

Product name: SURFYNOL® 465

SAFETY DATA SHEET

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:
SURFYNOL® 465

Chemical name:
Ethoxylated acetylenic diols

Additional identification

Chemical name: Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol
Chemical formula: -
INDEX No. -
CAS-No. 9014-85-1
EC No. -

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

Identified uses: Industrial use

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet

Company Name : Evonik Operations GmbH
Rellinghauser Str. 1-11
45128 Essen
Germany

Telephone : +49 201 173 01
Fax : +49 201 173 3000
E-mail : productsafety-sp@evonik.com

1.4 Emergency telephone number:

24-Hour Health : +49 2365 49 2232
Emergency : +49 2365 49 4423 (Fax)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Health Hazards

Product name: SURFYNOL® 465

Acute toxicity (Inhalation - dust and mist)

Category 4

H332: Harmful if inhaled.

Serious eye damage

Category 1

H318: Causes serious eye damage.

Environmental Hazards

Chronic hazards to the aquatic environment

Category 3

H412: Harmful to aquatic life with long lasting effects.

2.2 Label Elements

Signal Words:

Danger

Hazard Statement(s):

H332: Harmful if inhaled.

H318: Causes serious eye damage.

H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements
Prevention:

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P273: Avoid release to the environment.

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

Response:

P312: Call a POISON CENTER or doctor/ physician if you feel unwell.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER or doctor/ physician.

Supplemental information

EUH208: Contains (2,4,7,9-Tetramethyldec-5-yne-4,7-diol). May produce an allergic reaction.

2.3 Other hazards

None known.

PBT/vPvB data

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients
Chemical name:

Ethoxylated acetylenic diols

3.1 Substances
Chemical name

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol

INDEX No.:
CAS-No.:

9014-85-1

EC No.:

Product name: SURFYNOL® 465

| Chemical name | Concentration | CAS-No. | EC No. | UK-REACH Registrati on No. | REACH Registrati on No. | M-Factor: | Notes |
|--|---------------|-----------|-----------|----------------------------|-------------------------|-----------|--------------------|
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | 50 - <100% | 9014-85-1 | | - | - | | No data available. |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | 0.1 - <1% | 126-86-3 | 204-809-1 | UK-01-982540637 0-8 | 01-211995439 0-39 | | No data available. |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

This substance is listed as SVHC.

Classification

| Chemical name | Classification | Notes |
|--|---|-------|
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | Classification: Acute Tox.: 4: H332; Eye Dam.: 1: H318; Aquatic Chronic: 3: H412 Supplemental label information: None known. | None. |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | Classification: Eye Dam.: 1: H318; Skin Sens.: 1B: H317 Supplemental label information: None known. | None. |

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|--|---|
| General information: | Immediately remove contaminated clothing. |
| Inhalation: | fresh air supply, consult a doctor if feeling unwell. |
| Skin Contact: | In case of contact with skin wash off with soap and water. In case of discomfort: Supply with medical care. |
| Eye contact: | In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice |
| Ingestion: | Thoroughly clean the mouth with water In case of discomfort: Supply with medical care. |
| Personal Protection for First-aid Responders: | No data available. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|------------------|---------------------------------|
| Symptoms: | Risk of serious damage to eyes. |
| Hazards: | No data available. |

4.3 Indication of immediate medical attention and special treatment needed

| | |
|-------------------|------------------------|
| Treatment: | Treat symptomatically. |
|-------------------|------------------------|

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: foam, carbon dioxide, dry powder, water spray.

Unsuitable extinguishing media: High volume water jet.

5.2 Special hazards arising from the substance or mixture:

In the event of fire the following can be released: - carbon dioxide, carbon monoxide Under certain conditions of combustion traces of other toxic substances cannot be excluded

5.3 Advice for firefighters

Special fire fighting procedures: No specific precautions.

Special protective equipment for firefighters: Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus and wear protective suit

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.

