

ZN-50

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 10/10/2018

 10.0
 03/16/2020
 114857-00019
 Date of first issue: 05/12/2015

SECTION 1. IDENTIFICATION

Product name : ZN-50
SDS-Identcode : 032G

Manufacturer or supplier's details

Company name of supplier : Bestolife Corporation Address : 2126 Vanco Drive

Irving TX 75061,

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

Eye irritation : Category 2A

Skin sensitization : Category 1

Reproductive toxicity : Category 1A

Effects on or via lactation

GHS label elements

Hazard pictograms :





Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.



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P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing 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. P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

CAS-No.	Concentration (% w/w)
64742-52-5	>= 30 - < 50
14807-96-6	>= 5 - < 10
1314-13-2	>= 1 - < 5
1305-78-8	>= 1 - < 5
7620-77-1	>= 1 - < 5
16389-88-1	>= 1 - < 5
57855-77-3	>= 1 - < 5
14808-60-7	>= 0.1 - < 1
7439-92-1	>= 0.1 - < 0.5
	64742-52-5 14807-96-6 1314-13-2 1305-78-8 7620-77-1 16389-88-1 57855-77-3 14808-60-7

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES



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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 In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention.

If swallowed, DO NOT induce vomiting. If swallowed

Get medical attention.

Rinse mouth thoroughly with water. May cause an allergic skin reaction. Causes serious eye irritation.

Most important symptoms and effects, both acute and

delayed

May damage fertility. May damage the unborn child.

May cause harm to breast-fed children.

First Aid responders should pay attention to self-protection, Protection of first-aiders

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Treat symptomatically and supportively. Notes to physician

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

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

Carbon oxides Metal oxides

ucts

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 emerUse personal protective equipment.

Follow safe handling advice and personal protective

BESTOLIFE. PREMIUM COMPOUNDS

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gency procedures 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.

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. Do not get in eyes.

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

assessment

Keep container tightly closed.

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

environment.

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 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), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m³	OSHA Z-1
		TWA (Inhal- able particu- late matter)	5 mg/m³	ACGIH
		TWA (Mist)	5 mg/m ³	NIOSH REL



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I		ST (Mist)	10 mg/m³	NIOSH REL
Talc	14807-96-6	TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Respirable)	2 mg/m³	NIOSH REL
		TWA (Respirable particulate matter)	2 mg/m³	ACGIH
Zinc oxide	1314-13-2	TWA (Respirable particulate matter)	2 mg/m³	ACGIH
		STEL (Respirable particulate matter)	10 mg/m³	ACGIH
		TWA (Dust)	5 mg/m³	NIOSH REL
		TWA (Fumes)	5 mg/m³	NIOSH REL
		ST (Fumes)	10 mg/m³	NIOSH REL
		C (Dust)	15 mg/m³	NIOSH REL
		TWA (total dust)	15 mg/m³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m³	OSHA Z-1
		TWA (Fumes)	5 mg/m³	OSHA Z-1
Calcium oxide	1305-78-8	TWA	2 mg/m³	ACGIH
		TWA	2 mg/m³	NIOSH REL
		TWA	5 mg/m³	OSHA Z-1
12-Hydroxy lithium stearate	7620-77-1	TWA (Inhal- able particu- late matter)	10 mg/m³	ACGIH
		TWA (Respirable particulate matter)	3 mg/m³	ACGIH
Dolomite	16389-88-1	TWA (Respirable)	5 mg/m³ (Calcium car- bonate)	NIOSH REL
		TWA (total)	10 mg/m³ (Calcium car- bonate)	NIOSH REL
Quartz	14808-60-7	TWA (Respirable dust)	0.05 mg/m³	OSHA Z-1
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (Respirable particulate mat-	0.025 mg/m³ (Silica)	ACGIH



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		ter)		
		TWA (Res-	0.05 mg/m³	NIOSH REL
		pirable dust)	(Silica)	
		PEL (respir-	0.05 mg/m³	OSHA CARC
		able)		
Lead	7439-92-1	TWA	0.05 mg/m³	ACGIH
			(Lead)	
		PEL	0.05 mg/m³	OSHA CARC
			(Lead)	
		TWA	0.05 mg/m³	NIOSH REL
			(Lead)	

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	Biological	Sam-	Permissible	Basis
		parameters	specimen	pling	concentra-	
				time	tion	
Lead	7439-92-1	Lead	In blood	Not criti-	200 μg/l	ACGIH
		(Lead)		cal		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

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!



