

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 16/01/2017 :

Revision date:

Version: 1.0

DLM-10241

| SECTION 1: Identification of the | e substance/mixture and of the company/undertaking |
|--------------------------------------|--|
| 1.1. Product identifier | |
| Product form | : Substance |
| Substance name | : SEBACIC ACID (2,2,9,9-D4, 98%) |
| EC no | : 203-845-5 (Unlabeled) |
| CAS No | : 339080-77-2 |
| Product code | : DLM-10241 |
| Formula | : HOOCCD2(CH2)6CD2COOH |
| Synonyms | : Decanedioic acid / Octane-1,8-dicarboxylic acid / 1-8-Octanedicarboxylic acid / 1-10-Decanedioi acid |
| 1.2. Relevant identified uses of the | e substance or mixture and uses advised against |
| 1.2.1. Relevant identified uses | |
| Main use category | : Professional use |
| Industrial/Professional use spec | : For professional use only |
| 1.2.2. Uses advised against | |
| No additional information available | |

Details of the supplier of the safety data sheet 1.3.

Cambridge Isotope Laboratories, Inc. 50 Frontage Road Andover, MA 01810 USA USA: 1-800-322-1174 Int: 1-978-749-8000 cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours) International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335

Full text of H-statements: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/37/38 Full text of R-phrases: see section 16

GHS-US classification

Skin Irrit. 2 H315 Eye Irrit. 2A H319 STOT SE 3 H335

Adverse physicochemical, human health and environmental effects

No additional information available

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| 2.2. Label elements | | | | |
|--|------------------|--|-------------------|---------------------------------|
| Labelling according to Regulation (E | C) No. 1272/2008 | ICLP] | | |
| Hazard pictograms (CLP) | : | \land | | |
| | | | | |
| | | • | | |
| | | \checkmark | | |
| | | GHS07 | | |
| Signal word (CLP) | : War | | | |
| Hazard statements (CLP) | | 5 - Causes skin irritation 9 - Causes serious eye irritation | | |
| | | 5 - May cause respiratory irritation | | |
| Precautionary statements (CLP) | | 1 - Avoid breathing dust, fume, gas, mist, | | |
| | | 4 - Wash Both hands thoroughly after han 1 - Use only outdoors or in a well-ventilate | 0 | |
| | P28 | O - Wear protective clothing, protective global | oves | |
| | | 2+P352 - IF ON SKIN: Wash with plenty c 4+P340 - IF INHALED: Remove person to | | an comfortable for breathing |
| | P30 | 5+P351+P338 - IF IN EYES: Rinse cautio | usly with water | |
| | | act lenses, if present and easy to do. Con | | |
| | P31. | 2 - Call a doctor, a POISON CENTER if yo | ou reel unwell | |
| GHS-US labelling | | | | |
| J | | | | |
| Hazard pictograms (GHS-US) | : | \land | | |
| | | | | |
| | | • | | |
| | | \checkmark | | |
| | | GHS07 | | |
| Signal word (GHS-US) | : War | č | | |
| Hazard statements (GHS-US) | | 5 - Causes skin irritation 9 - Causes serious eye irritation | | |
| | | 5 - May cause respiratory irritation | | |
| Precautionary statements (GHS-US) | | 1 - Avoid breathing dust, fume, gas, mist, | | |
| | | 4 - Wash Both hands thoroughly after har 1 - Use only outdoors or in a well-ventilate | | |
| | P28 | 0 - Wear protective clothing, protective glo | oves | |
| | P30 | 2+P352 - IF ON SKIN: Wash with plenty o 4+P340 - IF INHALED: remove victim to f | of soap and wate | er |
| | for b | reathing | | |
| | | 5+P351+P338 - If in eyes: Rinse cautious | | several minutes. Remove contact |
| | | es, if present and easy to do. Continue rir 2 - Call a POISON CENTER or doctor/ph | | el unwell |
| | P32 | 1 - Specific treatment (see Hazard pictogi | rams (CLP) on t | his label) |
| | | 2+P313 - If skin irritation occurs: Get med 7+P313 - If eye irritation persists: Get me | | |
| | P36 | 2 - Take off contaminated clothing and wa | ash before reuse | 9 |
| | | 3+P233 - Store in a well-ventilated place. | Keep container | tightly closed |
| | | Store locked up Dispose of contents/container to Comp | oly with applicab | le regulations |
| | | | | |
| 2.3. Other hazards No additional information available | | | | |
| | | | | |
| SECTION 3: Composition/info 3.1. Substance | mation on I | igreatents | | |
| Name | | Product identifier | % | Classification according to |
| | | | | Directive 67/548/EEC |
| SEBACIC ACID (2.2.9.9-D4, 98%) | | (CAS No) 330080-77-2 | 100 | Xi: P36/37/38 |

| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|--|--|-----|---|
| SEBACIC ACID (2,2,9,9-D4, 98%) (Main constituent) | (CAS No) 339080-77-2 (EC no) 203-845-5 (Unlabeled) (EC index no) | 100 | Xi; R36/37/38 |
| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
| SEBACIC ACID (2,2,9,9-D4, 98%) (Main constituent) | (CAS No) 339080-77-2 (EC no) 203-845-5 (Unlabeled) (EC index no) | 100 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 |

Safety Data Sheet according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of R- and H-statements: see section 16

| Name | Product identifier | % | GHS-US classification |
|--|----------------------|-----|---|
| SEBACIC ACID (2,2,9,9-D4, 98%) (Main constituent) | (CAS No) 339080-77-2 | 100 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |

Full text of H-statements: see section 16

| 3.2. Mixture | |
|---|---|
| Not applicable | |
| SECTION 4: First aid measures | |
| 4.1. Description of first aid measures | |
| First-aid measures general | : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. |
| First-aid measures after inhalation | : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician. |
| First-aid measures after skin contact | : Wash with soap and plenty of water. Consult a physician. |
| First-aid measures after eye contact | : Flush eyes with water as a precaution. |
| First-aid measures after ingestion | : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. |
| 4.2. Most important symptoms and ef | fects, both acute and delayed |
| Symptoms/injuries after inhalation | : May be harmful if inhaled. May cause respiratory tract irritation. |
| Symptoms/injuries after skin contact | : Harmful if absorbed through skin. Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |
| 4.3. Indication of any immediate medi | ical attention and special treatment needed |
| No additional information available | |
| SECTION 5: Firefighting measures | |
| 5.1. Extinguishing media | |
| Suitable extinguishing media | : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. |
| 5.2. Special hazards arising from the | substance or mixture |
| Reactivity | : Not available. |
| 5.3. Advice for firefighters | |
| Firefighting instructions | : Wear self contained breathing apparatus for fire fighting if necessary. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |
| Other information | : The product itself does not burn. |
| SECTION 6: Accidental release me | |
| | equipment and emergency procedures |
| · · · · · · · · · · · · · · · · · · · | |
| 6.1.1. For non-emergency personnel | Avoid duct formation. Avoid broathing vanaura mist or goo. Ensure adaptate ventilation |
| Emergency procedures | : Avoid dust formation. Avoid breathing vapours, mist, or gas. Ensure adequate ventilation. |
| 6.1.2. For emergency responders No additional information available | |
| 6.2. Environmental precautions | |
| | lo so. Do not let product enter drains. Discharge into the environment must be avoided. |
| 6.3. Methods and material for contain | ment and cleaning up |
| For containment | : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |
| 6.4. Reference to other sections | |
| No additional information available | |
| SECTION 7: Handling and storage | |
| 7.1. Precautions for safe handling | |
| Precautions for safe handling | : Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide good ventilation in process area to prevent formation of vapour. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| 16/01/2017 | EN (English) |
| | |

