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 Date of first issue: 05/12/2015

SECTION 1. IDENTIFICATION

Product name : 72733

SDS-Identcode : 463G

Manufacturer or supplier's details

Company name of supplier : Bestolife Corporation

Address : 2777 N. Stemmons Frwy Ste 1800

Dallas TX 75207,

Telephone : 855-243-9164/972-865-8961

Telefax : 214-631-3047

Emergency telephone : CHEMTREC U.S.: 800-424-9300, International 703-527-3887

(24-hours/7 days)

E-mail address : www.bestolife.com

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 atmos-

pheres.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Carcinogenicity : Category 2

Reproductive toxicity : Category 1A

Effects on or via lactation

Specific target organ

systemic toxicity - repeated

exposure

Category 1 (Kidney, Central nervous system, Blood)

GHS label elements

Hazard pictograms



Signal Word : Danger

Hazard Statements : H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

H372 Causes damage to organs (Kidney, Central nervous system, Blood) through prolonged or repeated exposure.





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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/ vapors/ spray. P263 Avoid contact during pregnancy/ while nursing.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Distillates (petroleum), hydrotreated	64742-52-5	>= 30 - < 50
heavy naphthenic		
Lead	7439-92-1	>= 30 - < 50
Graphite	7782-42-5	>= 10 - < 20
Copper metal powder	7440-50-8	>= 1 - < 5
Talc	14807-96-6	>= 1 - < 5
Quartz	14808-60-7	>= 1 - < 5
12-Hydroxy lithium stearate	7620-77-1	>= 1 - < 5
Distillates (petroleum), hydrotreated	64742-53-6	>= 1 - < 5
light naphthenic		
Barium bis(di C8-C10, branched, C9	25619-56-1	>= 1 - < 5
rich, alkylnaphthalenesulphonate)		

Actual concentration is withheld as a trade secret

SECTION 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.





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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. Flush eyes with water as a precaution.

In case of eye contact : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water. Suspected of causing cancer.

Most important symptoms and effects, both acute and

and effects, both acute and delayed

May damage fertility. May damage the unborn child.

May cause harm to breast-fed children.

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. Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

: None known.

Specific hazards during fire

fiahtina

Exposure to combustion products may be a hazard to health.

Carbon oxides

Hazardous combustion prod-

Notes to physician

ucts

Lead compounds Metal oxides

Silicon oxides Sulfur oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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 fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec: : tive equipment and emer-

gency 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.





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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.

SECTION 7. HANDLING AND STORAGE

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.

Avoid contact with eyes.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure

assessment

Keep container tightly closed.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled 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 Organic peroxides

Explosives

Explosive Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum),	64742-52-5	TWA (Mist)	5 mg/m³	OSHA Z-1
hydrotreated heavy naphthenic				
		TWA (Inhal- able fraction)	5 mg/m³	ACGIH
		TWA (Mist)	5 mg/m³	NIOSH REL
		ST (Mist)	10 mg/m³	NIOSH REL
Lead	7439-92-1	TWA	0.05 mg/m³ (Lead)	NIOSH REL
		TWA	0.05 mg/m³ (Lead)	ACGIH
		PEL	0.05 mg/m ³	OSHA CARC