6.1.1 For non-emergency personnel: No data available.

6.1.2 For emergency responders: No data available.

6.2 Environmental Precautions: Do not allow to enter drains or waterways Prevent product from getting into subsoil/soil.

6.3 Methods and material for containment and cleaning up: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections: For further information on exposure monitoring and disposal see sections 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures: No data available.

Local/Total ventilation: No data available.

Safe handling advice: Provide good ventilation of working area (local exhaust ventilation if necessary). Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes.

Contact avoidance measures: No data available.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage conditions: Keep container tightly closed in a cool, well-ventilated

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place. Do not store together with oxidizing agents.

Safe packaging materials:

No data available.

7.3 Specific end use(s):

No further recommendations.

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| SECTION 8: Exposure controls/personal protection |
|---|

8.1 Control Parameters
Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

DNEL-Values

Remarks: DNEL-Values

| Critical component | Type | Route of Exposure | Health Warnings | Remarks |
|---------------------------------------|--------------------|-------------------|--|--------------------------------------|
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | General population | Eyes | Local effect | Medium hazard (no threshold derived) |
| | Workers | Eyes | Local effect | Medium hazard (no threshold derived) |
| | Workers | Inhalation | Systemic, long-term 2.86 mg/m ³ | Repeated dose toxicity |
| | General population | Oral | Systemic, long-term 0.29 mg/kg | Repeated dose toxicity |
| | Workers | Dermal | Systemic, long-term 0.812 mg/kg | Repeated dose toxicity |
| | General population | Inhalation | Systemic, long-term 0.505 mg/m ³ | Repeated dose toxicity |
| | General population | Dermal | Systemic, long-term 0.29 mg/kg | Repeated dose toxicity |

PNEC-Values

Remarks: PNEC-Values

| Critical component | Environmental compartment | PNEC-Values | Remarks |
|---------------------------------------|---------------------------|-------------|---------|
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | Aquatic (freshwater) | 0.04 mg/l | |
| | Aquatic (marine water) | 0.004 mg/l | |
| | Sediment (freshwater) | 0.32 mg/kg | |
| | Sediment (marine water) | 0.032 mg/kg | |
| | Sewage treatment plant | 7 mg/l | |
| | Soil | 0.028 mg/kg | Soil |

8.2 Exposure controls
Appropriate Engineering Controls:

No data available.

Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection:

Tightly fitting safety goggles

Hand Protection:

Additional Information: gloves made of chloroprene (CR, e.g. Neoprene), gloves made of nitril (NBR)

Skin and Body Protection:

protective clothing

Respiratory Protection:

in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2

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| | |
|--------------------------------|--|
| Hygiene measures: | Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Remove soiled or soaked clothing immediately. |
| Environmental Controls: | The environmental regulations on the control and monitoring of environmental exposures are to be observed. |

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

| | |
|--|-----------------------------------|
| Physical state: | liquid |
| Form: | liquid |
| Color: | Amber |
| Odor: | Mild |
| Odor Threshold: | not measured |
| Freezing point: | not measured |
| Boiling Point: | 418 °C |
| Flammability: | not measured |
| Upper/lower limit on flammability or explosive limits | |
| Explosive limit - upper: | not measured |
| Explosive limit - lower: | not measured |
| Flash Point: | > 110 °C |
| Auto-ignition temperature: | 335 °C |
| Decomposition Temperature: | not measured |
| pH: | 7 (25 °C) Concentration: 100 % |

Viscosity

| | |
|---|--------------------------------|
| Dynamic viscosity: | not measured |
| Kinematic viscosity: | not measured |
| Solubility(ies) | |
| Solubility in Water: | not measured |
| Solubility (other): | not measured |
| Partition coefficient (n-octanol/water): | not measured |
| Vapor pressure: | 0.192 hPa (20 °C) |
| Relative density: | not measured |
| Density: | 1.04 g/cm ³ (21 °C) |
| Relative vapor density: | not measured |