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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 goggles

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 : If exposure to chemical is likely during typical use, provide

eye flushing systems and safety showers close to the

working place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Viscous semi-solid

Color : gray

Odor : Petroleum

Odor Threshold : No data available

pH : Not applicable (not an aqueous solution)

Melting point/freezing point : No data available

Initial boiling point and boiling :

range

No data available

Flash point : $>= 486 \, ^{\circ}\text{F} / >= 252 \, ^{\circ}\text{C}$

Method: ASTM D 92, Cleveland open cup

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 : 1.8

Solubility(ies)



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Water solubility : negligible

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature No data available

Decomposition temperature No data available

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- : Can react with strong oxidizing agents.

tions

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.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

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

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



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Assessment: The substance or mixture has no acute inhala-

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

Talc:

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

Remarks: Based on data from similar materials

Zinc oxide:

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

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l

Exposure time: 4 h Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Calcium oxide:

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

Method: OECD Test Guideline 425

Acute inhalation toxicity (Rat): > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 436

Remarks: Based on data from similar materials

: LD50 (Rabbit): > 2,500 mg/kg Acute dermal toxicity

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

12-Hydroxy lithium stearate:

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

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

Dolomite:

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

Method: OECD Test Guideline 420

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



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icity

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion 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

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

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

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

Quartz:

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

Lead:

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

Remarks: Based on data from similar materials

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

Remarks: Based on data from similar materials

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

Talc:

Species : Rabbit

Result : No skin irritation

Zinc oxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation



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Calcium oxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

Remarks : Based on data from similar materials

12-Hydroxy lithium stearate:

Species : Rabbit

Result : No skin irritation

Remarks : Based on data from similar materials

Dolomite:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

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

Species : Rabbit Result : Skin irritation

Remarks : Based on data from similar materials

Lead:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Talc:

Species : Rabbit

Result : No eye irritation

Zinc oxide:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Calcium oxide:

Species : Rabbit



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

12-Hydroxy lithium stearate:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Dolomite:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

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

Species : Rabbit

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

Lead:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

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

Talc:

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

Zinc oxide:

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



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Method : OECD Test Guideline 406

Result : negative

Calcium oxide:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact

Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : Based on data from similar materials

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

Dolomite:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact

Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : Based on data from similar materials

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

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

Remarks : Based on data from similar materials

Assessment : Probability or evidence of low to moderate skin sensitization

rate in humans

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

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)



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Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection Method: OECD Test Guideline 474

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

Zinc oxide:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: equivocal

Test Type: Chromosome aberration test in vitro

Result: equivocal

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (dust/mist/fume)

Method: OECD Test Guideline 474

Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: inhalation (dust/mist/fume)

Result: positive

Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity -

Assessment

: Weight of evidence does not support classification as a germ

cell mutagen.



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Calcium oxide:

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

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Dolomite:

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

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

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

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



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Carcinogenicity

Not classified based on available information.

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).