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			(Lead)	
Graphite	7782-42-5	TWA (Respirable)	2.5 mg/m ³	NIOSH REL
		TWA (Res-	2 mg/m³	ACGIH
		pirable frac-		
		tion)		
		TWA (Dust)	15 Million	OSHA Z-3
			particles per cubic	
			foot	
Copper metal powder	7440-50-8	TWA (Dust	1 mg/m³	ACGIH
		and mist)	(Copper)	
		TWA	0.2 mg/m³	ACGIH
		(Fumes)	(Copper)	
		TWA (Dust)	1 mg/m³	NIOSH REL
			(Copper)	
		TWA (Mist)	1 mg/m³	NIOSH REL
			(Copper)	
		TWA (dusts	1 mg/m³	OSHA Z-1
		and mists)	(Copper)	
		TWA	0.1 mg/m³	OSHA Z-1
		(Fumes)	(Copper)	
Talc	14807-96-6	TWA (Dust)	20 Million	OSHA Z-3
			particles per cubic	
			foot	
		TWA (Res-	2 mg/m³	NIOSH REL
		pirable)		
		TWA (Res-	2 mg/m³	ACGIH
		pirable frac-		
		tion)		
Quartz	14808-60-7	TWA (Res-	0.05 mg/m ³	OSHA Z-1
		pirable dust)		
		TWA (respir-	10 mg/m3	OSHA Z-3
		able)	/ %SiO2+2	
		TWA (respir-	250 mppcf	OSHA Z-3
		able) `	/ %SiO2+5	
		TWA (Res-	0.025 mg/m ³	ACGIH
		pirable frac-	(Silica)	
		tion)		
		TWA (Res-	0.05 mg/m ³	NIOSH REL
		pirable dust)	(Silica)	
12-Hydroxy lithium stearate	7620-77-1	TWA (Inhal-	10 mg/m³	ACGIH
, ,		able fraction)		
		TWA (Res-	3 mg/m³	ACGIH
		pirable frac-		
		tion)		
Distillates (petroleum),	64742-53-6	TWA (Mist)	5 mg/m³	OSHA Z-1
hydrotreated light naphthenic				
		TWA (Inhal-	5 mg/m³	ACGIH
		able fraction)		
		TWA (Mist)	5 mg/m³	NIOSH REL
		ST (Mist)	10 mg/m³	NIOSH REL
Barium bis(di C8-C10,	25619-56-1	TWA	0.5 mg/m ³	OSHA Z-1
branched, C9 rich,			(Barium)	
alkylnaphthalenesulphonate)			`	





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TWA	0.5 mg/m³	ACGIH
	(Barium)	
TWA	0.5 mg/m³	NIOSH REL
	(Barium)	

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

Quartz

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra-tion	Basis
Lead	7439-92-1	Lead (Lead)	In blood	Not criti- cal	200 μg/l	ACGIH BEI

Engineering measures : Minimize workplace exposure concentrations.

Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m3 - respirable particles, 10 mg/m3 - inhalable particles.

Personal protective equipment

Respiratory protection : Ge

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration 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





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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.

See 29 CFR 1910.1025 for additional requirements relating

to lead exposure.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Viscous semi-solid
Color : black, copper
Odor : Petroleum
Odor Threshold : No data available

. 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 : >= $325.0 \, ^{\circ}\text{F} / >= 162.8 \, ^{\circ}\text{C}$

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

Vapor pressure : Not applicable

Relative vapor density : Not applicable

Relative density : 1.9

Solubility(ies)

Water solubility : negligible

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : No data available

Decomposition temperature : No data available





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Viscosity

Viscosity, kinematic : Not applicable

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 Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac- :

tions

reac- : Can react with strong oxidizing agents.

Conditions to avoid : None known. Incompatible materials : Oxidizing agents

Hazardous decomposition : No hazardous decomposition products are known.

products

SECTION 11. TOXICOLOGICAL INFORMATION

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: > 5,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 148.47 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 inhala-





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tion 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

Remarks: Based on data from similar materials

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

Remarks: Based on data from similar materials

Graphite:

LD50 (Rat): > 2,000 mg/kg Acute oral toxicity

Method: OECD Test Guideline 423

Assessment: The substance or mixture has no acute oral tox-

icity

LC50 (Rat): > 2 mg/l Acute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

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 tox-

icity

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 inhala-

tion 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

Talc:

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

Remarks: Based on data from similar materials

Quartz:

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

12-Hydroxy lithium stearate:





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Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Assessment: The substance or mixture has no acute oral tox-

icity

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 inhala-

tion toxicity

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

Assessment: The substance or mixture has no acute dermal

toxicity

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

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

Exposure time: 4 h

Test atmosphere: dust/mist Method: Expert judgment

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

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



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Result : No skin irritation

Copper metal powder:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Talc:

Species : Rabbit

Result : No skin irritation

12-Hydroxy lithium stearate:

Species : Rabbit

Result : No skin irritation

Remarks : Based on data from similar materials

Distillates (petroleum), hydrotreated light naphthenic:

Species : Rabbit

Result : No skin irritation

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

Species : Rabbit Result : Skin irritation

Remarks : Based on data from similar materials

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

Method : OECD Test Guideline 405

Copper metal powder:

Species : Rabbit

Result : No eye irritation



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Method : OECD Test Guideline 405

Talc:

Species : Rabbit

Result : No eye irritation

12-Hydroxy lithium stearate:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Distillates (petroleum), hydrotreated light naphthenic:

Species : Rabbit

Result : No eye irritation

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

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Remarks : Based on data from similar materials

Lead:

Test Type : Maximization Test Routes of exposure : 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)

Routes of exposure : Skin contact Species : Mouse Result : negative





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Copper metal powder:

