | | 50 µg/dl | SG BTLV |
| | | Lead (Lead) | Blood | | 30 µg/dl | SG BTLV |
| | | Lead (Lead) | Hb | | 11 g/dl | SG BTLV |
| | | Lead (Lead) | Hb | | 10 g/dl | SG BTLV |

**Engineering measures** : Minimize workplace exposure concentrations.
Use with local exhaust ventilation.

**Personal protective equipment**

| | | |
|---|---|---|
| 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 |
| Hand protection<br>Material | : | Impervious 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. |
| Eye protection | : | Wear the following personal protective equipment:<br>Safety glasses |
| Skin and body protection | : | Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc). |
| Hygiene measures | : | Ensure that eye flushing systems and safety showers are located close to the working place.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Viscous semi-solid |
| Colour | : | black, copper |
| Odour | : | Petroleum |
| Odour Threshold | : | No data available |
| pH | : | Not applicable (not an aqueous solution) |
| | : | No data available |
| | : | No data available |
| Flash point | : | No data available |
| Evaporation rate | : | No data available |

| | | |
|---|---|---|
| Flammability (solid, gas) | : | No data available |
| Upper explosion limit | : | No data available |
| Lower explosion limit | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density | : | No data available |
| Relative density | : | 1.9 |
| Solubility(ies) | | |
| Water solubility | : | negligible |
| Partition coefficient: n-octanol/water | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flow time | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Molecular weight | : | No data available |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Can react with strong oxidizing agents. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | Oxidizing agents |
| Hazardous decomposition products | : | No hazardous decomposition products are known. |

## 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Skin contact<br>Ingestion<br>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 toxicity estimate: > 2,000 mg/kg
Method: Calculation method

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

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

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.53 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
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

**Lead:**

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

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

**Graphite:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401<br>Assessment: The substance or mixture has no acute oral toxicity |
| Acute inhalation toxicity | : | LC50 (Rat): > 2 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403<br>Assessment: The substance or mixture has no acute inhalation toxicity |

**Zinc:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401<br>Assessment: The substance or mixture has no acute oral toxicity |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.41 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403<br>Assessment: The substance or mixture has no acute inhalation toxicity |

**Copper:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,500 mg/kg<br>Assessment: The substance or mixture has no acute oral toxicity |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.11 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 436<br>Assessment: The substance or mixture has no acute inhalation toxicity |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402<br>Assessment: The substance or mixture has no acute dermal toxicity |

**12-Hydroxy lithium stearate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Assessment: The substance or mixture has no acute oral toxicity |

**Lead oxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 500 mg/kg<br>Method: Expert judgement<br>Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.05 mg/l |

Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

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

**Distillates (petroleum), hydrotreated light naphthenic:**

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

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

**Barium dinonyl naphthalenesulphonate:**

Acute oral toxicity : LD50 (Rat): 1,750 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : LD50 (Rat): > 10,000 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
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Species: Rabbit
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

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

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

**12-Hydroxy lithium stearate:**
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

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

**Distillates (petroleum), hydrotreated light naphthenic:**
Species: Rabbit
Result: No skin irritation

**Barium dinonyl naphthalenesulphonate:**
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

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Species: Rabbit
Result: No eye irritation

Remarks: Based on data from similar materials

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

**Graphite:**
Species: Rabbit
Result: No eye irritation

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

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

**12-Hydroxy lithium stearate:**
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

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

**Distillates (petroleum), hydrotreated light naphthenic:**
Species: Rabbit
Result: No eye irritation

**Barium dinonyl naphthalenesulphonate:**
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

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

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Test Type: Buehler Test
Exposure routes: Skin contact

Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

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

**Graphite:**
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

**Copper:**
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**12-Hydroxy lithium stearate:**
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative

**Lead oxide:**
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**Distillates (petroleum), hydrotreated light naphthenic:**
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**Barium dinonyl naphthalenesulphonate:**
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

**Zinc oxide:**

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

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**

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: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

**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

**Graphite:**

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

**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.

**Copper:**

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

**Lead oxide:**

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

Test Type: DNA Repair
Species: Mouse
Application Route: inhalation (vapour)
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.

**Distillates (petroleum), hydrotreated light naphthenic:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 476
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: negative

**Barium dinonyl naphthalenesulphonate:**

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

**Zinc oxide:**

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: Rat
Application Route: Inhalation
Method: OECD Test Guideline 474
Result: negative

**Carcinogenicity**

Suspected of causing cancer.

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks
Method: OECD Test Guideline 451
Result: negative

**Lead:**
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

**Lead oxide:**
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

**Distillates (petroleum), hydrotreated light naphthenic:**
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks
Result: negative

**Quartz:**
Species: Humans
Application Route: inhalation (dust/mist/fume)

Result: positive
Remarks: IARC (International Agency for Research on Cancer)
The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies (inhalation)

**Reproductive toxicity**

May damage fertility or the unborn child.

**Components:**

**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

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.