Weight of evidence does not support classification as a car-

cinogen

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

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

Method : OECD Test Guideline 451

Result : negative

Talc:

Species : Mouse

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 Years
Result : negative

Zinc oxide:

Species : Mouse
Application Route : Ingestion
Exposure time : 1 Years
Result : negative

Remarks : Based on data from similar materials

Calcium oxide:

Species : Rat
Application Route : Ingestion
Exposure time : 104 weeks
Result : negative

Remarks : Based on data from similar materials

Quartz:

Species : Humans

Application Route : inhalation (dust/mist/fume)

Result : positive

Remarks : 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)



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Lead:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : positive

Remarks : Based on data from similar materials

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies

ment

IARC Group 1: Carcinogenic to humans

Quartz 14808-60-7

(Silica dust, crystalline)

Group 2B: Possibly carcinogenic to humans

Lead 7439-92-1

OSHA Specifically regulated carcinogen

Quartz 14808-60-7

(crystalline silica)

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 14808-60-7

(Silica, Crystalline (Respirable Size))

Reproductive toxicity

May damage fertility. May damage the unborn child.

May cause harm to breast-fed children.

Components:

Talc:

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

Species: Rat

Application Route: Ingestion

Result: negative

Zinc oxide:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

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

Species: Rat

Application Route: inhalation (dust/mist/fume)

Method: OECD Test Guideline 414

Result: negative

Remarks: Based on data from similar materials



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Calcium oxide:

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

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

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

Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

Dolomite:

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 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

Calcium 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 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

Lead:

Effects on fertility : Test Type: Two-generation reproduction toxicity study



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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

STOT-single exposure

Not classified based on available information.

Components:

Calcium oxide:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Components:

Zinc oxide:

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

tions of 0.2 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.

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.

Lead:

Target Organs : Kidney, Central nervous system, Blood

Assessment : Causes damage to organs through prolonged or repeated

exposure.



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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

Zinc oxide:

Species : Rat, male NOAEL : 0.0015 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 3 Months

Method : OECD Test Guideline 413

Calcium oxide:

Species : Rat

NOAEL : >= 0.399 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 90 Days

Method : OECD Test Guideline 413

12-Hydroxy lithium stearate:

Species : Rat

NOAEL : > 88 mg/kg

Application Route : Ingestion

Exposure time : 90 Days

Dolomite:

Species: MouseNOAEL: 1,300 mg/kgApplication Route: IngestionExposure time: 28 Days

Remarks : Based on data from similar materials

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

Species : Rat

NOAEL : 100 mg/kg

LOAEL : 300 mg/kg

Application Route : Ingestion

Exposure time : 90 Days

Method : OECD Test Guideline 408

Quartz:

Species : Humans LOAEL : 0.053 mg/m³

Application Route : inhalation (dust/mist/fume)



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Remarks These substance(s) are inextricably bound in the product and

therefore do not contribute to a dust inhalation hazard.

Lead:

Species Rat

NOAEL 0.0015 mg/kg LOAEL : 0.005 mg/kg Application Route Ingestion Exposure time 6 - 12 Months

Remarks Based on data from similar materials

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

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

aquatic invertebrates Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l

plants

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

Talc:

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

Exposure time: 24 h

Zinc oxide:

LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l Toxicity to fish

Exposure time: 96 h

Remarks: Based on data from similar materials



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aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

: EC50 (Selenastrum capricornutum (green algae)): > 0.1 - 1

mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

NOEC (Selenastrum capricornutum (green algae)): > 0.001 -

0.01 mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOEC (Oncorhynchus mykiss (rainbow trout)): > 0.01 - 0.1

mg/l

Exposure time: 25 d

Remarks: Based on data from similar materials

Toxicity to daphnia and other: aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l

Exposure time: 21 d

Remarks: Based on data from similar materials

Calcium oxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 1

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Crangon crangon (shrimp)): > 1 mg/l

Exposure time: 14 d

Remarks: Based on data from similar materials

Toxicity to microorganisms

EC50: > 100 mg/l

Exposure time: 3 h Method: OECD Test Guideline 209



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Remarks: Based on data from similar materials

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/aquatic

plants

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

100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Dolomite:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 16.6 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: No toxicity at the limit of solubility. Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 16.6 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: No toxicity at the limit of solubility. Based on data from similar materials

Toxicity to algae/aquatic

plants

: NOEC (Desmodesmus subspicatus (green algae)): 14 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Calcium 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/aquatic

plants

: EL50 (Pseudokirchneriella subcapitata (green algae)): > 10

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials



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Toxicity to daphnia and other : NOELR (Daphnia magna (Water flea)): 2.2 mg/l aquatic invertebrates (Chron-

