

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Reference number: M0803

Issue date: 23/10/2024 Revision date: 23/10/2024 Supersedes version of: 14/06/2022 Version: 4.0

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

### 1.1. Product identifier

Product form	: Substance
Trade name	: D-Mannitol
IUPAC name	: (2R,3R,4R,5R)-hexane-1,2,3,4,5,6-hexol
EC-No.	: 200-711-8
CAS-No.	: 69-65-8
Product code	: M0803
Formula	: C <sub>6</sub> H <sub>14</sub> O <sub>6</sub>
REACH authorisation exemptions	: Exempted from REACH registration

### 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

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

#### Distributor

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](mailto: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)6-30008100 (outside office hours)
------------------	--

Country	Organisation/Company	Address	Emergency number	Comment
	World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>		Consult website for a local poison centre
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Not classified

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**Adverse physicochemical, human health and environmental effects**

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

**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**

Substance type : Mono-constituent

Name	Product identifier	%
D-Mannitol	CAS-No.: 69-65-8 EC-No.: 200-711-8	100

**3.2. Mixtures**

Not applicable

**SECTION 4: First aid measures****4.1. Description of first aid measures**

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after ingestion : Ingestion may cause nausea, vomiting and diarrhea.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

Suitable extinguishing media : Water spray.  
Unsuitable extinguishing media : Alcohol foam. Dry chemical powder. Strong water jet.

**5.2. Special hazards arising from the substance or mixture**

Explosion hazard : Potential dust explosion hazard.  
Hazardous decomposition products in case of fire : - COx.

**5.3. Advice for firefighters**

Firefighting instructions : Prevent fire fighting water from entering the environment.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### SECTION 6: Accidental release measures

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

General measures : Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Ventilate spillage area.  
Measures in case of dust release : Avoid dust formation.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

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

Methods for cleaning up : Mechanically recover the product. Sweep up dry powder and dispose properly.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 8.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Ensure good ventilation of the work station. Avoid dust formation. Handle in accordance with good industrial hygiene and safety procedures.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Keep container tightly closed. Store at room temperature. Store in dry, well-ventilated area.  
Incompatible products : Oxidizing agent.

#### 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

##### 8.1.1 National occupational exposure and biological limit values

No additional information available

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

##### 8.1.4. DNEL and PNEC

No additional information available

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**8.1.5. Control banding**

No additional information available

**8.2. Exposure controls****8.2.1. Appropriate engineering controls****Appropriate engineering controls:**

Ensure good ventilation of the work station.

**8.2.2. Personal protection equipment****8.2.2.1. Eye and face protection**

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses	Dust		EN 166

**8.2.2.2. Skin protection****Skin and body protection:**

In case of possible repeated skin contact wear protective clothing

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11		EN ISO 374

**8.2.2.3. Respiratory protection**

Respiratory protection			
Device	Filter type	Condition	Standard
Dust mask	Type P1	Dust protection	EN 143

**8.2.2.4. Thermal hazards**

No additional information available

**8.2.3. Environmental exposure controls****Environmental exposure controls:**

Avoid release to the environment.

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

Physical state	: Solid
Colour	: White.
Appearance	: Powder.
Molecular mass	: 182,2 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: ≈ 166 °C
Freezing point	: Not applicable
Boiling point	: 290 – 295 4 hPa
Flammability	: Non flammable.
Explosive limits	: Not applicable 125 g/m <sup>3</sup>
Lower explosion limit	: 30 – 60 g/m <sup>3</sup> EN 14034-3 / ASTM E1515
Upper explosion limit	: Not applicable
Flash point	: Not applicable

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 300 °C
pH	: ≈ 5,4
pH solution concentration	: 20 %
Viscosity, kinematic	: Not applicable
Solubility	: Water: ≈ 250 g/l 20°C
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: -3,1
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 400 – 500 kg/m <sup>3</sup>
Relative density	: Not available
Relative vapour density at 20°C	: ≈ 0,6
Particle size	: Not available

**9.2. Other information****9.2.1. Information with regard to physical hazard classes**

Explosion limits	: Not applicable 125 g/m <sup>3</sup>
Dust deflagration index	: 164 bar·m/s EN 14034-2 / ASTM E1226
Dust explosion category	: St 1 - Weak explosion

**9.2.2. Other safety characteristics**

Minimum ignition energy	: ≈ 40 mJ EN 13821
Specific conductivity	: 110 µS/m

**SECTION 10: Stability and reactivity****10.1. Reactivity**

The product is non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reactions known under normal conditions of use.

**10.4. Conditions to avoid**

Avoid dust formation.

**10.5. Incompatible materials**

Strong oxidizers. Strong acids. Strong bases.

