

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: **4944**  
Version: **2.0 en**  
Replaces version of: 2018-04-19  
Version: (1)

date of compilation: 2018-04-19  
Revision: 2022-05-24

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

### 1.1 Product identifier

|                                 |  |
|---------------------------------|--|
| Identification of the substance | <b>Dulcitol</b> ≥99%, for biochemistry |
| Article number                  | 4944                                   |
| EC number                       | 210-165-2                              |
| CAS number                      | 608-66-2                               |

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

|                           |   |
|---------------------------|---|
| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use  |
| Uses advised against:     | Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). |

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** sicherheit@carlroth.de  
**Website:** www.carlroth.de

Competent person responsible for the safety data sheet: :Department Health, Safety and Environment

**e-mail (competent person):** **sicherheit@carlroth.de**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

This substance does not meet the criteria for classification.

### 2.2 Label elements

#### Labelling

not required

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol $\geq 99\%$ , for biochemistry

article number: 4944

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                   |                |
|-------------------|----------------|
| Name of substance | Dulcitol       |
| Molecular formula | $C_6H_{14}O_6$ |
| Molar mass        | 182,2 g/mol    |
| CAS No            | 608-66-2       |
| EC No             | 210-165-2      |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date.

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol $\geq 99\%$ , for biochemistry

article number: 4944

### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

### Unsuitable extinguishing media

water jet

## 5.2 Special hazards arising from the substance or mixture

Combustible.

### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

## 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Control of dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures are necessary.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

### Consideration of other advice:

#### Ventilation requirements

Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [mg/m <sup>3</sup> ] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source    |
|---------|---------------|--------|------------|--------------------------|---------------------------|--------------------------------|----------|-----------|
| GB      | dust          |        | WEL        | 10                       |                           |                                | i        | EH40/2005 |
| GB      | dust          |        | WEL        | 4                        |                           |                                | r        | EH40/2005 |

#### Notation

|           |  |
|-----------|--|
| Ceiling-C | Ceiling value is a limit value above which exposure should not occur   |
| i         | Inhalable fraction   |
| r         | Respirable fraction  |
| STEL      | Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)                   |
| TWA       | Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol $\geq 99\%$ , for biochemistry

article number: 4944

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Physical state   | solid   |
| Form   | powder  |
| Colour   | whitish   |
| Odour  | odourless   |
| Melting point/freezing point                             | 185 – 192 °C  |
| Boiling point or initial boiling point and boiling range | not determined  |
| Flammability   | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit                          | not determined  |
| Flash point  | not applicable  |
| Auto-ignition temperature                                | not determined  |
| Decomposition temperature                                | not relevant  |
| pH (value)   | 6 – 6,5 (in aqueous solution: 50 g/l, 20 °C)              |
| Kinematic viscosity                                      | not relevant  |
| <u>Solubility(ies)</u>                                   |   |
| Water solubility   | 31 g/l (TOXNET)   |
| <u>Partition coefficient</u>                             |   |
| Partition coefficient n-octanol/water (log value):       | 3,1 (TOXNET)  |
| Vapour pressure  | not determined  |

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

### Density and/or relative density

|                          |   |
|--------------------------|---|
| Density                  | 1,47 g/cm <sup>3</sup>                        |
| Relative vapour density  | information on this property is not available |
| Bulk density             | 500 – 600 kg/m <sup>3</sup>                   |
| Particle characteristics | No data available.                            |

### Other safety parameters

|                      |      |
|----------------------|------|
| Oxidising properties | none |
|----------------------|------|

## 9.2 Other information

|   |   |
|---|---|
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics:                       | There is no additional information.                         |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

This substance does not meet the criteria for classification.

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

### **Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

### **Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

### **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

### **Carcinogenicity**

Shall not be classified as carcinogenic.

### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

### **Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

### **Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

### **Symptoms related to the physical, chemical and toxicological characteristics**

#### **• If swallowed**

Data are not available.

#### **• If in eyes**

Data are not available.

#### **• If inhaled**

Data are not available.

#### **• If on skin**

Data are not available.

#### **• Other information**

Health effects are not known. Substance not yet fully tested.

### **11.2 Endocrine disrupting properties**

Not listed.

