



# Safety Data Sheet

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

## Oxalic acid dihydrate

Version number: 5.0  
Replaces version of: 2013-10-23 (4)

Revision: 2020-04-29  
First version: 17.11.2011

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

#### 1.1 Product identifier

Trade name	<u>Oxalic acid dihydrate</u>
Registration number (REACH)	01-2119534576-33
EC number	205-634-3
Index number in CLP Annex VI	607-006-00-8
CAS number	6153-56-6

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

Relevant identified uses	Chemicals for various applications
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#### 1.3 Details of the supplier of the safety data sheet

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Germany

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Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact BERGCHEMIE J.C.Bröcking & Co. GmbH.

#### 1.4 Emergency telephone number

As above or nearest toxicological information centre.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

# Oxalic acid dihydrate

For full text of abbreviations: see SECTION 16

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008 (CLP)

**Signal word** danger

### Pictograms

**GHS05, GHS07**



### Hazard statements

**H302+H312** Harmful if swallowed or in contact with skin.

**H318** Causes serious eye damage.

### Precautionary statements

**P260** Do not breathe dust/fume/gas/mist/vapours/spray.

**P280** Wear protective gloves/protective clothing/eye protection/face protection.

**P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P312** Call a POISON CENTRE/doctor if you feel unwell.

## 2.3 Other hazards

There is no additional information.

### 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** oxalic acid dihydrate

#### Identifiers

CAS No 6153-56-6

EC No 205-634-3

Index No 607-006-00-8

**Molecular formula** C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>\*2H<sub>2</sub>O

**Molar mass** 126.1 g/mol

# Oxalic acid dihydrate

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General notes

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

#### Following skin contact

Wash with plenty of soap and water.

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

#### Following eye contact

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Remove contact lenses, if present and easy to do. Continue rinsing.

#### Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

#### Notes for the doctor

None.

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

These information are not available.

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

None.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Danger of dust explosion.

Deposited combustible dust has considerable explosion potential.

Danger of bursting container.

# Oxalic acid dihydrate

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## **Hazardous combustion products**

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.  
Co-ordinate firefighting measures to the fire surroundings.  
Do not allow firefighting water to enter drains or water courses.  
Collect contaminated firefighting water separately.  
Fight fire with normal precautions from a reasonable distance.

## **Special protective equipment for firefighters**

use suitable breathing apparatus

## **SECTION 6: Accidental release measures**

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

#### **For non-emergency personnel**

Remove persons to safety.  
Ventilate affected area.  
Control of dust.  
Eliminate all ignition sources if safe to do so.  
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

#### **For emergency responders**

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### **6.2 Environmental precautions**

Keep away from drains, surface and ground water.  
Retain contaminated washing water and dispose of it.

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

#### **Advice on how to contain a spill**

Take up mechanically.

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

Take up mechanically.

#### **Appropriate containment techniques**

Neutralisation techniques.

#### **Other information relating to spills and releases**

Place in appropriate containers for disposal.  
Ventilate affected area.

# Oxalic acid dihydrate

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## 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

Avoid contact with skin and eyes.

Do not breathe dust.

#### Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Only vacuum cleaners containing no ignition sources may be used for combustible dusts.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

#### Specific notes/details

Layers, deposits and heaps of combustible dust must be considered, like any other source which can form a hazardous explosive atmosphere.

Dust deposits may accumulate on all deposition surfaces in a technical room.

Danger of dust explosion.

#### Handling of incompatible substances or mixtures

Do not mix with alkali.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

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

#### Explosive atmospheres

Removal of dust deposits.

Only vacuum cleaners containing no ignition sources may be used for combustible dusts.

#### Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharge.

Ground/bond container and receiving equipment.

# Oxalic acid dihydrate

## Incompatible substances or mixtures

Incompatible materials: see section 10.

## Protect against external exposure, such as

heat

## Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

## Ventilation requirements

Provision of sufficient ventilation.

## Specific designs for storage rooms or vessels

Keep container tightly closed.

Store in a dry place.

## Storage temperature

recommended storage temperature: 5 - 50 °C

## Packaging compatibilities

Keep only in original container.

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Notation	Source
EU	oxalic acid	144-62-7	IOELV		1				2006/15/EC
GB	dust		WEL		10			i	EH40/2005
GB	dust		WEL		4			r	EH40/2005
GB	oxalic acid	144-62-7	WEL		1		2		EH40/2005

#### Notation

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)

# Oxalic acid dihydrate

## Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.466 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - systemic effects
DNEL	0.882 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	0.315 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
DNEL	3.11 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	0.315 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects

## Environmental values

Relevant PNECs and other threshold levels		
Endpoint	Threshold level	Environmental compartment
PNEC	0.16 mg/l	freshwater
PNEC	1,550 mg/l	sewage treatment plant (STP)
PNEC	0.016 mg/l	marine water

