

Rosin Core Solder, Sn60/Pb40, 453 gVersion
1.0Revision Date:
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Date of first issue: 06/07/2017

SECTION 1. IDENTIFICATION

Product name : Rosin Core Solder, Sn60/Pb40, 453 g

Product code : 987.063

Manufacturer or supplier's details

Company name of supplier : Würth Canada Limited

Address : 345 Hanlon Creek Blvd
GUELPH, ON N1C 0A1

Telephone : +1 (905) 564 6225

Telefax : +1 (905) 564 3671

Emergency telephone : CANUTEC (24/7): +1 (613) 996-6666 or *666 (cellular)

E-mail address : prodsafe@wurth.ca

Recommended use of the chemical and restrictions on useRecommended use : Solder

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the Hazardous Products Regulations**

Skin sensitization : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 1A

Effects on or via lactation

Specific target organ systemic toxicity - repeated exposure : Category 1 (Central nervous system, Kidney, Blood)

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

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H360FD May damage fertility. May damage the unborn child.
H362 May cause harm to breast-fed children.
H372 Causes damage to organs (Central nervous system, Kidney, Blood) through prolonged or repeated exposure.

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 and 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 water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

May cause thermal burns.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
tin	7440-31-5	>= 50 - < 70
Lead	7439-92-1	>= 30 - < 50
Rosin	8050-09-7	>= 1 - < 5

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

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	advice.
If inhaled	: If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	: Cool melted product on skin with plenty of water. Do not re- move solidified product. In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	: In case of contact, immediately flush eye with plenty of water. Get medical attention if irritation develops and persists.
If swallowed	: If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	: May cause an allergic skin reaction. Suspected of causing cancer. May damage fertility. May damage the unborn child. May cause harm to breast-fed children. Causes damage to organs through prolonged or repeated exposure. Contact with hot product will cause thermal burns.
Protection of first-aiders	: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
Notes to physician	: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) 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- ucts	: Metal oxides Lead compounds Carbon oxides
Specific extinguishing meth-	: Use extinguishing measures that are appropriate to local cir-

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ods 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 : In the event of fire, wear self-contained breathing apparatus.
for fire-fighters Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Allow to solidify, use mechanical handling equipment.
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.

Local/Total ventilation : Use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice.
Keep container tightly closed.
Take care to prevent spills, waste and minimize release to the environment.

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:

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 Strong oxidizing agents
Organic peroxides
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
tin	7440-31-5	TWA	2 mg/m ³	CA AB OEL
		TWA	2 mg/m ³	CA ON OEL
		TWAEV	2 mg/m ³	CA QC OEL
		TWA	2 mg/m ³	CA BC OEL
		TWA	2 mg/m ³	ACGIH
Lead	7439-92-1	TWA	0.05 mg/m ³	CA AB OEL
		TWA	0.05 mg/m ³	CA BC OEL
		TWA	0.05 mg/m ³ (Lead)	CA ON OEL
		TWAEV	0.05 mg/m ³ (Lead)	CA QC OEL
		TWA	0.05 mg/m ³ (Lead)	ACGIH
Rosin	8050-09-7	TWAEV	0.1 mg/m ³ (Formaldehyde)	CA QC OEL

Occupational exposure limits of decomposition products

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Lead monoxide	1317-36-8	TWA	0.05 mg/m ³ (Lead)	CA AB OEL
		TWAEV	0.05 mg/m ³ (Lead)	CA QC OEL
		TWA	0.05 mg/m ³ (Lead)	CA BC OEL
		TWA	0.05 mg/m ³ (Lead)	CA ON OEL
		TWA	0.05 mg/m ³ (Lead)	ACGIH
Formaldehyde	50-00-0	(c)	1 ppm 1.3 mg/m ³	CA AB OEL
		TWA	0.75 ppm 0.9 mg/m ³	CA AB OEL
		TWA	0.3 ppm	CA BC OEL
		C	1 ppm	CA BC OEL
		STEL	1 ppm	CA ON OEL
		C	1.5 ppm	CA ON OEL
		C	2 ppm 3 mg/m ³	CA QC OEL

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		C	0.3 ppm	ACGIH
Acetaldehyde	75-07-0	(c)	25 ppm 45 mg/m ³	CA AB OEL
		C	25 ppm	CA BC OEL
		C	25 ppm 45 mg/m ³	CA QC OEL
		C	25 ppm	ACGIH
Acrolein	107-02-8	(c)	0.1 ppm 0.2 mg/m ³	CA AB OEL
		C	0.1 ppm	CA BC OEL
		TWAEV	0.1 ppm 0.23 mg/m ³	CA QC OEL
		STEV	0.3 ppm 0.69 mg/m ³	CA QC OEL
		C	0.1 ppm	ACGIH
Butyraldehyde	123-72-8	TWA	25 ppm	US WEEL

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Lead	7439-92-1	Lead (Lead)	In blood	Not criti-cal	30 µg/ 100 ml	ACGIH BEI

Engineering measures : Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Particulates type

Hand protection

Material : Heat resistant gloves

Material : Nitrile rubber

Material : Natural Rubber

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. 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. Breakthrough time is not determined for the product. Change gloves often!