Exposure time: 21 d

ic toxicity)

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 211

Toxicity to microorganisms : NOEC: > 100 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Quartz:

Ecotoxicology Assessment

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

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

Lead:

: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.107 mg/l Toxicity to fish

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Ceriodaphnia dubia (water flea)): 0.029 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

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

Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 6.1

Exposure time: 72 h

Toxicity to fish (Chronic tox-

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

Persistence and degradability

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Result: Not readily biodegradable. Biodegradability

Biodegradation: 2 - 4 % Exposure time: 28 d

Method: OECD Test Guideline 301B

12-Hydroxy lithium stearate:

Result: Readily biodegradable. Biodegradability

> Biodegradation: 78 % Exposure time: 28 d



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Method: OECD Test Guideline 301C

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

Biodegradability : Result: Not readily biodegradable.

Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Zinc oxide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 78 - 2,060

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

Partition coefficient: n-

octanol/water

: log Pow: > 6.6

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues Contaminated packaging Dispose of in accordance with local regulations.

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.

(Zinc, Zinc oxide)

Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3077

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



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(Zinc, Zinc oxide)

Class : 9 Packing group : III

Labels : Miscellaneous,

Packing instruction (cargo : 956

aircraft)

Packing instruction (passen-

ger aircraft)

Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

956

(Zinc, Zinc oxide)

Class : 9

Subsidiary risk : ENVIRONM.

Packing group : III

Labels : 9 (ENVIRONM.)

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

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

(Zinc, Zinc oxide)

Class : 9

Packing group : III
Labels : CLASS 9

ERG Code : 171
Marine pollutant : yes(Zinc, Zinc oxide)

Remarks : Above applies only to containers over 119 gallons or 450

liters.

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 RQ
		(lbs)	(lbs)
Zinc	7440-66-6	1000	2000
Lead	7439-92-1	10	10000
Cadmium	7440-43-9	10	28571



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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 : Respiratory or skin sensitization

Reproductive toxicity

Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

Zinc 7440-66-6 >= 50 - < 70 %Zinc oxide 1314-13-2 >= 1 - < 5 %Lead 7439-92-1 >= 0.1 - < 1 %

US State Regulations

Pennsylvania Right To Know

Zinc	7440-66-6
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Talc	14807-96-6
Zinc oxide	1314-13-2
Calcium oxide	1305-78-8
Lead	7439-92-1
Cadmium	7440-43-9
Copper metal powder	7440-50-8

California Prop. 65

WARNING: This product can expose you to chemicals including Quartz, which is/are known to the State of California to cause cancer, and

Lead, 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

	Zinc	7440-66-6
	Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Ш	Talc	14807-96-6
Ш	Zinc oxide	1314-13-2
Ш	Calcium oxide	1305-78-8

California Permissible Exposure Limits for Chemical Contaminants

Distillates (petroleum), hydrotreated heavy naphthenic Talc Zinc oxide	64742-52-5
Talc	14807-96-6
Zinc oxide	1314-13-2
Calcium oxide	1305-78-8

California Regulated Carcinogens

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

The ingredients of this product are reported in the following inventories:

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



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TSCA : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory

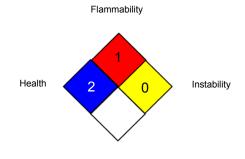
exemption.

AICS : All ingredients listed or exempt.

SECTION 16. OTHER INFORMATION

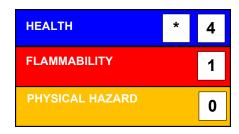
Further information

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-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Min-

eral Dusts

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

NIOSH REL / C : Ceiling value not be exceeded at any time.

OSHA CARC / PEL : Permissible exposure limit (PEL)
OSHA Z-1 / TWA : 8-hour time weighted average
OSHA Z-3 / TWA : 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,



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

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.

US / Z8