**Graphite:**

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

Effects on foetal development : 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

**Copper:**

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: Rabbit

Application Route: Ingestion
Result: negative

**Lead oxide:**

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

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 development from human epidemiological studies., Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

**Distillates (petroleum), hydrotreated light naphthenic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Skin contact
Result: negative

**Barium dinonyl naphthalenesulphonate:**

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: 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

**Zinc oxide:**

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

Method: OECD Test Guideline 416
Result: negative

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

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Components:**

**Lead:**
Assessment: Causes damage to organs through prolonged or repeated exposure.

**12-Hydroxy lithium stearate:**
Exposure routes: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

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

**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.

**Zinc oxide:**
Exposure routes: inhalation (dust/mist/fume)
Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

**Repeated dose toxicity**

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Species: Rat
NOAEL: > 0.98 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 d
Remarks: Based on data from similar materials

**Lead:**
Species: Rat
LOAEL: 0.05 mg/kg
Application Route: Ingestion

Exposure time: 6 - 12 m
Remarks: Based on data from similar materials

**Graphite:**
Species: Rat
NOAEL: 12 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 d
Method: OECD Test Guideline 412

**Zinc:**
Species: Rat
NOAEL: 31 mg/kg
Application Route: Ingestion
Exposure time: 90 d

**Copper:**
Species: Rat
NOAEL: >= 2 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 d

**12-Hydroxy lithium stearate:**
Species: Rat
NOAEL: > 88 mg/kg
Application Route: Ingestion
Exposure time: 90 d

**Lead oxide:**
Species: Rat
LOAEL: 0.005 mg/kg
Application Route: Ingestion
Exposure time: 20 - 30 d
Remarks: Based on data from similar materials

**Distillates (petroleum), hydrotreated light naphthenic:**
Species: Rabbit
NOAEL: 1,000 mg/kg
Application Route: Skin contact
Exposure time: 4 w
Method: OECD Test Guideline 410

**Barium dinonyl naphthalenesulphonate:**
Species: Rat
NOAEL: 55 mg/kg
LOAEL: 165 mg/kg
Application Route: Ingestion
Exposure time: 29 d
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

**Quartz:**
Species: Humans
LOAEL: 0.053 mg/m3

Application Route: inhalation (dust/mist/fume)
Remarks: The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

**Zinc oxide:**
Species: Rat
NOAEL: 1.5 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 3 m
Method: OECD Test Guideline 413

**Aspiration toxicity**

Not classified based on available information.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 10,000 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae | : | EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 10 mg/l<br>Exposure time: 21 d<br>Remarks: Based on data from similar materials |
| Toxicity to bacteria | : | NOEC: > 1.93 mg/l<br>Exposure time: 10 min<br>Remarks: Based on data from similar materials |

**Lead:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1,170 µg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Ceriodaphnia dubia (water flea)): 596.83 µg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae | : | EC50: > 10 - 100 µg/l |

Exposure time: 72 h
Remarks: Based on data from similar materials

NOEC: > 10 - 100 µg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: > 10 - 100 µg/l
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 - 100 µg/l
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1

**Graphite:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

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

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

Toxicity to bacteria : EC50: > 1,012.5 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

**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 fish (Chronic toxicity) | : | NOEC (Oncorhynchus mykiss (rainbow trout)): 0.199 mg/l<br>Exposure time: 30 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.1 mg/l<br>Exposure time: 21 d |
| M-Factor (Chronic aquatic toxicity) | : | 1 |
| Toxicity to bacteria | : | EC50: 5.2 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Copper:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 297 - 513 µg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | LC50 (Ceriodaphnia dubia (water flea)): 66 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 30 - 824 µg/l<br>Exposure time: 72 h<br>Remarks: Based on data from similar materials |
| M-Factor (Acute aquatic toxicity) | : | 10 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oncorhynchus mykiss (rainbow trout)): 16 µg/l<br>Exposure time: 78 d<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 21.5 - 181 µg/l<br>Exposure time: 21 d<br>Remarks: Based on data from similar materials |
| M-Factor (Chronic aquatic toxicity) | : | 1 |

**Lead oxide:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1,170 µg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Ceriodaphnia dubia (water flea)): 596.8 µg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae | : | NOEC (Dunaliella tertiolecta (marine algae)): 192.3 µg/l<br>Exposure time: 96 h |

Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 µg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 241.5 µg/l
Exposure time: 30 d
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Ceriodaphnia dubia (water flea)): 12.4 µg/l
Exposure time: 7 d
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1

**Distillates (petroleum), hydrotreated light naphthenic:**

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae : NOELR (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction

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

Toxicity to bacteria : NOEC (Photobacterium phosphoreum): > 2.17 mg/l
Exposure time: 4 d

**Barium dinonyl naphthalenesulphonate:**

Toxicity to fish : LL50 (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 : EL50 (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 algae : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to bacteria : EC50: > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

**Zinc oxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 330 - 780 µg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.9 - 16.2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 136 µg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 24 µg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 199 µg/l
Exposure time: 30 d
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 37 µg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to bacteria : EC50: 5.2 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

**Persistence and degradability**

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 - 4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

**12-Hydroxy lithium stearate:**
Biodegradability : Result: Readily biodegradable
Biodegradation: 78 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

**Distillates (petroleum), hydrotreated light naphthenic:**
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 - 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

**Barium dinonyl naphthalenesulphonate:**
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 14 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

**Bioaccumulative potential**

**Components:**

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

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

**Mobility in soil**

No data available

**Other adverse effects**

No data available

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### International Regulation

**UNRTDG**

| | | |
|---|---|---|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.<br>(Lead, Copper) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3077 |
| Proper shipping name | : | Environmentally hazardous substance, solid, n.o.s.<br>(Lead, Copper) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 956 |
| Packing instruction (passenger aircraft) | : | 956 |

**IMDG-Code**

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

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

Not applicable for product as supplied.

## 15. REGULATORY INFORMATION

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

**Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.**

| | | |
|---|---|---|
| Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations | : | Lead compounds in paint |

**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 material are included on or exempted from listing on the TSCA Inventory of Chemical Substances. |

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

## 16. OTHER INFORMATION

**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/ |

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

| | | |
|---|---|---|
| Date format | : | dd.mm.yyyy |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| SG BTLV | : | Singapore. Biological Threshold Limit Values |
| SG OEL | : | Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |
| SG OEL / PEL (long term) | : | Permissible Exposure Level (PEL) Long Term |
| SG OEL / PEL (short term) | : | Permissible Exposure Level (PEL) Short Term |

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.

SG / EN