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

1.1. Product identifier

Product form : Substance
Name : Manganese Gluconate Dihydrate
EC-No. : 229-350-4
CAS-No. : 6485-39-8
Formula : MnC\textsubscript{12}H\textsubscript{22}O\textsubscript{14}

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 : Nutrient; Dietary Supplement

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
sdg@jostchemical.com - 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

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]

Eye Irrit. 2 H319

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

Adverse physicochemical, human health and environmental effects
Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning
Hazard statements (CLP) : H319 - Causes serious eye irritation.
Manganese Gluconate Dihydrate
Safety Data Sheet
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. P280 - Wear eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
Other hazards not contributing to the classification : None to our knowledge.
PBT: not yet assessed
vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono-constituent</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese Gluconate Dihydrate</td>
<td>(CAS-No.) 6485-39-8 (EC-No.) 229-350-4</td>
<td>100</td>
<td>Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

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 after inhalation : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact : Rinse with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult an eye specialist.
First-aid measures after ingestion : Rinse mouth out with water. Get medical advice and attention if you feel unwell.

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

Symptoms/effects after eye contact : Eye irritation.

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

Hazardous decomposition products in case of fire : During combustion : Toxic vapours are released.

5.3. Advice for firefighters

Firefighting instructions : Contain the extinguishing fluids by bunding. Use water spray or fog for cooling exposed containers.
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. Do not breathe dust. Avoid contact with eyes.

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.

6.3. Methods and material for containment and cleaning up
For containment: Sweep up or vacuum up the product. Collect up the product and place it in a spare container suitably labelled.
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: Ensure good ventilation of the work station. Avoid contact with eyes. Wear personal protective equipment.
Hygiene measures: Do not drink, eat or smoke in the workplace. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Does not require any specific or particular technical measures.
Storage conditions: Store in a clean, dry warehouse in the original unopened containers. Store in a well-ventilated place. Keep cool.
Incompatible products: Strong oxidizing agents.

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.
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 glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
If dust are formed: Gas mask with filter type P2/FFP2

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Pale pink powder. Granular powder.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>481.27 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Pink</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Decomposes before melting</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 12 %</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Non oxidizing material according to EC criteria.</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None to our knowledge.

10.5. Incompatible materials
Strong oxidizing agents.

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

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified (Conclusive but not sufficient for classification)</td>
</tr>
<tr>
<td>Additional information</td>
<td>Based on animal experimentation, it is proved that product has shown teratogenic effects</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Additional information</td>
<td>Dust from this product may cause irritation to the respiratory tract</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified (Not applicable)</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - general</td>
<td>No information available, however this product is not considered to present any particular risk for the aquatic environment.</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, short-term (acute)</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, long-term (chronic)</td>
<td>Not classified (Lack of data)</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

Manganese Gluconate Dihydrate (6485-39-8)

PBT: not yet assessed
vPvB: not yet assessed

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.

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

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Dangerous for the environment : No</td>
<td>Dangerous for the environment : No</td>
</tr>
<tr>
<td></td>
<td>Marine pollutant : No</td>
<td></td>
</tr>
</tbody>
</table>

Not applicable.

14.6. Special precautions for user

Overland transport
No data available

Transport by sea
No data available

Air transport
No data available

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
Manganese Gluconate Dihydrate is not on the REACH Candidate List
Manganese Gluconate Dihydrate
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Manganese Gluconate Dihydrate is not on the REACH Annex XIV List

15.1.2. National regulations
Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the Canadian DSL (Domestic Substances List)

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). This sheet has been revised completely (changes were not marked).

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

Full text of H- and EUH-statements:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</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.