

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

#### 1.1. Product identifier

Product form : Substance  
Name : Zinc Bisglycinate Monohydrate  
EC-No. : 238-173-1  
CAS-No. : 14281-83-5  
Formula : C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>Zn.H<sub>2</sub>O

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

##### 1.2.1. Relevant identified uses

No additional information available

##### 1.2.2. Uses advised against

No additional information available

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

##### Manufacturer

JOST CHEMICAL CO.  
8150 Lackland Rd.  
MO 63114 Saint Louis - USA  
T +1 314-428-4300 - F +1 314-428-4366  
[sds@jostchemical.com](mailto:sds@jostchemical.com) - [www.jostchemical.com](http://www.jostchemical.com)

##### Distributor

JOST CHEMICAL EUROPE SPRL  
Rue du Bois Portal 30/1-3  
5300 Andenne - BELGIQUE  
T +32 85 552 655 - F +32 85 552 654  
[info@jostchemical.com](mailto:info@jostchemical.com)

#### 1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
United States and Canada: 1-800-424-9300 / +1 703-527-3887  
Global: +1 703-741-5970

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Acute Tox. 4 (Oral)	H302
Eye Dam. 1	H318
Aquatic Acute 1	H400

Full text of hazard classes and H-statements : see section 16

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

Harmful if swallowed. Causes serious eye damage. Very toxic to aquatic life.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

GHS07

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H302 - Harmful if swallowed.

H318 - Causes serious eye damage.

H400 - Very toxic to aquatic life.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.  
P273 - Avoid release to the environment.  
P280 - Wear eye protection, face protection, protective gloves, protective clothing.  
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call doctor, a POISON CENTER.  
P391 - Collect spillage.  
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zinc Bisglycinate Monohydrate	(CAS-No.) 14281-83-5 (EC-No.) 238-173-1	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration.  
Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation.  
Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain.

First-aid measures after inhalation : Remove victim to fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. If irritation persists, consult a doctor.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing.  
Consult an eye specialist immediately, even if there are no immediate symptoms.

First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

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

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Dizziness, headaches, nausea. Vomiting. 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. Dry powder. Foam.

Unsuitable extinguishing media : Carbon dioxide (CO2).

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

- Fire hazard : Not combustible.  
Hazardous decomposition products in case of fire : Toxic fumes may be released. Nitrogen oxides. Carbon oxides (CO, CO<sub>2</sub>). Zinc oxide.

### 5.3. Advice for firefighters

- Precautionary measures fire : Exposure to fire/heat: have neighbourhood close doors and windows. Keep upwind. Consider evacuation.  
Firefighting instructions : Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding (the product is hazardous for the environment).  
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.  
Emergency procedures : Avoid contact with eyes. Mark the danger area. Prevent dust cloud formation. No naked flames.  
Measures in case of dust release : If dust are formed : Keep upwind. Have neighbourhood close doors and windows.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Do not allow product to spread into the environment.

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

- For containment : Dam up the solid spill. Knock down/dilute dust cloud with water spray.  
Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

Concerning disposal elimination after cleaning, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with eyes. Avoid raising dust. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Keep away from naked flames/heat.  
Hygiene measures : Do not drink, eat or smoke in the workplace. Always wash hands after handling the product. Wash contaminated clothing before reuse.

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

- Storage conditions : Store in a dry area.  
Heat and ignition sources : Keep away from heat.

### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Zinc Bisglycinate Monohydrate (14281-83-5)

##### EU - Occupational Exposure Limits

Local name	Copper(II) sulfate pentahydrate
IOELV TWA (mg/m <sup>3</sup> )	0.01 mg/m <sup>3</sup> (respirable fraction)
Notes	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations

#### 8.2. Exposure controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

##### Hand protection:

Protective gloves. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374. Breakthrough time : refer to the recommendations of the supplier

##### Eye protection:

Safety glasses. In case of dust production: protective goggles

##### Skin and body protection:

Protective clothing

##### Respiratory protection:

If dust are formed : Dust mask

### SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 231.5 g/mol
Colour	: White.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
pH solution	: 7.5 – 9.5 (1%)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Critical temperature	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: > 220 °C
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available

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Solubility	: Soluble in water. Water: 5.4 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

### 9.2. Other information

VOC content	: 0 %
Other properties	: Substance has basic reaction.

## 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 at ambient temperature and under normal conditions of use. Hygroscopic product.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

None to our knowledge.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Lack of data)
Acute toxicity (inhalation)	: Not classified (Lack of data)
Skin corrosion/irritation	: Not classified (Lack of data)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified (Lack of data)
Germ cell mutagenicity	: Not classified (Lack of data)
Carcinogenicity	: Not classified (Lack of data)
Reproductive toxicity	: Not classified (Lack of data)
STOT-single exposure	: Not classified (Lack of data)
STOT-repeated exposure	: Not classified (Lack of data)
Aspiration hazard	: Not classified (Technical impossibility to obtain the data)

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

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

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

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

No additional information available

#### 12.6. Other adverse effects

No additional information available






### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Bisglycinate Monohydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Bisglycinate Monohydrate)	Environmentally hazardous substance, solid, n.o.s. (Zinc Bisglycinate Monohydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Bisglycinate Monohydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Bisglycinate Monohydrate)
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9
				
<b>14.4. Packing group</b>				
III	III	III	III	III

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### 14.5. Environmental hazards

Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
Dangerous for the environment				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAV, LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V13
Special provisions for carriage - Bulk (ADR)	: VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	: 

Tunnel restriction code (ADR) : -

#### Transport by sea

Special provisions (IMDG)	: 274, 335, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23
MFAG-No	: 171

#### Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provisions (IATA)	: A97, A158, A179, A197
ERG code (IATA)	: 9L

#### Inland waterway transport

Classification code (ADN)	: M7
Special provisions (ADN)	: 274, 335, 375, 601
Limited quantities (ADN)	: 5 kg

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Excepted quantities (ADN) : E1  
Equipment required (ADN) : PP, A  
Number of blue cones/lights (ADN) : 0  
Additional requirements/Remarks (ADN) : \* Only in the molten state. \*\* For carriage in bulk see also 7.1.4.1. \*\*\* Only in the case of transport in bulk.

### Rail transport

Classification code (RID) : M7  
Special provisions (RID) : 274, 335, 375, 601  
Limited quantities (RID) : 5kg  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P002, IBC08, LP02, R001  
Special packing provisions (RID) : PP12, B3  
Mixed packing provisions (RID) : MP10  
Portable tank and bulk container instructions (RID) : T1, BK1, BK2, BK3  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAV, LGBV  
Transport category (RID) : 3  
Special provisions for carriage – Packages (RID) : W13  
Special provisions for carriage – Bulk (RID) : VC1, VC2  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31  
Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 90

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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

No REACH Annex XVII restrictions

Zinc Bisglycinate Monohydrate is not on the REACH Candidate List

Zinc Bisglycinate Monohydrate is not on the REACH Annex XIV List

Zinc Bisglycinate Monohydrate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Zinc Bisglycinate Monohydrate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 0 %

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
SDS	Safety Data Sheet
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods



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N.O.S.	Not Otherwise Specified
PBT	Persistent Bioaccumulative Toxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative

Data sources : SDS of suppliers. ECHA - European Chemicals Agency.  
Other information : Safety data sheet established by : LISAM TELEGIS  
17 rue de la Couture F-60400 Passel  
www.lisam-telegis.com.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

SDS EU (REACH Annex II)

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.