Test Type : Maximization Test Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Talc:

Routes of exposure : Skin contact Species : Humans Result : negative

12-Hydroxy lithium stearate:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact

Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Distillates (petroleum), hydrotreated light naphthenic:

Test Type : Buehler Test Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

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

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Remarks : Based on data from similar materials

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





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Lead:

Genotoxicity in vitro : Test Type: In vitro sister chromatid exchange assay in mam-

malian 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)

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Copper metal powder:

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

Talc:

Genotoxicity in vitro : Test Type: DNA damage and repair, unscheduled DNA syn-

thesis in mammalian cells (in vitro)

Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro

Species: Rat

Application Route: Ingestion

Result: negative

Distillates (petroleum), hydrotreated light naphthenic:

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

Method: OECD Test Guideline 476





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

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

Suspected of causing cancer.

Product:

Carcinogenicity - Assess-

ment

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:

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 : positive

Remarks : Based on data from similar materials

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in animal studies

Talc:

Species : Mouse

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 Years Result : negative

Quartz:

Species : Humans

Application Route : inhalation (dust/mist/fume)

Result : positive





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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.

Carcinogenicity - Assess-

ment

Positive evidence from human epidemiological studies (inhala-

tion)

Distillates (petroleum), hydrotreated light naphthenic:

Species : Mouse
Application Route : Skin contact
Exposure time : 78 weeks
Result : negative

IARC Group 1: Carcinogenic to humans

Quartz 14808-60-7

(Silica dust, crystalline)

Group 2B: Possibly carcinogenic to humans

Lead 7439-92-1

OSHA OSHA specifically regulated carcinogen

Lead 7439-92-1

(Lead and inorganic lead compounds)

NTP Reasonably anticipated to be a human carcinogen

Lead 7439-92-1

Known to be human carcinogen

Quartz

(Silica, Crystalline (Respirable Size))

14808-60-7

Reproductive toxicity

May damage fertility. May damage the unborn child. May cause harm to breast-fed children.

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 fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: positive

Remarks: Based on data from similar materials

Reproductive toxicity - As-

sessment

Positive evidence of adverse effects on sexual function and fertility from human epidemiological studies., Positive

evidence of adverse effects on development from human epidemiological studies., Studies indicating a hazard to babies

during the lactation period





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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 fetal 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 metal powder:

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 fetal development : Test Type: Embryo-fetal development

Species: Rabbit

Application Route: Ingestion

Result: negative

Talc:

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: negative

Distillates (petroleum), hydrotreated light naphthenic:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: Ingestion

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Skin contact

Result: negative

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

Effects on fertility : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion





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Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Effects on fetal 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

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Causes damage to organs (Kidney, Central nervous system, Blood) through prolonged or repeated exposure.

Components:

Lead:

Target Organs : Kidney, Central nervous system, Blood

Assessment : Causes damage to organs through prolonged or repeated

exposure.

Quartz:

Routes of exposure : inhalation (dust/mist/fume)

Target Organs : Lungs

Assessment : Shown to produce significant health effects in animals at con-

centrations of 0.02 mg/l/6h/d or less.

12-Hydroxy lithium stearate:

Routes of exposure : Ingestion

Assessment : No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw 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 Days

Remarks : Based on data from similar materials

Lead:

Species : Rat

NOAEL : 0.0015 mg/kg LOAEL : 0.005 mg/kg



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Application Route : Ingestion Exposure time : 6 - 12 Months

Remarks : Based on data from similar materials

Copper metal powder:

Species : Rat

NOAEL : $>= 2 \text{ mg/m}^3$

Application Route : inhalation (dust/mist/fume)

Exposure time : 28 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.

12-Hydroxy lithium stearate:

Species : Rat

NOAEL : > 88 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Distillates (petroleum), hydrotreated light naphthenic:

Species : Rabbit

NOAEL : 1,000 mg/kg

Application Route : Skin contact

Exposure time : 4 Weeks

Method : OECD Test Guideline 410

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

Species : Rat

NOAEL : 55 mg/kg

LOAEL : 165 mg/kg

Application Route : Ingestion

Exposure time : 29 Days

Method : OECD Test Guideline 422

Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l





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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 (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 10 mg/l

Exposure time: 21 d

Remarks: Based on data from similar materials

Toxicity to microorganisms : 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)): 0.107 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia dubia (water flea)): 0.029 mg/l

Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.025

ma/

Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 6.1

μg/I

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

EC10 (Pimephales promelas (fathead minnow)): 20 µg/l

Exposure time: 30 d

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

EC10 (Ceriodaphnia dubia (water flea)): 1.7 μg/l

Exposure time: 7 d

Graphite:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

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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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

NOELR (Pseudokirchneriella subcapitata (green algae)): >

100 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50: > 1,012.5 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Copper metal powder:

Toxicity to fish : LC50: > $10 - 100 \mu g/l$

Exposure time: 96 h

Toxicity to fish (Chronic tox-

icity)

: NOEC: > 1 - 10 μg/l

Talc:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l

Exposure time: 24 h

Quartz:

Ecotoxicology Assessment

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

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

12-Hydroxy lithium stearate:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae : NOELR (Pseudokirchneriella subcapitata (green algae)): >

100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

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





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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 (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 10 mg/l

Exposure time: 21 d

Toxicity to microorganisms : NOEC (Photobacterium phosphoreum): > 2.17 mg/l

Exposure time: 4 d

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

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 microorganisms : EC50: > 100 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.





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

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

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

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

International Regulations

UNRTDG

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Lead, Copper metal powder)

Class : 9
Packing group : III
Labels : 9

IATA-DGR





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UN/ID No. UN 3077

Proper shipping name Environmentally hazardous substance, solid, n.o.s.

(Lead, Copper metal powder)

Class 9 Packing group Ш

Miscellaneous Labels

Packing instruction (cargo 956

aircraft)

Packing instruction (passen-956

ger aircraft)

Environmentally hazardous : yes

IMDG-Code

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Lead, Copper metal powder)

Class 9 Packing group Ш 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.

Domestic regulation

49 CFR

UN/ID/NA number UN 3077

Environmentally hazardous substance, solid, n.o.s. Proper shipping name

(Lead, Copper metal powder)

Class 9 Packing group Ш CLASS 9 Labels **ERG Code**

Marine pollutant yes(Lead, Copper metal powder) Remarks

THE ABOVE INFORMATION ONLY APPLIES TO PACKAGE SIZES WHERE THE HAZARDOUS SUBSTANCE MEETS

THE REPORTABLE QUANTITY.

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.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ Calculated product I	
		(lbs)	(lbs)
Lead	7439-92-1	10	32
Zinc	7440-66-6	1000	8201





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Cadmium 7440-43-9 10 117647

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Carcinogenicity

Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

Lead 7439-92-1 >= 30 - < 50 %

Zinc 7440-66-6 >= 10 - < 20 %

Copper metal 7440-50-8 >= 1 - < 5 %

powder

Barium bis(di C8- 25619-56-1 >= 1 - < 5 %

C10, branched, C9 rich, alkylnaphthalenesulphonate)

US State Regulations

Pennsylvania Right To Know

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Lead	7439-92-1
Graphite	7782-42-5
Zinc	7440-66-6
Copper metal powder	7440-50-8
Talc	14807-96-6
Quartz	14808-60-7
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6
Barium bis(di C8-C10, branched, C9 rich, alkylnaphtha-	25619-56-1
lenesulphonate)	
Zinc oxide	1314-13-2

California Prop. 65

WARNING: This product can expose you to chemicals including Lead, Quartz, Cadmium, which is/are known to the State of California to cause cancer, and Lead, Cadmium, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Lead	7439-92-1
Graphite	7782-42-5
Zinc	7440-66-6
Copper metal powder	7440-50-8





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Talc 14807-96-6 Barium bis(di C8-C10, branched, C9 rich, alkylnaphtha- 25619-56-1

lenesulphonate)

California Permissible Exposure Limits for Chemical Contaminants

Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5 Lead 7439-92-1 Graphite 7782-42-5 Copper metal powder 7440-50-8 Talc 14807-96-6 Quartz 14808-60-7 Distillates (petroleum), hydrotreated light naphthenic 64742-53-6 Barium bis(di C8-C10, branched, C9 rich, alkylnaphtha-25619-56-1

lenesulphonate)

California Regulated Carcinogens

Lead 7439-92-1 Quartz 14808-60-7

The ingredients 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

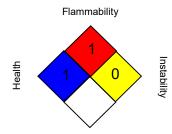
exemption.

AICS : All ingredients listed or exempt.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Special hazard.

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens

OSHA Z-3 / TWA



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8-hour time weighted average

AICS - Australian Inventory of Chemical Substances: ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act: CMR - Carcinogen, Mutagen or Reproductive Toxicant: DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG -United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

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

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