

SAFETY DATA SHEET



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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 72733

Product code : 000000000000613151

SDS-Identcode : 463G

Manufacturer or supplier's details

Company : Bestolife Corporation

Address : 2777 N. Stemmons Frwy Ste 1800
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
Thread Compound (Pipe Dope) and Jacking grease for use in
Offshore industries
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

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- 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

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Barium dinonyl naphthalenesulphonate	25619-56-1	$\geq 1 - < 10$
Quartz	14808-60-7	$\geq 0.1 - < 1$
Zinc oxide	1314-13-2	$\geq 0.1 - < 1$

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.

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Hazardous combustion products	:	Carbon oxides Lead compounds Metal oxides Sulphur oxides
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.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
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.
Methods and materials for containment and 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.

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. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep container tightly closed. Take care to prevent spills, waste and minimize release to the environment.

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		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
Barium dinonyl naphthalenesulphonate	25619-56-1	PEL (long term)	0.5 mg/m ³ (Barium)	SG OEL
		TWA	0.5 mg/m ³ (Barium)	ACGIH
Quartz	14808-60-7	PEL (long term) (Respirable dust)	0.1 mg/m ³	SG OEL
		TWA (Respirable fraction)	0.025 mg/m ³ (Silica)	ACGIH
Zinc oxide	1314-13-2	PEL (long term) (Dust)	10 mg/m ³	SG OEL
		PEL (long term) (Fumes)	5 mg/m ³	SG OEL
		PEL (short term) (Fumes)	10 mg/m ³	SG OEL
		TWA (Respirable fraction)	2 mg/m ³	ACGIH
		STEL (Respirable fraction)	10 mg/m ³	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.

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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
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:
Safety glasses
- 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).
- 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.
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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
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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 Ingestion Eye contact
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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:

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

Acute inhalation toxicity : LC50 (Rat): > 2 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

Zinc:

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

Acute inhalation toxicity : LC50 (Rat): > 5.41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Copper:

Acute oral toxicity : LD50 (Rat): > 2,500 mg/kg
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

12-Hydroxy lithium stearate:

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

Lead oxide:

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute inhalation toxicity : LC50 (Rat): > 5.05 mg/l

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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.

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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

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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

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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:

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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

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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

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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)

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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

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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

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1.0	26.05.2015	133780-00001	Date of first issue: 26.05.2015

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

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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

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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
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)): > 10,000 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

Toxicity to bacteria : NOEC: > 1.93 mg/l
Exposure time: 10 min
Remarks: Based on data from similar materials

Lead:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,170 µg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 596.83 µg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : EC50: > 10 - 100 µg/l

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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

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

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

M-Factor (Chronic aquatic toxicity) : 1

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

Copper:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 297 - 513 µg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 66 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 30 - 824 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 (Oncorhynchus mykiss (rainbow trout)): 16 µg/l
Exposure time: 78 d
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
Exposure time: 21 d
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
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 596.8 µg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : NOEC (Dunaliella tertiolecta (marine algae)): 192.3 µg/l
Exposure time: 96 h

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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

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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:

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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.

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14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

UN number : UN 3077
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
 N.O.S.
 (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.
 (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.
 (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 : Lead compounds in paint
 Environmental Protection and Management (Hazardous Substances) Regulations

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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