

Safety Data Sheet

according to Regulation (EU) 2015/830 Date of issue: 14/06/2011 Revision date: 01/11/2017 Supersedes 10/08/2011

R0806

Version: 2.0

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

| 1.1. | Product identifier | | |
|--------------|--------------------|---|--------------|
| Produc | t form | : | Substance |
| Trade | name | : | D-Ribose |
| EC-No. | | : | 200-059-4 |
| CAS-No. | | : | 50-69-1 |
| Product code | | : | R0806 |
| Formu | а | : | C5H10O5 |
| Produc | t group | : | Raw material |
| | | | |

1.2. Relevant identified uses of the 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. Duchefa Biochemie B.V. products are intended |
| | only for "in vitro laboratory" research purposes. |

1.2.2. Uses advised against

No additional information available

Details of the supplier of the safety data sheet 1.3.

Supplier

Duchefa Biochemie B.V. A. Hofmanweg 71 2031 BH Haarlem - The Netherlands T +31(0)23-5319093 - F +31(0)23-5318027 info@duchefa.nl

1.4. **Emergency telephone number**

Emergency number

: Supplier contact information: +31(0)23-5319093 (M-F 09:00-17:00) +31(0)6-30109355 (outside office hours)

| Organisation/Company | Address | Comment |
|---|------------------------------------|---|
| World Health Organization world directory of poison centres | http://apps.who.int/poisoncentres/ | Consult website for a local poison centre |

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1.

Classification according to Regulation (EC) No. 1272/2008 [CLP] Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

according to Regulation (EU) 2015/830

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

| Name | : D-Ribose | | |
|----------|---|------|--|
| CAS-No. | : 50-69-1 | | |
| EC-No. | : 200-059-4 | | |
| Name | Product identifier | % | |
| D-Ribose | (CAS-No.) 50-69-1 (EC-No.) 200-059-4 | > 97 | |

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| First-aid measures general | : Seek medical attention if ill effect develops. |
|---------------------------------------|--|
| First-aid measures after inhalation | : Assure fresh air breathing. |
| First-aid measures after skin contact | : Wash skin with mild soap and water. |
| First-aid measures after eye contact | : Rinse with water. |
| First-aid measures after ingestion | : Rinse mouth. |
| | |

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Exposure may produce an allergic reaction. Nausea. Vomiting.

4.3. Indication of any immediate medical attention and special treatment needed No additional information available

 SECTION 5: Firefighting measures

 5.1. Extinguishing media
 Suitable extinguishing media

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

 5.2. Special hazards arising from the substance or mixture

 Hazardous decomposition products in
 : When heated to decomposition, emits toxic fumes. COx. NOx. case of fire

5.3. Advice for firefighters

Protection during firefighting : Wear proper protective equipment.

according to Regulation (EU) 2015/830

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Measures in case of dust release : Use good housekeeping practices to avoid rendering dust airborne.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Sweep up dry powder and dispose properly. Dispose in a safe manner in accordance with local/national regulations.

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 : Ensure good ventilation of the work station.

7.2. Conditions for safe storage, including any incompatibilities

| Storage conditions | : Store in dry, cool, well-ventilated area. Keep container tightly closed and |
|---------------------|---|
| | dry. |
| Storage temperature | : 2 - 8 °C |

7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection:

| Туре | Material | Permeation | Thickness (mm) | Standard |
|--------|----------------------|-------------------|----------------|----------|
| Gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | 0,11 | EN 374 |

Eye protection:

Safety glasses (to European standard EN 166 or equivalent)

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where excessive dust may result, wear approved mask. Type P1 (EN 143)

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state | : | Solid |
|---|---|-------------------|
| Appearance | : | Powder. |
| Molecular mass | : | 150,13 g/mol |
| Colour | : | White. |
| Odour | : | Odourless. |
| Odour threshold | : | No data available |
| рН | : | No data available |
| Relative evaporation rate (butylacetate=1) | : | No data available |
| Melting point | : | 88 - 92 °C |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Solubility | : | Soluble in water. |
| Log Pow | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosive properties | : | No data available |
| Oxidising properties | : | No data available |
| Explosive limits | : | No data available |
| | | |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of storage, handling and use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Moisture. Heat.

10.5. Incompatible materials

Strong oxidizers. Strong acids.

according to Regulation (EU) 2015/830

10.6. Hazardous decomposition products

When heated to decomposition, emits dangerous fumes. COx. NOx.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| Acute toxicity | : Not classified |
|--|--|
| Skin corrosion/irritation Serious eye damage/irritation Respiratory or skin sensitisation Germ cell mutagenicity Carcinogenicity | Not classified Not classified Not classified Not classified Not classified Not classified |
| Reproductive toxicity STOT-single exposure STOT-repeated exposure | Not classified Not classified Not classified |
| Aspiration hazard | : Not classified |
| Other information | : See actual entry in RTECS for complete information: VJ2275000. |

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / IATA / IMDG

| ADR | IMDG | IATA | |
|-----------------------------------|---------------|-----------------|-----|
| 14.1. UN number | | | |
| Not regulated | Not regulated | Not regulated | |
| 01/11/2017 Duchefa Biochemie B.V. | EN (English) | SDS Ref.: R0806 | 5/7 |

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| ADR | IMDG | ΙΑΤΑ |
|--|---------------|---------------|
| 14.2. UN proper shipping name | | |
| Not regulated | Not regulated | Not regulated |
| Not regulated | Not regulated | Not regulated |
| | | |
| 14.3. Transport hazard class(es) | | |
| Not regulated | Not regulated | Not regulated |
| Not regulated | Not regulated | Not regulated |
| 14.4. Packing group | | |
| Not regulated | Not regulated | Not regulated |
| 14.5. Environmental hazards | | |
| Not regulated | Not regulated | Not regulated |
| No supplementary information available | | |

14.6. Special precautions for user

Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1.1. EU-Regulations

No REACH Annex XVII restrictions D-Ribose is not on the REACH Candidate List D-Ribose is not on the REACH Annex XIV List

15.1.2. National regulations

Ensure all national/local regulations are observed.

Germany

| 12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV | : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance) |
|---|--|
| Netherlands | |
| SZW-lijst van kankerverwekkende stoffen | : The substance is not listed |
| SZW-lijst van mutagene stoffen | : The substance is not listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding | : The substance is not listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid | : The substance is not listed |

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NIET-limitatieve lijst van voor de : The substance is not listed voortplanting giftige stoffen – Ontwikkeling

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

| 1.4 | Emergency number | Modified | |
|-----|------------------|----------|--|
| 8.2 | Hand protection | Modified | Specified material, thickness, et cetera of gloves |
| 9.1 | Melting point | Modified | |

Abbreviations and acronyms:

| Acute Toxicity Estimate | | |
|---|--|--|
| European Agreement concerning the International Carriage of Dangerous Goods by Road | | |
| Bioconcentration factor | | |
| Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 | | |
| Dangerous Preparations Directive 1999/45/EC | | |
| Dangerous Substances Directive 67/548/EEC | | |
| International Air Transport Association | | |
| International Maritime Dangerous Goods | | |
| Median lethal concentration | | |
| Median lethal dose | | |
| Lowest Observed Adverse Effect Level | | |
| No-Observed Adverse Effect Concentration | | |
| Persistent Bioaccumulative Toxic | | |
| Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 | | |
| Safety Data Sheet | | |
| | | |

Data sources

: ECHA (European Chemicals Agency). Supplier.

SDS Biochemicals version 2017

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