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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Copper Gluconate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC no</td>
<td>208-408-2</td>
</tr>
<tr>
<td>CAS No</td>
<td>527-09-3</td>
</tr>
<tr>
<td>Formula</td>
<td>C_{12}H_{22}CuO_{14}</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Food Additives in Nutrients

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier: JOST CHEMICAL EUROPE SPRL

JOST CHEMICAL EUROPE SPRL
rue du Bois Portal n° 30/1-3
B - 5300 Andenne - BELGIQUE
T +32 85-552655 - F +32 85-552654
info@josteurope.com

Manufacturer: Jost Chemical Co.

Jost Chemical Co.
8150 Lackland Rd.
63114 Saint Louis, Missouri
T 314-428-4300 - F 314-428-4366
justin.kuehnel@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazardous to the aquatic environment — Acute Hazard, Category 1 H400 (M=100)

Full text of H statements : see section 16

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 practices.

2.2. Label elements

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

Hazard pictograms (CLP) :

- GHS09

Signal word (CLP) : Warning

Hazard statements (CLP) : H400 - Very toxic to aquatic life

Precautionary statements (CLP) : P273 - Avoid release to the environment
P391 - Collect spillage
P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

Other hazards not contributing to the classification

PBT: not yet assessed

None under normal conditions.
 SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Gluconate</td>
<td>(CAS No) 527-09-3</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(EC no) 208-408-2</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixture

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. Remove the victim into fresh air.
First-aid measures after skin contact : Immediately remove contaminated clothing or footwear. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Rinse eyes with water as a precaution.
First-aid measures after ingestion : Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre (www.big.be/antigif.htm). Call a poison center or a doctor if you feel unwell.

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

Symptoms/injuries after inhalation : Metal fume fever.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Fire hazard : Reactions involving a fire hazard: see "Reactivity Hazard".
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Contain the extinguishing fluids by bunding.
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

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Prevent dust cloud 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

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

6.3. Methods and material for containment and cleaning up

For containment : Collect all waste in suitable and labelled containers and dispose according to local legislation. Knock down/dilute dust cloud with water spray.
Methods for cleaning up : Recover mechanically the product. Clean contaminated surfaces with an excess of water. This material and its container must be disposed of in a safe way, and as per local legislation.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.
Copper Gluconate
Safety Data Sheet
according to Regulation (EC) No. 453/2010

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid dust formation. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

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
Technical measures: Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

Storage conditions: Keep container tightly closed. Store in a dry place. Store in a well-ventilated place. Keep cool.

Incompatible materials: Strong oxidisers.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls: Extraction to remove dust at its source. Ensure good ventilation of the work station.


Materials for protective clothing: Wear suitable protective clothing, gloves and eye/face protection

Hand protection: Impermeable protective gloves

Eye protection: Safety glasses

Skin and body protection: Wear suitable protective clothing

Respiratory protection: Dust production: dust mask with filter type P2

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
Appearance: Powder.
Colour: Blue. Green.
Odour: characteristic.
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): No data available
Melting point: No data available
Freezing point: Not applicable
Boiling point: No data available
Flash point: Not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: No data available
Flammability (solid, gas): Non flammable
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Relative density: Not applicable
Solubility: Soluble in water.
Water: > 500 g/l
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Log Pow: No data available
Viscosity, kinematic: Not applicable
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: Not applicable

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
Upon combustion: CO and CO2 are formed.

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

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Thermal decomposition generates: Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified (Lack of data)
Causes serious eye damage: Not classified (Lack of data)
Serious eye damage/irritation: Not classified (Lack of data)
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)
Specific target organ toxicity (single exposure): Not classified (Lack of data)
Specific target organ toxicity (repeated exposure): Not classified (Lack of data)
Aspiration hazard: Not classified (Lack of data)

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Dangerous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50 fish 1</th>
<th>LC50 other aquatic organisms 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Gluconate (527-09-3)</td>
<td>0.01 mg/l (Carassius auratus)</td>
<td>0.55 mg/l (12 h; Shell)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Gluconate (527-09-3)</td>
<td>not yet assessed</td>
<td>not yet assessed</td>
</tr>
</tbody>
</table>
12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

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

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : 3077
UN-No. (IMDG) : 3077
UN-No. (IATA) : 3077
UN-No. (ADN) : 3077
UN-No. (RID) : 3077

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate)
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper di-D-gluconate)
Proper Shipping Name (IATA) : Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate)
Proper Shipping Name (ADN) : Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate)
Proper Shipping Name (RID) : Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate)
Transport document description (ADR) : UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate), III, (E)
Transport document description (IMDG) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper di-D-gluconate), 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA) : UN 3077 Environmentally hazardous substance, solid, n.o.s. (Copper di-D-gluconate), 9, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN) : UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate), III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Copper di-D-gluconate), III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : 9
Danger labels (ADR) : 9

IMDG
Transport hazard class(es) (IMDG) : 9
Danger labels (IMDG) : 9

IATA
Transport hazard class(es) (IATA) : 9
Hazard labels (IATA) : 9
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ADN
Transport hazard class(es) (ADN) : 9
Danger labels (ADN) : 9

RID
Transport hazard class(es) (RID) : 9
Danger labels (RID) : 9

14.4. Packing group
Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards
Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Orange plates : 90 3077
Tunnel restriction code (ADR) : E

- Transport by sea
Special provisions (IMDG) : 274, 335, 966, 967
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
Special packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK1, BK2, BK3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A
**Copper Gluconate**

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according to Regulation (EC) No. 453/2010

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### 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

No data available

### Rail transport

No data available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

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### 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
- Copper Gluconate is not on the REACH Candidate List
- Copper Gluconate is not on the REACH Annex XIV List

**15.1.2. National regulations**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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### SECTION 16: Other information

**Indication of changes:**
This sheet was updated (refer to the date at the top of this page).

**Full text of H- and EUH-statements:**

<table>
<thead>
<tr>
<th>Aquatic Acute 1</th>
<th>Hazardous to the aquatic environment — Acute Hazard, Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
</tbody>
</table>

**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.*