

Product name: SURFYNOL® 104 BC

SAFETY DATA SHEET

Classified in accordance with Health Canada Hazardous Products Regulations
(SOR/2015-17)

1. Identification

Product identifier:
SURFYNOL® 104 BC**Chemical name:**
Acetylenic diol in solvent**Other means of identification**
None.**Recommended use of the chemical and restrictions on use****Recommended use:** Industrial use**Restrictions on use:** None known.**Manufacturer/Importer/Distributor Information**

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+1 973 929 8060 (Product Regulatory Services)

2. Hazard identification

According to Hazardous Products Regulations**Physical Hazards**

Flammable liquids Category 4

Health Hazards

| | |
|--|-------------|
| Acute toxicity (Oral) | Category 4 |
| Acute toxicity (Inhalation - vapor) | Category 3 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Skin sensitizer | Category 1B |

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Environmental Hazards

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| Acute hazards to the aquatic environment | Category 3 |
| Chronic hazards to the aquatic environment | Category 3 |

Label Elements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement:

Combustible liquid.
Toxic if inhaled.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/ eye protection/ face protection.

Response:

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instructions on this label). Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician. 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. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

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Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
 Acetylenic diol in solvent
Mixtures

| Chemical Identity | Common name and synonyms | CAS number | Content in percent (%)* |
|---------------------------------------|--------------------------|------------|-------------------------|
| 2-butoxyethanol | | 111-76-2 | 30 - 60% |
| 2,4,7,9-Tetramethyldec-5-yne-4,7-diol | | 126-86-3 | 30 - 60% |

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

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

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| General information: | Remove soiled or soaked clothing immediately |
| Inhalation: | fresh air supply, consult a doctor if feeling unwell. |
| Skin Contact: | In case of contact with skin wash off with soap and water. If skin irritation persists, call a physician. |
| 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. |

Most important symptoms and effects, both acute and delayed

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

Indication of immediate medical attention and special treatment needed

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| Treatment: | Treat symptomatically. |
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5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

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

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Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture: In the event of fire the following can be released: - carbon dioxide, carbon monoxide Aldehydes. Under certain conditions of combustion traces of other toxic substances cannot be excluded

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No specific precautions.

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

6. Accidental release measures

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

Accidental release measures: No data available.

Methods and material for containment and cleaning up: Take up with absorbent material (eg sand, kieselguhr, universal binder) Dispose of absorbed material in accordance with the regulations.

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

7. Handling and storage

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.

Storage

Safe storage conditions: Keep container tightly closed in a cool, well-ventilated place.Keep away from direct sunlight.Do not store with acids or alkalies Do not store together with oxidizing agents.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Type | Exposure Limit Values | Source |
|-------------------|------|-----------------------|--------|
|-------------------|------|-----------------------|--------|

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| | | | | |
|-----------------|---------------|--------|----------|------------|
| 2-butoxyethanol | TWA | 20 ppm | 97 mg/m3 | CAD AB OEL |
| 2-butoxyethanol | TWA | 20 ppm | | CAD BC OEL |
| 2-butoxyethanol | | 20 ppm | | CAD MB OEL |
| 2-butoxyethanol | TWA | 20 ppm | | CAD ON OEL |
| 2-butoxyethanol | 8 HR ACL | 20 ppm | | CAD SK OEL |
| | 15 MIN ACL | 30 ppm | | CAD SK OEL |
| 2-butoxyethanol | TWA | 20 ppm | | OEL (QUE) |
| 2-butoxyethanol | TWA | 20 ppm | | ACGIH |
| 2-butoxyethanol | REL | 5 ppm | 24 mg/m3 | NIOSH |

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

| Chemical name | Parameters / Sampling Time | Exposure Limit Values | Source |
|-----------------|--|--------------------------------|-----------|
| 2-butoxyethanol | Butoxyacetic acid (BAA), with hydrolysis Sampling time: End of shift. | 200 mg/g (Creatinine in urine) | ACGIH BEI |

Appropriate Engineering Controls

No data available.