SEBACIC ACID (2,2,9,9-D4, 98%) DLM-10241 Safety Data Sheet

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|---|--|
| 7.2. Conditions for safe storage, include | ling any incompatibilities |
| Technical measures | : Keep container tightly closed in a dry and well-ventilated place. |
| Storage conditions | : Store at room temperature away from light and moisture. |
| 7.3. Specific end use(s) | |
| No additional information available | |
| SECTION 8: Exposure controls/per | sonal protection |
| 8.1. Control parameters | |
| No additional information available | |
| | |
| 8.2. Exposure controls | Llandle is accordance with good industrial burgions and cafety practice. Weak hands before |
| Appropriate engineering controls | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| Personal protective equipment | : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. |
| | |
| Materials for protective clothing | : Wear suitable protective clothing and gloves. |
| Hand protection | : Wear suitable protective clothing and gloves. |
| Eye protection | : Wear safety glasses with side shields (or goggles) and a face shield. |
| Skin and body protection | : Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Respiratory protection | : When appropriate, use NIOSH/CEN approved respirator. |
| Environmental exposure controls | : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |
| SECTION 9: Physical and chemical | properties |
| 9.1. Information on basic physical and | |
| Physical state | : Solid |
| Appearance | : Powder. |
| Molecular mass | : 206.27 g/mol (Labeled) |
| Colour | : white. |
| Odour | : No data available |
| Odour threshold | : No data available |
| рН | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : 133 - 137 °C (271 - 279 °F) - lit. |
| Freezing point | : No data available |
| Boiling point | : 294.5 °C (562.1 °F) at 133 hPa (100 mmHg) - lit. |
| Flash point | : 220 °C |
| Auto-ignition temperature | : 424 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : 1 hPa at 183 °C (361 °F) |
| Relative vanour density at 20 °C | |

Relative vapour density at 20 °C : No data available

Relative density : 1.21 g/cm3 at 20 °C (68 °F) Solubility : Water: 0.224 g/l at 20 °C (68 °F) - OECD Test Guideline 105 : 1.5 at 23 °C (73 °F) Log Pow Log Kow : No data available : No data available Viscosity, kinematic Viscosity, dynamic : No data available : No data available Explosive properties Oxidising properties : No data available : No data available Explosive limits

Other information 9.2.

No additional information available

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| ccoruing to r | | s rederar Register / vol. //, No. 30 / Wonday, Warch 20, 2012 / Rules and Regulations |
|--|---|---|
| SECTIO | N 10: Stability and reactivity | |
| 10.1. | Reactivity | |
| Not availa | ble. | |
| 10.2. | Chemical stability | |
| Stable if st | tored under recommended conditions. | |
| 10.3. | Possibility of hazardous reactions | |
| No additio | nal information available | |
| 10.4. | Conditions to avoid | |
| Not availa | ble. | |
| 10.5. | Incompatible materials | |
| Bases. Ox | idizing agents. Reducing agents. | |
| 10.6. | 0.6. Hazardous decomposition products | |
| Carbon ox | tides (CO, CO2). | |
| SECTIO | N 11: Toxicological informatio | n |
| 11.1. | . Information on toxicological effects | |
| Acute toxic | city : | Not classified |
| SEBACI | C ACID (2,2,9,9-D4, 98%) (339080-77-2) | |
| LD50 ora | LD50 oral rat > 5000 mg/kg male (OECD Test Guideline 401) | |
| LD50 dermal rat > 2000 mg/kg male and female (OECD Test Guideline 402) | | > 2000 mg/kg male and female (OECD Test Guideline 402) |
| LC50 inh | nalation rat (mg/l) | > 4500 g/m³ |
| | | IRR LD50 500 mg/kg mouse |
| Skin corro | sion/irritation : | Skin - Rabbit (OECD Test Guideline 404) |
| Serious eye damage/irritation | | Causes serious eye irritation. |

| Acute toxicity | : Not classified |
|--|--|
| SEBACIC ACID (2,2,9,9-D4, 98%) (339080-77 | 7-2) |
| LD50 oral rat | > 5000 mg/kg male (OECD Test Guideline 401) |
| LD50 dermal rat | > 2000 mg/kg male and female (OECD Test Guideline 402) |
| LC50 inhalation rat (mg/l) | > 4500 g/m ³ |
| | IRR LD50 500 mg/kg mouse |
| Skin corrosion/irritation | : Skin - Rabbit (OECD Test Guideline 404) |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitisation | : Intracutaneous test - Guinea pig. Result: Does not cause skin sensitisation. |
| Germ cell mutagenicity | : Ames test. Salmonella typhimurium. Result: Negative |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : May cause respiratory irritation. |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| SEBACIC ACID (2,2,9,9-D4, 98%) (339080-77 | 7-2) |
| | |