### **11.3 Information on other hazards**

There is no additional information.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

### **Biodegradation**

Data are not available.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

### 12.2 Process of degradability

Theoretical Oxygen Demand: 1,142 mg/mg  
Theoretical Carbon Dioxide: 1,449 mg/mg

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

|                           |              |
|---------------------------|--------------|
| n-octanol/water (log KOW) | 3,1 (TOXNET) |
|---------------------------|--------------|

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Not listed.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

|  |   |
|--|---|
| 14.1 UN number or ID number                                  | not subject to transport regulations                                  |
| 14.2 UN proper shipping name                                 | not assigned  |
| 14.3 Transport hazard class(es)                              | none  |
| 14.4 Packing group   | not assigned  |
| 14.5 Environmental hazards                                   | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user                            | There is no additional information.                                   |
| 14.7 Maritime transport in bulk according to IMO instruments | The cargo is not intended to be carried in bulk.                      |



# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Dulcitol ≥99%, for biochemistry

article number: 4944

## 14.8 Information for each of the UN Model Regulations

### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Not subject to ADR, RID and ADN.

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

##### Deco-Paint Directive

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

##### Industrial Emissions Directive (IED)

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

##### Water Framework Directive (WFD)

not listed

##### Regulation on the marketing and use of explosives precursors

not listed

##### Regulation on drug precursors

not listed

##### Regulation on substances that deplete the ozone layer (ODS)

not listed

##### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

### Regulation on persistent organic pollutants (POP)

not listed

### National regulations(GB)

#### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

#### Restrictions according to GB REACH, Annex 17

not listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status              |
|---------|-----------|---------------------|
| AU      | AIIC      | substance is listed |
| CA      | DSL       | substance is listed |
| CN      | IECSC     | substance is listed |
| EU      | ECSI      | substance is listed |
| NZ      | NZIoC     | substance is listed |
| TW      | TCSI      | substance is listed |
| US      | TSCA      | substance is listed |

#### Legend

|       |   |
|-------|---|
| AIIC  | Australian Inventory of Industrial Chemicals                            |
| DSL   | Domestic Substances List (DSL)  |
| ECSI  | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| NZIoC | New Zealand Inventory of Chemicals                                      |
| TCSI  | Taiwan Chemical Substance Inventory                                     |
| TSCA  | Toxic Substance Control Act   |

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Alignment to regulation:

Restructuring: section 9, section 14

| Section | Former entry (text/value)                                      | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.1     | Classification according to Regulation (EC) No 1272/2008 (CLP) | Classification acc. to GHS:<br>This substance does not meet the criteria for classification. | yes             |
| 2.1     |  | Classification acc. to GHS:<br>change in the listing (table)                                 | yes             |
| 2.2     | Labelling according to Regulation (EC) No 1272/2008 (CLP)      | Labelling:<br>not required   | yes             |

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

| Section | Former entry (text/value)  | Actual entry (text/value)   | Safety-relevant |
|---------|--|---|-----------------|
| 2.2     | Signal word:<br>Warning  |   | yes             |
| 2.2     | Pictograms   |   | yes             |
| 2.2     |  | Pictograms:<br>change in the listing (table)  | yes             |
| 2.2     | Hazard statements  |   | yes             |
| 2.2     |  | Hazard statements:<br>change in the listing (table)   | yes             |
| 2.2     | Precautionary statements   |   | yes             |
| 2.2     | Precautionary statements - prevention  |   | yes             |
| 2.2     |  | Precautionary statements - prevention:<br>change in the listing (table)   | yes             |
| 2.2     | Precautionary statements - response  |   | yes             |
| 2.2     |  | Precautionary statements - response:<br>change in the listing (table)   | yes             |
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Warning |   | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                           | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                           | yes             |
| 2.3     | Other hazards:<br>There is no additional information.                                  | Other hazards   | yes             |
| 2.3     |  | Results of PBT and vPvB assessment:<br>According to the results of its assessment, this substance is not a PBT or a vPvB. | yes             |

### Abbreviations and acronyms

| Abbr.     | Descriptions of used abbreviations  |
|-----------|---|
| ADN       | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR       | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)   |
| CAS       | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C | Ceiling value   |
| DGR       | Dangerous Goods Regulations (see IATA/DGR)  |
| EC No     | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)                                     |
| EH40/2005 | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )                                 |
| EINECS    | European Inventory of Existing Commercial Chemical Substances   |

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Dulcitol ≥99%, for biochemistry

article number: 4944

| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| ELINCS   | European List of Notified Chemical Substances   |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)  |
| GHS      | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA     | International Air Transport Association   |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO     | International Civil Aviation Organization   |
| IMDG     | International Maritime Dangerous Goods Code   |
| NLP      | No-Longer Polymer   |
| PBT      | Persistent, Bioaccumulative and Toxic   |
| REACH    | Registration, Evaluation, Authorisation and Restriction of Chemicals  |
| RID      | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL     | Short-term exposure limit   |
| TWA      | Time-weighted average   |
| VOC      | Volatile Organic Compounds  |
| vPvB     | Very Persistent and very Bioaccumulative  |
| WEL      | Workplace exposure limit  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.