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

Tightly fitting safety goggles

Hand Protection:

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

Other:

protective clothing

Respiratory Protection:

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

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. Use skin protective preparation as preventive skin protection.

9. Physical and chemical properties
Information on basic physical and chemical properties
Appearance
Physical state:

liquid

Form:

liquid

Color:

Pale yellow

Odor:

like menthol

Odor Threshold:

not measured

Freezing point:

not measured

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| Boiling Point: | > 284 °F/> 140 °C |
| Flammability: | not measured |
| Upper/lower limit on flammability or explosive limits | |
| Explosive limit - upper: | not measured |
| Explosive limit - lower: | not measured |
| Flash Point: | 169 °F/76 °C |
| Auto-ignition temperature: | not measured |
| Decomposition Temperature: | not measured |
| pH: | 5 - 7 at 77 °F/25 °C Concentration: 100 g/l Concentration: 10 % in Water |
| Viscosity | |
| Dynamic viscosity: | not measured |
| Kinematic viscosity: | not measured |
| Flow Time: | No data available. |
| Solubility(ies) | |
| Solubility in Water: | not measured |
| Solubility (other): | not measured |
| Partition coefficient (n-octanol/water): | not measured |
| Vapor pressure: | 14.6 hPa at 70 °F/21 °C |
| Relative density: | not measured |
| Density: | 0.9 g/cm ³ at 70 °F/21 °C |
| Bulk density: | No data available. |
| Relative vapor density: | not measured |
| Other information | |
| Explosive properties: | not measured |
| Oxidizing properties: | not oxidizing |
| Self-ignition: | not measured |
| Metal Corrosion: | Not corrosive to metals |
| Evaporation Rate: | not measured |

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| 10. Stability and reactivity |
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| Reactivity: | see section "Possibility of hazardous reactions". |
| Chemical Stability: | The product is stable under normal conditions. |
| Possibility of hazardous reactions: | No hazardous reactions with proper storage and handling |
| Conditions to avoid: | direct sunlight |
| Incompatible Materials: | Oxidizing agents. Acids. Alkalies. |
| Hazardous Decomposition Products: | None with proper storage and handling. |

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11. Toxicological information

Information on likely routes of exposure

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.

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50, Rat, 1,400 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: ATEmix, 6 mg/l, Vapour

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Irritating., (Rabbit), Irritating.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended

No carcinogens present or none present in regulated quantities

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended

No carcinogens present or none present in regulated quantities

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

No data available.

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In vitro

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|---------------------------------------|--|
| Product: | No data available. |
| Components: | |
| 2-butoxyethanol | gene mutation test, OECD 471: , negative Chromosomal aberration, OECD 473: , negative Genetic mutation in mammal cells, OECD 476: , negative |
| 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

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| Product: | No data available. |
| Components: | |
| 2-butoxyethanol | In vivo micronucleus test, OECD 474, Intraperitoneal, Mouse, Male, negative In vivo micronucleus test, OECD 474, Intraperitoneal, Rat, Male, negative |

Reproductive toxicity

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| Product: | No data available. |
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Specific Target Organ Toxicity - Single Exposure

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| Product: | No data available. |
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Specific Target Organ Toxicity - Repeated Exposure

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| Product: | No data available. |
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Aspiration Hazard

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| Product: | Not classified |
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Information on health hazards
Other hazards

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| Product: | No data available. |
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| 12. Ecological information |
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Ecotoxicity:
Acute hazards to the aquatic environment:
Fish

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| Product: | No data available. |
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Aquatic Invertebrates

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| Product: | No data available. |
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Toxicity to Aquatic Plants

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| Product: | |
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Toxicity to microorganisms

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|-----------------|--------------------|
| Product: | No data available. |
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Chronic hazards to the aquatic environment:
Fish

| | |
|-----------------|--------------------|
| Product: | No data available. |
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Aquatic Invertebrates
Product: No data available.

Toxicity to microorganisms
Product: No data available.