| NOAEL (oral, rat, 90 days) | >= 3367 mg/kg bodyweight/day |
|--|---|
| Aspiration hazard | : Not classified |
| Potential adverse human health effects and symptoms | : To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |
| Symptoms/injuries after inhalation | : May be harmful if inhaled. May cause respiratory tract irritation. |
| Symptoms/injuries after skin contact | : Harmful if absorbed through skin. Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |

| SECTI | ON 12: Ecological information | |
|--------|---|--|
| 12.1. | Toxicity | |
| SEBA | CIC ACID (2,2,9,9-D4, 98%) (339080-77-2 |) |
| EC50 (| other aquatic organisms 1 | 38.7 mg/l static test EC50 - Skeletonema costatum - 72 h |
| | | |
| 12.2 | Persistence and degradability | |

| SEBACIC ACID (2,2,9,9-D4, 98%) (339080-77-2) | | |
|--|--|--|
| Persistence and degradability Aerobic - exposure time: 28 d. | | |
| Biodegradation 89 % - Biodegradable in sea water (OECD Test Guideline 306) | | |
| | | |
| 12.3. Bioaccumulative potential | | |
| SEBACIC ACID (2,2,9,9-D4, 98%) (339080-77-2) | | |
| Log Pow 1.5 at 23 °C (73 °F) | | |

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| 12.4. Mobility in soil | |
|---|--|
| No additional information available | |
| 12.5. Results of PBT and vPvB assess | ment |
| No additional information available | |
| 12.6. Other adverse effects | |
| Other adverse effects | : An environmental hazard cannot be excluded in the event of an unprofessional handling or disposal. Harmful to aquatic life. |
| SECTION 13: Disposal considerat | ions |
| 13.1. Waste treatment methods | |
| Regional legislation (waste) | : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations. |
| Waste disposal recommendations | : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| Ecology - waste materials | : Dispose of as unused product. |
| SECTION 14: Transport information | |
| In accordance with ADR / RID / IMDG / IATA | / ADN |
| 14.1. UN number | |
| Not applicable | |
| 14.2. UN proper shipping name | |
| Not applicable | |
| 14.3. Additional information | |
| Other information | : No supplementary information available. |
| Special transport precautions | : Not dangerous goods. |
| Overland transport | |
| No additional information available | |
| | |
| Transport by sea | |
| No additional information available | |
| Air transport | |
| No additional information available | |
| 14.4. Environmental hazards | |
| Other information | : No supplementary information available. |
| 14.5. Special precautions for user | |
| Special transport precautions | : Not dangerous goods. |
| 14.6. Transport in bulk according to A | nnex II of MARPOL 73/78 and the IBC Code |
| Not applicable | |
| SECTION 15: Regulatory informat | ion |
| 15.1. US Federal regulations | |
| SEBACIC ACID (2,2,9,9-D4, 98%) (339080 | -77-2) |
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporing requirements of the United States SARA Section 302. |
| OADA Ossilas 040 Escladas Desertis | Not existent to expect the expected of the United Oteles OADA Osetter 040 |

| 15.2. International regulations |
|---|
| CANADA |
| SEBACIC ACID (2,2,9,9-D4, 98%) (339080-77-2) |
| Listed on the Canadian DSL (Domestic Substances List) |
| |

Not subject to reporing requirements of the United States SARA Section 313.

SARA Section 313 - Emission Reporting

Safety Data Sheet

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15.2.1. National regulations

No additional information available

15.3. US State regulations

| SEBACIC ACID (2,2,9,9-D4, 98%)(339080-77-2) | |
|---|---|
| State or local regulations | U.S Pennsylvania - RTK (Right to Know) List U.S New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. |

SECTION 16: Other information

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-statements:

| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 | |
|---------------|--|--|
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 | |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation | |
| H315 | Causes skin irritation | |
| H319 | Causes serious eye irritation | |
| H335 | May cause respiratory irritation | |
| R36/37/38 | Irritating to eyes, respiratory system and skin | |
| Xi | Irritant | |

| NFPA health hazard | : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. |
|--------------------|---|
| NFPA fire hazard | O - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. |
| NFPA reactivity | : 0 - Material that in themselves are normally stable, even under fire conditions. |
| HMIS III Rating | |
| Health | : 0 Minimal Hazard - No significant risk to health |
| Flammability | : 0 Minimal Hazard |

: 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

Physical

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product