

SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: MOLYKOTE™ D-96 UV Anti-Friction Coating Revision Date: 20.03.2018

Version: 2.0

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DOW CHEMICAL COMPANY LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: MOLYKOTE™ D-96 UV Anti-Friction Coating

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Lubricants and lubricant additives

1.3 Details of the supplier of the safety data sheet COMPANY IDENTIFICATION

DOW CHEMICAL COMPANY LIMITED STATION ROAD, BIRCH VALE, HIGH PEAK DERBYSHIRE England SK22 1BR UNITED KINGDOM

Customer Information Number:

+44 (0) 1663 746518 SDSQuestion@dow.com

Fax: +44 (0) 1663 746605

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 0031 115 694 982 **Local Emergency Contact:** 00 31 115 69 4982

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Eye irritation - Category 2 - H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Revision Date: 20.03.2018 Version: 2.0

Hazard pictograms



Signal word: WARNING

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P261 Avoid breathing spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear eye protection/ face protection.

P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

+ P338 if present and easy to do. Continue rinsing.

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

Supplemental information

EUH208 Contains: reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7]

and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic

reaction.

2.3 Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Organic/Inorganic Coating

3.2 Mixtures

This product is a mixture.

CASRN /	REACH			Classification:
EC-No./	Registration	Concentration	Component	REGULATION (EC) No
Index-No.	Number		-	1272/2008

CASRN 60828-78-6 EC-No. Polymer Index-No.	_	>= 2.5 - < 3.0 %		Skin Irrit 2 - H315 Eye Dam 1 - H318 Aquatic Chronic - 3 - H412
CASRN 120-51-4 EC-No. 204-402-9 Index-No. 607-085-00-9	_	>= 0.25 - < 1.0 %	Benzyl benzoate	Acute Tox 4 - H302 Aquatic Acute - 1 - H400 Aquatic Chronic - 2 - H411
CASRN 55965-84-9 EC-No. 611-341-5 Index-No. 613-167-00-5	_	>= 0.0002 - < 0.0015 %		Acute Tox 3 - H301 Acute Tox 2 - H330 Acute Tox 2 - H310 Skin Corr 1B - H314 Skin Sens 1 - H317 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: No emergency medical treatment necessary.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Page 3 of 16

Revision Date: 20.03.2018 Version: 2.0

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Nitrogen oxides (NOx) Hydrogen cyanide (hydrocyanic acid) Isocyanates Carbon oxides Fluorine compounds

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health.

5.3 Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **6.1 Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
- **6.2 Environmental precautions:** Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
- **6.3 Methods and materials for containment and cleaning up:** Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbant. 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. For

Page 4 of 16

Revision Date: 20.03.2018 Version: 2.0

large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections:

See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Do not get in eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents. Unsuitable materials for containers: None known.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Derived No Effect Level

Benzyl benzoate

Workers

Acute systemic effects		Acute loc	Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	
n.a.	102	n.a.	n.a.	2.6 mg/kg	5.1 mg/m3	n.a.	n.a.	
	mg/m3			bw/day				

Consumers

Acute systemic effects		Acute loc	al effects	Long-term systemic effects		Long-term local effects			
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	25	78 mg/kg	n.a.	n.a.	1.3	1.25	0.4	n.a.	n.a.
	mg/m3	bw/day			mg/kg	mg/m3	mg/kg		
					bw/day		bw/day		

Revision Date: 20.03.2018 Version: 2.0

Predicted No Effect Concentration

Benzyl benzoate

Compartment	PNEC
Fresh water	0.0168 mg/l
Marine water	0.00168 mg/l
Sewage treatment plant	100 mg/l
Fresh water sediment	10.66 mg/kg
Marine sediment	1.07 mg/kg
Soil	2.12 mg/kg

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk

Version: 2.0

Revision Date: 20.03.2018

assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state liquid Color white

Odor Odor Threshold And Andrews ammoniacal No data available

pH 8

Melting point/rangeNo data availableFreezing pointNo data available

Boiling point (760 mmHg) 100 °C

Flash point closed cup > 100 °C
Evaporation Rate (Butyl Acetate No data available

= 1)

Flammability (solid, gas)

Lower explosion limit

Upper explosion limit

Vapor Pressure

Relative Vapor Density (air = 1)

Not applicable

No data available

No data available

No data available

Relative Density (water = 1) 1.3

Water solubility

No data available

Partition coefficient: n
No data available

octanol/water

Auto-ignition temperatureNo data availableDecomposition temperatureNo data available

Kinematic Viscosity 80 mm2/s **Explosive properties** Not explosive

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

9.2 Other information

Molecular weight No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Revision Date: 20.03.2018 Version: 2.0

SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity: Not classified as a reactivity hazard.
- **10.2 Chemical stability:** Stable under normal conditions.
- **10.3 Possibility of hazardous reactions:** Can react with strong oxidizing agents.
- 10.4 Conditions to avoid: None known.
- 10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Hexafluoroethane. Hydrogen Fluoride. 1,1,1,3,3,3-Hexafluoro-2-propanone. Carbonic difluoride. Carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

Vapors are primarily water; single exposure is not likely to be hazardous.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

May cause eye irritation.

Version: 2.0

Revision Date: 20.03.2018

May cause corneal injury.