Persistence and Degradability
Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log K_{ow})
Product: , not measured

Mobility in soil:
Product: No data available.

Results of PBT and vPvB assessment:
Product: No data available.

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

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| 13. Disposal considerations |
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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.

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| 14. Transport information |
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Domestic regulation
TDG

| | | |
|------------------------|---|--|
| UN number or ID number | : | UN 2810 |
| Proper shipping name | : | TOXIC LIQUID, ORGANIC, N.O.S. (2-butoxyethanol) |
| Class | : | 6.1 |
| Packing group | : | III |
| Labels | : | 6.1 |
| Marine pollutant | : | no |

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Remarks : Keep away from foodstuffs and feed

International Regulations**IATA-DGR**UN/ID No. : UN 2810
Proper shipping name : Toxic liquid, organic, n.o.s.
(2-butoxyethanol)
Class : 6.1
Packing group : III
Labels : 6.1
Packing instruction (cargo aircraft) : 663
Packing instruction (passenger aircraft) : 655**IMDG-Code**UN number or ID number : UN 2810
Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.
(2-butoxyethanol)
Class : 6.1
Packing group : III
Labels : 6.1
EmS Code : F-A, S-A
Marine pollutant : no
Remarks : Keep away from foodstuffs and feed
Stowage category A, SW2 - Clear of living quarters.**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information**Canada Federal Regulations****List of Toxic Substances (CEPA, Schedule 1)****Chemical Identity**2-BUTOXYETHANOL, WHICH HAS THE MOLECULAR FORMULA C₆H₁₄O₂**Chemical Identity**2-BUTOXYETHANOL, WHICH HAS THE MOLECULAR FORMULA C₆H₁₄O₂**Export Control List (CEPA 1999, Schedule 3)**

Not Regulated

National Pollutant Release Inventory (NPRI)**Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements****Chemical Identity**

2-BUTOXYETHANOL

METHYL ISOBUTYL KETONE

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)**Chemical Identity**

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2-BUTOXYETHANOL

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

Chemical Identity

2-BUTOXYETHANOL

METHYL ISOBUTYL KETONE

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

Chemical Identity

2-BUTOXYETHANOL

Greenhouse Gases

Not Regulated

Canada. Substances Subject to Significant New Activity (SNAc) Reporting Requirements

Not Regulated

Controlled Drugs and Substances Act

| | |
|------------|---------------|
| CA CDSI | Not Regulated |
| CA CDSII | Not Regulated |
| CA CDSIII | Not Regulated |
| CA CDSIV | Not Regulated |
| CA CDSV | Not Regulated |
| CA CDSVII | Not Regulated |
| CA CDSVIII | Not Regulated |

Precursor Control Regulations

Not Regulated

Inventory Status:

| | |
|-----------------------------------|------------------------|
| US TSCA Inventory: | Included on Inventory. |
| Canada DSL Inventory List: | Included on Inventory. |

16. Other information, including date of preparation or last revision

Issue Date: 03/13/2019

Version #: 2.1

Abbreviations and acronyms:

| | |
|-------------|---|
| ACGIH: | US. ACGIH Threshold Limit Values, as amended |
| CAD AB OEL: | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended |
| CAD BC OEL: | Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended |
| CAD MB OEL: | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended |
| CAD ON OEL: | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended |

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| CAD SK OEL: | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended |
| NIOSH/GUIDE: | US. NIOSH: Pocket Guide to Chemical Hazards, as amended |
| ACGIH / TWA: | Time Weighted Average (TWA): |
| CAD AB OEL / TWA: | Time Weighted Average (TWA): |
| CAD BC OEL / TWA: | Time Weighted Average (TWA): |
| CAD MB OEL / TWA: | Time Weighted Average (TWA): |
| CAD ON OEL / TWA: | Time Weighted Average (TWA): |
| CAD SK OEL / 8 HR ACL: | 8 hour average contamination limit: |
| CAD SK OEL / 15 MIN ACL: | 15 minute average contamination limit: |

AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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

Further Information: No data available.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Disclaimer:

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