SECTION 1: Identification

1.1. Identification
Product form: Substance
Substance name: Ferrous Lactate Dihydrate
CAS-No.: 5905-52-2
Formula: Fe(CH₂CH(OH)COO)₂ • 2H₂O

1.2. Recommended use and restrictions on use
Use of the substance/mixture: Nutrient; Dietary Supplement

1.3. Supplier
Manufacturer
Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.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: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Not classified

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
No labeling applicable

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Lactate Dihydrate (Main constituent)</td>
<td>(CAS-No.) 5905-52-2</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
Ferrous Lactate Dihydrate
Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First aid measures after inhalation:
- Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Call a poison center/doctor/physician if you feel unwell.

First aid measures after skin contact:
- Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First aid measures after eye contact:
- Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First aid measures after ingestion:

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms:
- Harmful if swallowed. Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.

Symptoms/effects after inhalation:
- AFTER INHALATION OF DUST: Irritation of the nasal mucous membranes. Irritation of the respiratory tract. May cause respiratory irritation.

Symptoms/effects after skin contact:
- Tingling/irritation of the skin. Irritation.

Symptoms/effects after eye contact:
- Irritation of the eye tissue. Eye irritation.

Symptoms/effects after ingestion:
- No effects known.

Chronic symptoms:
- No effects known.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:

Unsuitable extinguishing media:
- Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Specific hazards arising from the chemical

Fire hazard:
- DIRECT FIRE HAZARD: Most organic solids may burn if strongly heated.

Explosion hazard:
- DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard.
- INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Reactivity:
- Thermal decomposition generates toxic vapors. Carbon oxides (CO, CO2).

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire:
- Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighborhood close doors and windows.

Firefighting instructions:
- No specific fire-fighting instructions required.

Protection during firefighting:
- Heat/fire exposure: compressed air/oxygen apparatus. 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:

Emergency procedures:
- Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. Wash contaminated clothes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Measures in case of dust release:
- In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows.

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: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Mechanically recover the product. Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
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.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Hygiene measures: Observe normal hygiene standards. Keep container tightly closed. Wash contaminated clothing before reuse. 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: Comply with applicable regulations. Does not require any specific or particular technical measures.
Storage conditions: Store in a clean, dry warehouse in the original unopened containers. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Storage area: Keep container in a well-ventilated place. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment
Personal protective equipment:

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

Hand protection:
Gloves

Eye protection:
Face shield. In case of dust production: protective goggles. Safety glasses

Skin and body protection:
Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

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

**Personal protective equipment symbol(s):**

### 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>Fine, greenish-white granular.</td>
</tr>
<tr>
<td>Color</td>
<td>light green white</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable (solid)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>269.99 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: ≈ 2 %</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 200 °C</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>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

VOC content: 0 %

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
Thermal decomposition generates toxic vapors. Carbon oxides (CO, CO2).

#### 10.2. Chemical stability
Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions
None under normal conditions.

#### 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
On thermal decomposition (pyrolysis), releases: Carbon oxides (CO, CO2). Iron oxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity (oral)</th>
<th>Not classified (Lack of data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</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 (Lack of data)</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified (Not applicable)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Likely routes of exposure</td>
<td>Inhalation. Skin and eye contact.</td>
</tr>
</tbody>
</table>

Potential Adverse human health effects and symptoms:
- Harmful if swallowed. Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
- AFTER INHALATION OF DUST: Irritation of the nasal mucous membranes. Irritation of the respiratory tract. May cause respiratory irritation.
- Tingling/irritation of the skin. Irritation.
- Irritation of the eye tissue. Eye irritation.
- No effects known.

Chronic symptoms:
No effects known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general:
Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air:
Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water:
No data available on ecotoxicity.

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Ferrous Lactate Dihydrate (5905-52-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ferrous Lactate Dihydrate (5905-52-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Ferrous Lactate Dihydrate (5905-52-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects
No additional information available.
### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

**Regional legislation (waste):** LWCA (the Netherlands): KGA category 05.

**Waste treatment methods:** Dispose of contents/container in accordance with licensed collector’s sorting instructions.

**Product/Packaging disposal recommendations:** Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized plant for the destruction, neutralization and elimination of hazardous waste.


### SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

- Not regulated

**Transportation of Dangerous Goods**

- Proper Shipping Name (Transportation of Dangerous Goods): Not regulated for transport

**Transport by sea**

- Proper Shipping Name (IMDG): Not regulated for transport

**Air transport**

- Proper Shipping Name (IATA): Not regulated for transport

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

<table>
<thead>
<tr>
<th>Ferrous Lactate Dihydrate</th>
<th>CAS-No. 5905-52-2</th>
<th>100%</th>
</tr>
</thead>
</table>

#### 15.2. International regulations

**CANADA**

- Ferrous Lactate Dihydrate (5905-52-2)
  - Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

No additional information available

**National regulations**

- Ferrous Lactate Dihydrate (5905-52-2)
  - Listed on NZIoC (New Zealand Inventory of Chemicals)
  - Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

07/03/2018 EN (English US)
SECTION 16: Other information

Revision date : 06/11/2018

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (HazCom 2012)

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.