Eye protection : Wear the following personal protective equipment:

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Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

Color : silver, gray

Odor : odorless

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : > 100 °C

Initial boiling point and boiling range : 1,740 °C

Flash point : Not applicable

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 : No data available

Density : 8.4 g/cm³ (20 °C)

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n- : Not applicable

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octanol/water

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

 Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

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 reactions : Can react with strong oxidizing agents.
Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products

Thermal decomposition : Lead monoxide
 Formaldehyde
 Acetaldehyde
 Acrolein
 Butyraldehyde

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

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Ingredients:**tin:**

- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 4.75 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Lead:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Rosin:

- Acute oral toxicity : LD50 (Rat): 2,800 mg/kg
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Ingredients:**tin:**

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

Lead:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Rosin:

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

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Not classified based on available information.

tin:

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

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

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

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Ingredients:

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

Rosin:

Assessment: Probability or evidence of skin sensitization in humans
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

tin:

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

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Result: negative

Lead:

Genotoxicity in vitro : Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative
Remarks: Based on data from similar materials

Rosin:

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

Carcinogenicity

Suspected of causing cancer.

Ingredients:**tin:**

Species: Rat
Application Route: Ingestion
Exposure time: 115 weeks
Result: negative
Remarks: Based on data from similar materials

Lead:

Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Species: Rat
Application Route: Ingestion
Result: negative

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

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

Ingredients:**Lead:**

Effects on fertility : Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Effects on fetal development : Species: Rat
Application Route: Ingestion

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Result: positive

Remarks: Based on data from similar materials

Reproductive toxicity - Assessment

: Studies indicating a hazard to babies during the lactation period, 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.

Rosin:

Effects on fertility

: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative

Effects on fetal development

: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative**STOT-single exposure**

Not classified based on available information.

STOT-repeated exposure

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

Ingredients:**Lead:**

Target Organs: Central nervous system, Kidney, Blood

Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Target Organs: Central nervous system, Kidney, Blood

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

Repeated dose toxicity**Ingredients:****tin:**

Species: Rat

NOAEL: > 1,000 mg/kg

Application Route: Ingestion

Exposure time: 28 Days

Method: OECD Test Guideline 407

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Not classified based on available information.

Ingredients:

Ingestion : Symptoms: Blood disorders, central nervous system effects, Kidney disorders

Ecotoxicity

Ingredients:

Toxicity to fish	:	LC50 (<i>Pimephales promelas</i> (fathead minnow)): > 12.4 µg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility. Based on data from similar materials
Toxicity to algae	:	EC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 19.2 µg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility. Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (<i>Ceriodaphnia dubia</i> (water flea)): 100 µg/l Exposure time: 7 d Remarks: No toxicity at the limit of solubility. Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 511 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Ceriodaphnia dubia (water flea)): > 1 - 10 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 10 mg/l Exposure time: 72 h Remarks: Based on data from similar materials

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Toxicity to fish (Chronic toxicity) : NOELR (Pimephales promelas (fathead minnow)): > 1 mg/l
Exposure time: 30 d
Remarks: Based on data from similar materials

Rosin:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 1 - < 10 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)): 911 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae : NOELR (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50: > 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability**Ingredients:****Rosin:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 71 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Bioaccumulative potential**Ingredients:****Rosin:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: 3 - 6.2

Mobility in soil

No data available

Other adverse effects

No data available

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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.
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)
- Class : 9
- Packing group : III
- Labels : 9

IATA-DGR

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

IMDG-Code

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

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

Not applicable for product as supplied.

Domestic regulation**TDG**

- UN number : UN 3077
- Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(Lead)

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Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(Lead)

SECTION 15. REGULATORY INFORMATION

Volatile organic compounds (VOC) content

VOC content: 0 %

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

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

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / C	:	Ceiling limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / (c)	:	ceiling occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / C	:	ceiling limit
CA ON OEL / C	:	Ceiling Limit (C)
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA ON OEL / STEL	:	Short-Term Exposure Limit (STEL)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value
CA QC OEL / C	:	Ceiling
US WEEL / TWA	:	8-hr TWA

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;

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IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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 Agency, <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.

CA / Z8