

Safety Data Sheet

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

Reference number: A0602

Issue date: 14/11/2023 Revision date: 09/11/2023 Supersedes version of: 14/06/2018 Version: 3.0

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

1.1. Product identifier

Product form	: Substance
Trade name	: L-Ascorbic acid
EC-No.	: 200-066-2
CAS-No.	: 50-81-7
Product code	: A0602
Formula	: C ₆ H ₈ O ₆
Synonyms	: Vitamin C / L-Threoascorbic acid
Product group	: Raw material
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

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)
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Country	Organisation/Company	Address	Emergency number	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

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

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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	%
L-Ascorbic acid	CAS-No.: 50-81-7 EC-No.: 200-066-2	≥ 99

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 : Move to fresh air.
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 out with water.

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

No additional information available

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 : 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 case of fire : Under fire conditions, hazardous fumes will be present. - CO_x. - NO_x.

5.3. Advice for firefighters

Protection during firefighting : Wear proper protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear suitable protective clothing.

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6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not allow to enter drains or water courses.

6.3. Methods and material for containment and cleaning up

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

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 : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at ambient temperature. Store in dry, well-ventilated area. Light and moisture sensitive. Keep container tightly closed and dry.

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

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

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

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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:

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

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: White.
Appearance	: Crystalline powder.
Molecular mass	: 176,1 g/mol
Odour	: Not available
Odour threshold	: Not available
Melting point	: 189 – 193 °C
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: 1,7 – 14,5 % Source: National Institute of Technology and Evaluation
Flash point	: 276 °C Source: The Chemical Database, The Department of Chemistry at the University of Akron
Auto-ignition temperature	: 380 °C Source: HSDB
Decomposition temperature	: 191 °C Source: ChemIDplus
pH	: 1 – < 2,5 (176 g/l, 25 °C)
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Water: 333 g/l (20 °C)
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: -2,15 Source: ICSC
Vapour pressure	: 0 mm Hg at 25 °C Source: ChemIDplus
Vapour pressure at 50°C	: Not available
Density	: 0,95 g/ml (20 °C)
Relative density	: 1,65 Source: HSDB
Relative vapour density at 20°C	: 6,08 Source: Calculated value based on molecular weight and mean molecular weight of air
Particle size	: Not available

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions of storage, handling and use.

10.3. Possibility of hazardous reactions

This product is not hazardous.

10.4. Conditions to avoid

Moisture.

10.5. Incompatible materials

Strong oxidizers.

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

L-Ascorbic acid (50-81-7)	
LD50 oral rat	> 5000 mg/kg Source: OECD Screening Information Data Set
LD50 oral	3367 mg/kg (mouse)

Skin corrosion/irritation : Not classified
pH: 1 - < 2,5 (176 g/l, 25 °C)
Serious eye damage/irritation : Not classified
pH: 1 - < 2,5 (176 g/l, 25 °C)
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

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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

Other information : See actual entry in RTECS for complete information: CI7650000

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

L-Ascorbic acid (50-81-7)	
LC50 - Fish [1]	13,311 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	140,284 mg/l Source: Ecological Structure Activity Relationships

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

L-Ascorbic acid (50-81-7)	
Partition coefficient n-octanol/water (Log Pow)	-2,15 Source: ICSC

12.4. Mobility in soil

No additional information available

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number or ID number		
Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
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. 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)

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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

Ensure all national/local regulations are observed.

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 737).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of 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 : The substance is not listed

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

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

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

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Adverse health effects caused by endocrine disrupting properties	Added	
	Substance type	Added	
1.1	Formula	Modified	
3	Composition/information on ingredients	Modified	
9.1	Vapour pressure	Added	
9.1	Upper explosion limit	Added	
9.1	Relative vapour density at 20°C	Added	
9.1	Relative density	Added	
9.1	Log Pow	Added	
9.1	Flash point	Added	
9.1	Decomposition temperature	Added	
9.1	Auto-ignition temperature	Added	
9.1	pH	Modified	
9.1	Melting point	Modified	
11.1	ATE CLP (oral)	Added	

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Indication of changes			
Section	Changed item	Change	Comments
11.1	LD50 oral rat	Modified	
12.1	LC50 fish 1	Added	
12.1	EC50 96h algae (1)	Added	
12.3	Log Pow	Added	
12.6	Adverse effects on the environment caused by endocrine disrupting properties	Added	

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
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

Data sources : ECHA (European Chemicals Agency). Manufacturer.

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.