9.2 Other information

| | |
|-------------------------------|---------------|
| Explosive properties: | not measured |
| Oxidizing properties: | not oxidizing |
| Pyrophoric properties: | not measured |

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| | |
|--------------------------|-------------------------|
| Metal Corrosion: | Not corrosive to metals |
| Evaporation Rate: | not measured |

| |
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| SECTION 10: Stability and reactivity |
|---|

| | |
|---|---|
| 10.1 Reactivity: | see section "Possibility of hazardous reactions". |
| 10.2 Chemical Stability: | The product is stable under normal conditions. |
| 10.3 Possibility of hazardous reactions: | No hazardous reactions with proper storage and handling |
| 10.4 Conditions to avoid: | None with proper storage and handling. |
| 10.5 Incompatible Materials: | Oxidizing agents. |
| 10.6 Hazardous Decomposition Products: | None with proper storage and handling. |

| |
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| SECTION 11: Toxicological information |
|--|

11.1 Information on toxicological effects

| | |
|----------------------|---|
| Inhalation: | Information on effects are given below. |
| Skin Contact: | Information on effects are given below. |
| Eye contact: | Information on effects are given below. |
| Ingestion: | Information on effects are given below. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|----------------------|--------------------|
| Inhalation: | No data available. |
| Skin Contact: | No data available. |
| Eye contact: | No data available. |
| Ingestion: | No data available. |

Acute toxicity (list all possible routes of exposure)
Oral

| | |
|--|---|
| Product: | LD 50, Rabbit, 6,300 mg/kg |
| Components: | |
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | LD 50, Rabbit, 6,300 mg/kg |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | LD 50, Rat, Female, Male, > 5,000 mg/kg |

Dermal

| | |
|--|---|
| Product: | Not toxic after single exposure, No data available. |
| Components: | |
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | Not toxic after single exposure, No data available. |
| 2,4,7,9-Tetramethyldec-5- | LD 50, Rabbit, > 5,000 mg/kg, OECD 402 |

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yne-4,7-diol

Inhalation

Product: LC 50, Rat, 1 h, 5.15 mg/l, Dust and mist
 LC 50, Rat, 4 h, 1.2875 mg/l, Dust and mist
 Vapour, Not toxic after single exposure, No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol LC 50, Rat, 1 h, 5.15 mg/l, Dust and mist
 LC 50, Rat, 4 h, 1.2875 mg/l, Dust and mist
 Vapour, Not toxic after single exposure, No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol LC 50, Rat, 4 h, > 5 mg/l, Dust and mist
 Vapour, Not toxic after single exposure, No data available.

Repeated dose toxicity

Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol NOAEL - No Observable Adverse Effect Level, Rat, Oral, daily, 500 mg/kg
 NOAEL - No Observable Adverse Effect Level, Rat, Male, Oral, daily, 174 mg/kg, Own study
 NOAEL - No Observable Adverse Effect Level, Rat, Female, Oral, daily, 208 mg/kg, Own study

Skin Corrosion/Irritation

Product: Not irritating

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol Not irritating
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol Not irritating, OECD 404, Rabbit, 4 h

Serious Eye Damage/Eye Irritation

Product: Risk of serious damage to eyes., Draize, Rabbit

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol Risk of serious damage to eyes., Draize, Rabbit
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol Risk of serious damage to eyes., US-EPA-method, Rabbit

Respiratory or Skin Sensitization

Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol Local Lymph Node Assay (LLNA), OECD 429, Mouse, Skin sensitizer

Carcinogenicity

Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

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2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Germ Cell Mutagenicity

No data available.

In vitro

Product: No data available.

Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol Ames test, OECD 471: , negative, Own study
 Chromosomal aberration, OECD 473: , negative, Own study
 gene mutation test, OECD 476: , negative, Own study

In vivo

Product: No data available.

Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Reproductive toxicity

Product: No data available.

Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol Oral: feed: feed

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Aspiration Hazard

Product: Not classified

Components:

Product name: SURFYNOL® 465

| | |
|--|----------------|
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | Not classified |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | Not applicable |

11.2 Information on other hazards
Other information
Product: No data available.

SECTION 12: Ecological information
12.1 Toxicity:
Toxicity to Aquatic Plants
Product: EC 50, Skeletonema costatum (marine diatom), 72 h, 93 mg/l

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol EC 50, Skeletonema costatum (marine diatom), 72 h, 93 mg/l

 2,4,7,9-Tetramethyldec-5-yne-4,7-diol ErC10, Selenastrum capricornutum (green algae), 72 h, 15 mg/l, OECD 201
 ErC50, Selenastrum capricornutum (green algae), 72 h, 82 mg/l, OECD 201

Toxicity to microorganisms
Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Toxicity to soil dwelling organisms
Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol No data available.

Toxicity to terrestrial organisms
Product: No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.

2,4,7,9-Tetramethyldec-5-yne-4,7-diol EC 10 (14 day): 3.84 mg/kg (OECD 208)

Acute hazards to the aquatic environment:
Fish
Product: No data available.

Components:

Ethoxylated 2,4,7,9- No data available.

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tetramethyl 5 decyn-4,7-diol
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol LC 50, Cyprinus carpio, 96 h, 42 mg/IOECD 203, Own study

Aquatic Invertebrates

Product: No data available.
Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol EC 50, Daphnia magna, 91 mg/IOECD 202, Own study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.
Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol NOEC, Danio rerio, 35 d, > 10 mg/l, OECD 210

Aquatic Invertebrates

Product: No data available.
Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol NOEC, Daphnia magna, 21 d, > 10 mg/l, OECD 211

12.2 Persistence and Degradability

Biodegradation

Product: 10 %, 28 d, The product is not biodegradable.
Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol 10 %, 28 d, The product is not biodegradable.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol < 10 %, 60 d, OECD 309, aerobic

12.3 Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.
Components:
 Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol No data available.
 2,4,7,9-Tetramethyldec-5-yne-4,7-diol Cyprinus carpio, 17.00, (analogy)
 Cyprinus carpio, < 24, (analogy)

Partition Coefficient n-octanol / water (log Kow)

Product: , not measured

Product name: SURFYNOL® 465

Components:

| | |
|--|---------------------------|
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | No data available. |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | 2.8, 22 °C, OECD 117, Yes |

12.4 Mobility in soil:

| | |
|--|---|
| Product: | No data available. |
| Components: | |
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | No data available. |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | water / soil: - Log Koc: 1.48 Koc: 30 OECD 106) |

12.5 Results of PBT and vPvB assessment:

| | |
|--|--|
| Product: | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
| Components: | |
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | Non-classified PBT substance Non-classified vPvB substance |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | Non-classified PBT substance Non-classified vPvB substance |

12.6 Other adverse effects:

| | |
|----------------------|---|
| Other hazards | |
| Product: | Do not allow to enter soil, waterways or waste water canal. |

SECTION 13: Disposal considerations

13.1 Waste treatment methods

| | |
|--------------------------------|---|
| General information: | No data available. |
| Disposal methods: | In accordance with local authority regulations, take to special waste incineration plant |
| Contaminated Packaging: | If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards. |

SECTION 14: Transport information

14.1 UN/ID No.

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

Product name: SURFYNOL® 465**14.4 Packing group**

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:****Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:**

| Chemical name | CAS-No. | Number on list |
|--|-----------|----------------|
| Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol | 9014-85-1 | 3 |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | 126-86-3 | 3 |

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:**International regulations****Montreal protocol**

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

15.2 Chemical safety assessment: No chemical safety assessment was carried out for this product.**SECTION 16: Other information****Revision Information**Significant changes since the last version are highlighted in the margin.
This version replaces all previous versions.**Abbreviations and acronyms:**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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; EIGA - European Industrial Gases Association; 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

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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; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data: No data available.

Training information: Comply with national laws regulating employee instruction.

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