Sensitization

For skin sensitization:

Based on information for component(s):

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data for the component(s), repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-Acute inhalation toxicity

The LC50 has not been determined.

Benzyl benzoate

Acute inhalation toxicity

The LC50 has not been determined.

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, 0.33 mg/l

SECTION 12: ECOLOGICAL INFORMATION

Revision Date: 20.03.2018 Version: 2.0

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

Acute toxicity to fish

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50, Pimephales promelas (fathead minnow), 96 Hour, 39 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 81.2 mg/l

Toxicity to bacteria

EC50, Bacteria, > 1,000 mg/l

Benzyl benzoate

Acute toxicity to fish

LC50, Danio rerio (zebra fish), 96 Hour, 2.32 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), EC50, 48 Hour, 3.09 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0.475 mg/l NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0.247 mg/l

Toxicity to bacteria

EC50, 3 Hour, > 10,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, 0.258 mg/l

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Acute toxicity to fish

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0.19 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), flow-through test, 48 Hour, 0.16 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0.027 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Skeletonema costatum (marine diatom), static test, 72 Hour, Growth rate, 0.0014 mg/l

Chronic toxicity to fish

Page 10 of 16

Revision Date: 20.03.2018 Version: 2.0

NOEC, Rainbow trout (Oncorhynchus mykiss), flow-through, 14 d, 0.05 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna, flow-through test, 21 d, 0.1 mg/l

12.2 Persistence and degradability

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail **Biodegradation:** < 60 % Exposure time: 28 d

Method: OECD Test Guideline 301E or Equivalent

Theoretical Oxygen Demand: 2.35 mg/mg

Benzyl benzoate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready

biodegradability. **Biodegradation:** 93 % Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H isothiazol-3-one [EC no. 220-239-6] (3:1)

Biodegradability: Considered to be rapidly degradable. Material is not readily biodegradable according to OECD/EEC guidelines.

Biodegradation: < 50 % Exposure time: 10 d

Photodegradation

Atmospheric half-life: 0.38 - 1.3 d

12.3 Bioaccumulative potential

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

Bioaccumulation: No bioconcentration is expected because of the relatively high water solubility. May foam in water.

Benzyl benzoate

Bioaccumulation: No relevant data found.

Partition coefficient: n-octanol/water(log Pow): 3.97 Method Not Specified.

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H isothiazol-3-one [EC no. 220-239-6] (3:1)

Page 11 of 16

Revision Date: 20.03.2018 Version: 2.0

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). 2-Methyl-4isothiazolin-3-one(MIT): 5-Chloro-2-methyl-4-isothiazolin-3-one (CMIT):

Partition coefficient: n-octanol/water(log Pow): -0.486 Measured Partition coefficient: n-

octanol/water(log Pow): 0.401 Measured

12.4 Mobility in soil

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

No specific, relevant data available for assessment.

Benzyl benzoate

No relevant data found.

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H isothiazol-3-one [EC no. 220-239-6] (3:1)

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 28 Estimated.

12.5 Results of PBT and vPvB assessment

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H isothiazol-3-one [EC no. 220-239-6] (3:1)

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Other adverse effects

Poly(oxy-1,2-ethanediyl), .alpha.-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-.omega.-hydroxy-

This substance is not on the Montreal Protocol list of substances that deplete the ozone laver.

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H isothiazol-3-one [EC no. 220-239-6] (3:1)

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

Revision Date: 20.03.2018 Version: 2.0

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1 UN number Not applicable

14.2 UN proper shipping name Not regulated for transport

14.3 Transport hazard class(es) Not applicable14.4 Packing group Not applicable

14.5 Environmental hazards Not considered environmentally hazardous based on

available data.

14.6 Special precautions for user No data available.

Classification for SEA transport (IMO-IMDG):

14.1 UN number Not applicable

14.2 UN proper shipping name Not regulated for transport

14.3 Transport hazard class(es) Not applicable14.4 Packing group Not applicable

14.5 Environmental hazards Not considered as marine pollutant based on available data.

14.6 Special precautions for user No data available.

14.7 Transport in bulk according

to Annex I or II of MARPOL 73/78 and the IBC or IGC

Consult IMO regulations before transporting ocean bulk

Code

Classification for AIR transport (IATA/ICAO):

14.1 UN number Not applicable

14.2 UN proper shipping name Not regulated for transport

14.3 Transport hazard class(es) Not applicable
 14.4 Packing group Not applicable
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Revision Date: 20.03.2018 Version: 2.0

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACh Regulation (EC) No 1907/2006

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either pre-registered, registered, or are exempt from registration to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure thathis/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: Not applicable

15.2 Chemical safety assessment

Not applicable

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Toxic if swallowed.
Harmful if swallowed.
Fatal in contact with skin.
Causes severe skin burns and eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Causes serious eye irritation.
Fatal if inhaled.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life with long lasting effects.
Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Eye Irrit. - 2 - H319 - Calculation method

Revision

Identification Number: 4129259 / A279 / Issue Date: 20.03.2018 / Version: 2.0

Page 14 of 16

Revision Date: 20.03.2018 Version: 2.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road: AICS - Australian Inventory of Chemical Substances: ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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: RID - Regulations concerning the International Carriage of Dangerous Goods by Rail: SADT - Self-Accelerating Decomposition Temperature: SDS - Safety Data Sheet: SVHC - Substance of Very High Concern: TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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Page 16 of 16