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
PVC: polyvinyl chloride	≥ 0,5 mm	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
NR: natural rubber, latex	≥ 0,5 mm	>480 minutes (permeation: level 6)

# Oxalic acid dihydrate

<b>Protective gloves</b>		
<b>Material</b>	<b>Material thickness</b>	<b>Breakthrough times of the glove material</b>
NBR: acrylonitrile-butadiene rubber	≥ 0,35 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

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

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

## **Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

## **Environmental exposure controls**

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

#### **Appearance**

Physical state	solid
Form	powder
Colour	white
Odour	odourless
Odour threshold	these information are not available

#### **Other safety parameters**

pH (value)	acid
Melting point/freezing point	101.5 °C
Initial boiling point and boiling range	these information are not available
Flash point	not applicable
Evaporation rate	these information are not available
Flammability (solid, gas)	this material is combustible, but will not ignite readily



# Oxalic acid dihydrate

Explosion limits of dust clouds	not determined
Vapour pressure	these information are not available
Density	1.635 g/cm <sup>3</sup> at 18.5 °C
Vapour density	these information are not available
Bulk density	800 – 900 kg/m <sup>3</sup>
Relative density	these information are not available
<b>Solubility(ies)</b>	
<b>Water solubility</b>	1.35 g/l at 30 °C
<b>Partition coefficient</b>	
n-octanol/water (log KOW)	-1.74
Auto-ignition temperature	>400 °C (EU method A.16)
Relative self-ignition temperature for solids	these information are not available
Decomposition temperature	these information are not available
<b>Viscosity</b>	
<b>Kinematic viscosity</b>	not relevant (solid matter)
<b>Dynamic viscosity</b>	not relevant (solid matter)
Explosive properties	dust explosion hazards
Oxidising properties	shall not be classified as oxidising

## 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

Danger of dust explosion.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharge.

# Oxalic acid dihydrate

## 10.5 Incompatible materials

bases, oxidisers, reducing agents

## 10.6 Hazardous decomposition products

Carbon monoxide (CO).

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgement (weight of evidence determination).

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Harmful if swallowed.

Harmful in contact with skin.

Acute toxicity			
Exposure route	Endpoint	Value	Species
oral	LD50	475 mg/kg	rat, male
oral	LD50	375 mg/kg	rat, female

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Skin sensitisation

Shall not be classified as a skin sensitiser.

##### Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

##### Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

# Oxalic acid dihydrate

## Specific target organ toxicity - single exposure

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Specific target organ toxicity - repeated exposure

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Value	Species	Exposure time
LC50	325 mg/l	Leuciscus idus melanotus	48 h
EC50	162.2 mg/l	daphnia magna	48 h
ErC50	>19.83 – <21.35 mg/l	algae (pseudokirchneriella subcapitata)	72 h
EbC50	>18.39 – <19.92 mg/l	algae (pseudokirchneriella subcapitata)	72 h

#### Aquatic toxicity (chronic)

Endpoint	Value	Species	Exposure time
growth (EbCx) 10%	>5.14 – <6.01 mg/l	algae (pseudokirchneriella subcapitata)	72 h
growth rate (ErCx) 10%	>7.06 – <8.08 mg/l	algae (pseudokirchneriella subcapitata)	72 h

### 12.2 Persistence and degradability

Process	Degradation rate	Time
oxygen depletion	89 %	5 d

#### Biodegradation

The substance is readily biodegradable.

#### Persistence

Data are not available.

### 12.3 Bioaccumulative potential

# Oxalic acid dihydrate

n-octanol/water (log KOW) -1.74

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

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

## 12.6 Other adverse effects

Data are not available.

### Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Completely emptied packages can be recycled.  
Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1	UN number	not subject to transport regulations
14.2	UN proper shipping name	-
14.3	Transport hazard class(es)	-
14.4	Packing group	-
14.5	Environmental hazards	-
14.6	Special precautions for user	-
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	-

# Oxalic acid dihydrate

## 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)

#### Restrictions according to REACH, Annex XVII

Not listed.

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

Not listed.

#### Seveso Directive

Not assigned.

#### Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

Not listed.

#### Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Not listed.

#### Regulation 648/2004/EC on detergents

Labelling of contents	
Wt%	Constituents
≥30%	oxygen-based bleaching agents

#### Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

Not listed.

#### Regulation 98/2013/EU on the marketing and use of explosives precursors

Not listed.

#### Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

Not listed.

#### Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

Not listed.

### 15.2 Chemical Safety Assessment

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

# Oxalic acid dihydrate

## SECTION 16: Other information

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

Indication of changes: Section 1, 2, 3, 4, 7, 8, 10, 11, 12, 15

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
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 européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
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
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
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)
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value

## Oxalic acid dihydrate

Abbr.	Descriptions of used abbreviations
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
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
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.  
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H318	Causes serious eye damage.

### Responsible for the safety data sheet

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# Oxalic acid dihydrate

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## **Disclaimer**

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