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

1.1. Product identifier

Product form : Substance
Substance name : BASIC COPPER CARBONATE
Chemical name : Copper(II) carbonate -copper(II) hydroxide (1:1)
EC no : 235-113-6
CAS No : 12069-69-1
Formula : CuCO3 Cu(OH)2

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-stuff industry
Pharmaceutical industry

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
Saint Louis
MO 63114
USA
T : +1 314-428-4300 / F : +1 314-428-4366

Distributor :
JOST CHEMICAL EUROPE SPRL
Rue du Bois Portal 30/1-3
B - 5300 Andenne
BELGIQUE
T : +32 85 552 655 / F : +32 85 552 654
info@josteurope.com

1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED KINGDOM</td>
<td>National Poisons Information Service</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</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]
Acute Tox. 4 (Oral) H302
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Xn; R22
N; R50/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects
Harmful if swallowed. Very toxic to aquatic life with long lasting effects. Not expected to be a fire/explosion hazard under normal conditions of use.
2.2. Label elements

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

Hazard pictograms (CLP)

<table>
<thead>
<tr>
<th>GHS07</th>
<th>GHS09</th>
</tr>
</thead>
</table>

Signal word (CLP) : Warning

Hazard statements (CLP) : H302 - Harmful if swallowed
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P264 - Wash thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P301+P312 - IF SWALLOWED: Call a POISON CENTER if you feel unwell
P330 - Rinse mouth
P391 - Collect spillage
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

Other hazards not contributing to the classification : None to our knowledge.

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC COPPER CARBONATE</td>
<td>(CAS No) 12069-69-1</td>
<td>100</td>
<td>Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of R- and H-phrases: 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 : Move the affected person away from the contaminated area and into the fresh air. If irritation persists, consult a doctor.
First-aid measures after skin contact : Remove all contaminated clothing and footwear. Rinse with plenty of water. If case of redness or irritation, call a doctor.
First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Consult an eye specialist immediately, even if there are no immediate symptoms.
First-aid measures after ingestion : Give water to drink. Call a physician immediately.

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

Symptoms/injuries after inhalation : In case of inhalation of fumes of molten material or dust: 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 : Not combustible.
Hazardous decomposition products in case of fire: Copper oxides.

5.3. Advice for firefighters

Firefighting instructions: 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. Complete protective clothing. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Avoid creating or spreading dust. Avoid contact with skin and eyes. Do not breathe dust.

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
Do not allow product to spread into the environment. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up
For containment: Sweep up or vacuum up the product. Gather the product and place it in a spare container that has been suitably labelled.
Methods for cleaning up: Wash contaminated area with large amounts of water. Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Dust extraction (suction). Avoid contact with skin and eyes. Avoid the formation or spread of dust in the atmosphere.
Hygiene measures: Do not eat, drink or smoke when using this 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 and dry. Store in a cool, well-ventilated place.
Incompatible materials: Strong acids. Oxidizing materials.

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: Ensure good ventilation of the work station. Extraction to remove dust at its source.
Hand protection: Nitrile-rubber protective gloves. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN 374. Breakthrough time: refer to the recommendations of the supplier.
Eye protection: Safety goggles
Respiratory protection: In case of dust formation use respirator with filter: (P2 / FFP2)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Appearance: Powder. Crystalline solid.
Colour: Blue-green. dark green.
Odour: None.
Odour threshold: No data available
pH: 7 - 10
pH solution: 10 % Aqueous solution
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : 200 °C
Freezing point : Not applicable
Boiling point : Not applicable
Flash point : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Non flammable Test method EU A.10 (Published data)
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Density : ~ 4 g/cm³
Solubility : Water: Slightly soluble
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : Not explosive.
Oxidative properties : Non oxidizing material according to EC criteria.
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
To our knowledge, the product does not present any particular risk.

10.2. Chemical stability
Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions
None under normal conditions.

10.4. Conditions to avoid
None to our knowledge.

10.5. Incompatible materials
Strong acids. Oxidizing materials.

10.6. Hazardous decomposition products
On combustion or on thermal decomposition (pyrolysis) releases: Copper oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Harmful if swallowed.

<table>
<thead>
<tr>
<th>BASIC COPPER CARBONATE (12069-69-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
(OECD 404 method) (Published data)
pH: 7 - 10

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
(OECD 405 method) (Published data)
pH: 7 - 10

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
(OECD 406) (Published data)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
(results obtained on: copper sulphate)

Carcinogenicity : Not classified (Lack of data)
Reproductive toxicity: Not classified (Inconclusive data)
Specific target organ toxicity (single exposure): Not classified (Lack of data)
Dust from this product may cause irritation to the respiratory tract
Specific target organ toxicity (repeated exposure): Not classified (Based on available data, the classification criteria are not met) (results obtained on: Cupric oxide, copper sulfate pentahydrate)
Aspiration hazard: Not classified (Not applicable)

**SECTION 12: Ecological information**

**12.1. Toxicity**
Ecology - general: Very toxic to aquatic life with long lasting effects.

**BASIC COPPER CARBONATE (12069-69-1)**

<table>
<thead>
<tr>
<th>LC50 fish</th>
<th>0,01 mg/l Carassius auratus (goldfish) (Copper compounds) (Published data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 other aquatic organisms</td>
<td>0,55 mg/l / 12 hours / Shell (Copper compounds) (Published data)</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

**BASIC COPPER CARBONATE (12069-69-1)**

Persistence and degradability: Not applicable. Insoluble.

**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**
Waste treatment methods: Discharging into rivers and drains is forbidden. Dispose of in accordance with relevant local regulations.
Waste disposal recommendations: Destroy at an authorised site.
Additional information: The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.

**SECTION 14: Transport information**

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

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>3077</td>
<td>3077</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper (II) carbonate)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper (II) carbonate)</td>
</tr>
<tr>
<td>Transport document description</td>
<td>UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper (II) carbonate), 9, III, (E)</td>
<td>UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper (II) carbonate), 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Dangerous for the environment : Yes</td>
<td>Dangerous for the environment : Yes</td>
</tr>
</tbody>
</table>
14.6. Special precautions for user

14.6.1. Overland transport

Classification code (ADR) : M7
Special provisions (ADR) : 274, 335, 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
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) : VV1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13
Hazard identification number (Kemler No.) : 90
Orange plates :

<table>
<thead>
<tr>
<th>Tunnel restriction code (ADR)</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAC code</td>
<td>2Z</td>
</tr>
</tbody>
</table>

14.6.2. 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
MFAG-No : 171

14.6.3. 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
ERG code (IATA) : 9L

14.6.4. Inland waterway transport

Not applicable
14.6.5. Rail transport
Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

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

Indication of changes:
This sheet was updated (refer to the date at the top of this page). SDS changed section(s) : 1.

Data sources : Joint Research Center (JRC), IUCLID (International Uniform Chemical Information Data Base). Environmental and toxicological data base from INERIS. HSDB (Hazardous Substances Data Bank). ECHA - European Chemical Agency.

Other information : This product must not be used for other applications that mentioned in §1. Safety data sheet established by : LISAM SERVICES - TELEGIS 17, Rue de la Couture F-60400 PASSEL Safety Made Easy with www.lisam.com.

Full text of R-, H- and EUH-phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
<tr>
<td>R22</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>R50/53</td>
<td>Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>N</td>
<td>Dangerous for the environment</td>
</tr>
<tr>
<td>Xn</td>
<td>Harmful</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.