

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 19.06.2017

Version 10.0

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**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 804107

Product name Glyoxylic acid monohydrate for synthesis

REACH Registration Number 01-2119487011-47-XXXX

CAS-No. 563-96-2

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

Identified uses Chemical for synthesis

For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

**1.4 Emergency telephone number** Please contact the regional company representation in your country.

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**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Serious eye damage, Category 1, H318

Skin sensitisation, Category 1, H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

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Catalogue No.

804107

Product name

Glyoxylic acid monohydrate for synthesis

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### *Hazard pictograms*



#### *Signal word*

Danger

#### *Hazard statements*

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

#### *Precautionary statements*

##### Prevention

P280 Wear protective gloves/ eye protection/ face protection.

##### Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

P313 Get medical advice/ attention.

### Reduced labelling ( $\leq 125$ ml)

#### *Hazard pictograms*



#### *Signal word*

Danger

#### *Hazard statements*

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

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## Precautionary statements

P280 Wear protective gloves/ eye protection/ face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

CAS-No. 563-96-2

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	OCHCOOH * H <sub>2</sub> O	C <sub>2</sub> H <sub>2</sub> O <sub>3</sub> * H <sub>2</sub> O (Hill)
EC-No.	206-058-5	
Molar mass	92,05 g/mol	

### Hazardous components (REGULATION (EC) No 1272/2008)

#### Chemical name (Concentration)

CAS-No.	Registration number	Classification
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Glyoxylic acid monohydrate (<= 100 % )

*Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.*

563-96-2	01-2119487011-47-	
	XXXX	Serious eye damage, Category 1, H318 Skin sensitisation, Category 1, H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

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After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

Irritation and corrosion, Allergic reactions

Cough, Shortness of breath, Convulsions

Risk of serious damage to eyes.

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

Vapours are heavier than air and may spread along floors.

### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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## *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapours/mists with a water spray jet.

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## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **6.4 Reference to other sections**

Indications about waste treatment see section 13.

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## **SECTION 7. Handling and storage**

### **7.1 Precautions for safe handling**

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

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## *Storage conditions*

Tightly closed. Dry.

Recommended storage temperature see product label.

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

Worker DNEL, longterm	Systemic effects	dermal	4 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	9,4 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

PNEC Fresh water	0,1 mg/l
PNEC Marine water	0,01 mg/l
PNEC Aquatic intermittent release	1 mg/l
PNEC Fresh water sediment	0,375 mg/kg
PNEC Marine sediment	0,0375 mg/kg
PNEC Soil	0,0163 mg/kg
PNEC Sewage treatment plant	200 mg/l
PNEC oral	13,2999 mg/kg

### 8.2 Exposure controls

#### Engineering measures

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

## Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

### *Eye/face protection*

Tightly fitting safety goggles

### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

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## *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## **Environmental exposure controls**

Do not let product enter drains.

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

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

Form	powder, finocrystalline
Colour	white
Odour	acidic
Odour Threshold	No information available.
pH	No information available.
Melting point	46,7 °C
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.



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Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	log Pow: -1,4 (calculated) (anhydrous substance) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

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The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) . releases water of crystallisation when heated.

## 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents, Bases, Metals

## 10.4 Conditions to avoid

no information available

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

Symptoms: Convulsions

*Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath

*Acute dermal toxicity*

This information is not available.

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## *Skin irritation*

Rabbit

Result: No irritation

(IUCLID) (anhydrous substance)

## *Eye irritation*

Rabbit

Result: Severe irritations

(IUCLID) (anhydrous substance)

Causes serious eye damage.

## *Sensitisation*

Sensitisation test: Guinea pig

Result: positive

(IUCLID) (anhydrous substance)

May cause an allergic skin reaction.

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(IUCLID) (anhydrous substance)

Ames test

Escherichia coli

Result: negative

(IUCLID) (anhydrous substance)

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

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*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

## 11.2 Further information

Effect of the by-products:

Damage to:

Kidney

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

*Toxicity to fish*

LC50 Danio rerio (zebra fish): 144,8 mg/l; 24 h

(IUCLID) (anhydrous substance)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 330 mg/l; 24 h

(IUCLID) (anhydrous substance)

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: -1,4

(calculated)

(anhydrous substance) Bioaccumulation is not expected.

### 12.4 Mobility in soil

No information available.

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## 12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

## 12.6 Other adverse effects

*Additional ecological information*

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	UN 3261
14.2 Proper shipping name	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (GLYOXYLIC ACID)
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

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**14.1 UN number** UN 3261  
**14.2 Proper shipping name** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  
(GLYOXYLIC ACID)  
**14.3 Class** 8  
**14.4 Packing group** III  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

## Sea transport (IMDG)

**14.1 UN number** UN 3261  
**14.2 Proper shipping name** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  
(GLYOXYLIC ACID)  
**14.3 Class** 8  
**14.4 Packing group** III  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
**EmS** F-A S-B

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

#### *National legislation*

Storage class 8A

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### *Hazard pictograms*



#### *Signal word*

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Danger

### *Hazard statements*

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

### *Precautionary statements*

Prevention

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

P313 Get medical advice/ attention.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### **Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*