**10.6. Hazardous decomposition products**

When heated to decomposition, emits dangerous fumes: - COx.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

**D-Mannitol (69-65-8)**

LD50 oral rat	≈ 13,5 g/kg
---------------	-------------

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Skin corrosion/irritation	: Not classified pH: $\approx$ 5,4
Serious eye damage/irritation	: Not classified pH: $\approx$ 5,4
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

**D-Mannitol (69-65-8)**

Viscosity, kinematic	Not applicable
----------------------	----------------

**11.2. Information on other hazards****11.2.1. Endocrine disrupting properties**

Adverse health effects caused by endocrine disrupting properties	: The substance/mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %
--	--

**11.2.2. Other information**

No additional information available

**SECTION 12: Ecological information****12.1. Toxicity**

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

**D-Mannitol (69-65-8)**

NOEC chronic fish	$\geq$ 99,4 mg/l <i>Desmodesmus subspicatus</i>
NOEC chronic crustacea	$\geq$ 99,4 mg/l <i>Daphnia magna</i> (Water flea)

**12.2. Persistence and degradability****D-Mannitol (69-65-8)**

BOD (% of ThOD)	0,00115 % ThOD
Biodegradation	95,1 % 28 d

**12.3. Bioaccumulative potential****D-Mannitol (69-65-8)**

Bioconcentration factor (BCF REACH)	$\approx$ 1
Partition coefficient n-octanol/water (Log Pow)	-3,1

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**12.4. Mobility in soil****D-Mannitol (69-65-8)**

Organic Carbon Normalized Adsorption Coefficient (Log K <sub>oc</sub> )	≈ 5
---	-----

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Endocrine disrupting properties**

Adverse effects on the environment caused by endocrine disrupting properties : The substance/mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

**12.7. Other adverse effects**

Additional information : Avoid release to the environment. Prevent entry to sewers and public waters

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions.

**SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number or ID number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Not applicable	Not applicable	Not applicable
No supplementary information available		

**14.6. Special precautions for user****Overland transport**

Not applicable

**Transport by sea**

Not applicable

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Air transport

Not applicable

### 14.7. Maritime transport in bulk according to IMO instruments

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

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to VwVwS, Annex 3; ID No. 8299).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Borstvoeding

SZW-lijst van reprotoxische stoffen – : The substance is not listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – : The substance is not listed

Ontwikkeling

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out



## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**SECTION 16: Other information**

Indication of changes			
Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Added	
	Issue date	Added	
	Flammability	Added	
	Adverse health effects caused by endocrine disrupting properties	Added	
	Concentration of the solution used for the pH measurement	Added	
	Dust deflagration index	Added	
	Regulatory framework	Added	
	Substance type	Added	
1.1	Formula	Modified	
2.1	Adverse physicochemical, human health and environmental effects	Added	
3	Composition/information on ingredients	Modified	
4.1	First-aid measures after skin contact	Added	
4.1	First-aid measures after inhalation	Added	
4.1	First-aid measures after ingestion	Added	
4.1	First-aid measures after eye contact	Added	
4.3	Other medical advice or treatment	Added	
5.1	Unsuitable extinguishing media	Added	
5.1	Suitable extinguishing media	Modified	
5.2	Hazardous decomposition products in case of fire	Modified	
5.3	Protection during firefighting	Modified	
6.1	Protective equipment	Added	
6.1	Emergency procedures	Added	
6.3	Other information	Added	
6.3	Methods for cleaning up	Modified	
6.4	Reference to other sections (8, 13)	Added	
7.1	Hygiene measures	Added	
7.1	Precautions for safe handling	Modified	
7.2	Incompatible products	Added	
8.2	Environmental exposure controls	Added	
8.2	Appropriate engineering controls	Added	
8.2	Skin and body protection	Modified	

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Indication of changes			
Section	Changed item	Change	Comments
9.1	Viscosity, kinematic	Added	
9.1	Freezing point	Added	
9.1	Flash point	Added	
9.1	Explosive limits (vol %)	Added	
9.1	Auto-ignition temperature	Added	
9.1	Lower explosion limit	Added	
9.1	Decomposition temperature	Added	
9.1	pH	Added	
9.1	Log Pow	Added	
9.1	Melting point	Modified	
9.2	Specific conductivity	Added	
9.2	Minimum ignition energy	Added	
10.1	Reactivity	Added	
10.3	Possibility of hazardous reactions	Added	
11.1	LD50 oral rat	Modified	
12.1	Ecology - general	Added	
12.1	NOEC chronic fish	Added	
12.1	NOEC chronic crustacea	Added	
12.2	Biodegradation	Added	
12.3	Bioconcentration factor (BCF REACH)	Added	
12.3	Log Pow	Added	
12.4	Organic Carbon Normalized Adsorption Coefficient (Log Koc)	Added	
12.6	Adverse effects on the environment caused by endocrine disrupting properties	Added	
13.1	Waste treatment methods	Modified	
15.2	Chemical safety assessment	Added	
16	Other information	Added	
16	Abbreviations and acronyms	Modified	

Abbreviations and acronyms:	
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

<b>Abbreviations and acronyms:</b>	
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Data sources

: Supplier. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. ECHA (European Chemicals Agency).

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

---

### Other information

: **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

Safety Data Sheet (SDS), EU Duchefa 2023

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.