SAFETY DATA SHEET



DOW CORNING(R) 4 CATALYST

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04/01/2015

 1.2
 10/19/2015
 645591-00003
 Date of first issue: 10/20/2014

SECTION 1. IDENTIFICATION

Product name : DOW CORNING(R) 4 CATALYST

Product code : 0000000001103181

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road

Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900

CHEMTREC: (800) 424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Vulcanising agents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage : Category 1

Skin sensitization : Category 1

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention**:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P261 Avoid breathing mist or vapors.

P272 Contaminated work clothing must not be allowed out of

the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

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Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

CENTER or doctor/ physician.

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

attention.

P333 + P313 If skin irritation or rash occurs: 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 dis-

posal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Inorganic compound

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Tin bis(2-ethylhexanoate)	301-10-0	>= 70 - < 90
2-Ethylhexanoic acid	149-57-5	>= 20 - < 30

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice 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 soap and 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 immediately.

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If swallowed If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and

delayed

: May cause an allergic skin reaction. Causes serious eye damage.

Suspected of damaging fertility or the unborn child.

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. 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-

ucts

: Carbon oxides Metal 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, protective equipment and emer-

gency procedures

: Use personal protective equipment.

Follow safe handling advice and personal protective equip-

ment recommendations.

Environmental precautions : Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

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cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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 deter-

mine 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 only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.

Avoid inhalation of vapor or mist.

Do not swallow. Do not get in 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:

Strong oxidizing agents

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 bis(2-ethylhexanoate)	301-10-0	TWA	0.1 mg/m3 (Tin)	OSHA Z-1
		TWA	0.1 mg/m3 (Tin)	ACGIH
		STEL	0.2 mg/m3 (Tin)	ACGIH

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		TWA	0.1 mg/m3 (Tin)	NIOSH REL
2-Ethylhexanoic acid	149-57-5	TWA (Inhal- able fraction	5 mg/m3	ACGIH
		and vapor)		

Engineering measures : Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.

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 : Impervious 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:

Chemical resistant goggles must be worn. If splashes are likely to occur, wear:

Face-shield

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.

These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may re-

quire added precautions.

For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the

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guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : yellow

Odor : characteristic

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

: > 200 °C

Flash point : > 142 °C

Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 1.25

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : 350 cSt

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Explosive properties : Not explosive

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

Molecular weight : 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

: Can react with strong oxidizing agents.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition

products

: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: 2,916 mg/kg

Method: Calculation method

Ingredients:

Tin bis(2-ethylhexanoate):

Acute oral toxicity : LD50 (Rat): 3,400 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

2-Ethylhexanoic acid:

Acute oral toxicity : LD50 (Rat): 2,043 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

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Skin corrosion/irritation

Not classified based on available information.

Ingredients:

Tin bis(2-ethylhexanoate):

Species: Rabbit

Result: No skin irritation

2-Ethylhexanoic acid:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Ingredients:

Tin bis(2-ethylhexanoate):

Species: Rabbit

Result: Irreversible effects on the eye

2-Ethylhexanoic acid:

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.

Respiratory sensitization: Not classified based on available information.

Ingredients:

Tin bis(2-ethylhexanoate):

Test Type: Maximization Test Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: positive

Assessment: Probability or evidence of skin sensitization in humans

2-Ethylhexanoic acid:

Test Type: Maximization Test Routes of exposure: Skin contact

Species: Guinea pig Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Tin bis(2-ethylhexanoate):

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

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Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Remarks: Based on data from similar materials

2-Ethylhexanoic acid:

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

Result: negative

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

cytogenetic assay) Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Not classified based on available information.

Ingredients:

Tin bis(2-ethylhexanoate):

Species: Rat

Application Route: Ingestion Exposure time: 105 weeks

Result: negative

Remarks: Based on data from similar materials

IARC No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHANo ingredient of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcino-

gen by OSHA.

NTP No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Ingredients:

Tin bis(2-ethylhexanoate):

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

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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

: Some evidence of adverse effects on development, based on

animal experiments.

2-Ethylhexanoic acid:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

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

Species: Rat

Application Route: Ingestion

Result: positive

Reproductive toxicity - As-

sessment

: Some evidence of adverse effects on development, based on

animal experiments.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Ingredients:

Tin bis(2-ethylhexanoate):

Species: Rat, male LOAEL: 706 mg/kg

Application Route: Ingestion Exposure time: 28 Days

2-Ethylhexanoic acid:

Species: Rat

NOAEL: 300 mg/kg

Application Route: Ingestion Exposure time: 91 - 93 Days

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Tin bis(2-ethylhexanoate):

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Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 116 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 20 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 6.9

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.54

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

2-Ethylhexanoic acid:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 180 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 106 mg/l

Exposure time: 48 h

Toxicity to algae : EC50 (Desmodesmus subspicatus (Scenedesmus

subspicatus)): 49.3 mg/l Exposure time: 72 h

Toxicity to daphnia and other

aquatic invertebrates (Chron-

ic toxicity)

: NOEC (Daphnia magna (Water flea)): 25 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to bacteria : EC50 (Pseudomonas putida): 112.1 mg/l

Exposure time: 17 h

Persistence and degradability

Ingredients:

2-Ethylhexanoic acid:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 99 % Exposure time: 28 d

Method: OECD Test Guideline 301E

Bioaccumulative potential

Ingredients:

2-Ethylhexanoic acid:

Partition coefficient: n-

octanol/water

: log Pow: 2.7

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Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Resource Conservation and

Recovery Act (RCRA)

: This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded

in its purchased form.

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

Contaminated packaging Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Tin bis(2-ethylhexanoate))

Class : 9 Packing group : 111 : 9 Labels

IATA-DGR

UN/ID No. : UN 3082

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

(Tin bis(2-ethylhexanoate))

Class 9 Packing group : 111

: Miscellaneous Labels

Packing instruction (cargo

aircraft)

: 964

Packing instruction (passen-

: 964

ger aircraft)

IMDG-Code

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Tin bis(2-ethylhexanoate))

: 9 Class Packing group : 111 Labels : 9

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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 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Tin bis(2-ethylhexanoate))

Class : 9 Packing group : III

Labels : CLASS 9 ERG Code : 171

Marine pollutant : yes (Tin bis(2-ethylhexanoate))

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

ters.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard

Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting re-

quirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Tin bis(2-ethylhexanoate)	301-10-0	70 - 90 %
2-Ethylhexanoic acid	149-57-5	20 - 30 %

New Jersey Right To Know

Tin bis(2-ethylhexanoate)	301-10-0	70 - 90 %
2-Ethylhexanoic acid	149-57-5	20 - 30 %

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California Prop. 65 This product does not contain any chemicals known to the

State of California to cause cancer, birth, or any other repro-

ductive defects.

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

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from

inventory listing.

KECI : All ingredients listed, exempt or notified.

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this material are included on or

exempted from listing on the TSCA Inventory of Chemical

Substances.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA

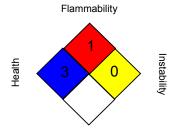
1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

SECTION 16. OTHER INFORMATION

Further information

NFPA:



Special hazard.

HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

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

its for Air Contaminants

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

OSHA Z-1 / TWA : 8-hour time weighted average

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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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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.

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US / Z8