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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>MICROENCAPSULATED FERROUS FUMARATE</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-stuff 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
BELGIOUE
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 818 7QH Birmingham</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</td>
</tr>
<tr>
<td></td>
<td>(Birmingham Centre)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>City Hospital</td>
<td></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]
Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

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 practice. Presents no particular risk to the environment, provided the disposal requirements (see section 13) and national or local regulations are complied with. Not classified as flammable according to EC criteria, but may present a risk in the event of a fire. According to EC regulations, this product is not classified as a "hazardous mixture".

2.2. Label elements

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

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable
3.2. Mixture

**Description:** Mixture based on: Iron fumarate

<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>Iron fumarate</td>
<td>(CAS No) 141-01-5 (EC no) 205-447-7</td>
<td>50 - 70</td>
<td>Not classified</td>
</tr>
<tr>
<td>Glycerides, C14-18 and C16-18-unsaturated mono- and di-</td>
<td>(CAS No) 67701-32-0 (EC no) 266-951-0</td>
<td>25 - 50</td>
<td>Not classified</td>
</tr>
</tbody>
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</tr>
</tbody>
</table>

Full text of R- and H-phrases: see section 16

**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 you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with soapy water. If case of redness or irritation, call a doctor.

First-aid measures after eye contact: Rinse with water while holding the eyes wide open. Consult an eye specialist if necessary.

First-aid measures after ingestion: Never attempt to induce vomiting. Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries: In case of repeated or prolonged exposure: Irritation to eyes and skin, irritation to throat and respiratory system.

Symptoms/injuries after skin contact: May cause skin irritation.

Symptoms/injuries after eye contact: May cause eye irritation.

Symptoms/injuries after ingestion: May cause irritation to the digestive tract. May induce a mild laxative effect.

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: All extinguishing agents can be used.

5.2. Special hazards arising from the substance or mixture

Fire hazard: During combustion: Toxic vapours may be released.

5.3. Advice for firefighters

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: Ventilate spillage area.

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.

6.3. Methods and material for containment and cleaning up

For containment: Sweep up or vacuum up the product. Avoid creating or spreading dust.

Methods for cleaning up: 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. Protect from light.

## 7.3. Specific end use(s)

No 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.

**Skin and body protection**: Protective clothing.

**Respiratory protection**: In case of dust formation use respirator with filter: P1.

# SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

- **Physical state**: Solid
- **Appearance**: Crystalline powder.
- **Colour**: White.
- **Odour**: Characteristic.
- **Odour threshold**: No data available.
- **pH**: No data available.
- **Relative evaporation rate (butyl acetate=1)**: No data available.
- **Melting point**: 55 - 60 °C.
- **Freezing point**: Not applicable.
- **Boiling point**: Not applicable.
- **Flash point**: Not applicable.
- **Auto-ignition temperature**: Not combustible.
- **Decomposition temperature**: No data available.
- **Flammability (solid, gas)**: No data available.
- **Vapour pressure**: Not applicable.
- **Relative vapour density at 20 °C**: No data available.
- **Relative density**: No data available.
- **Solubility**: Water: Insoluble.
- **Log Pow**: Not applicable.
- **Viscosity, kinematic**: No data available.
- **Viscosity, dynamic**: No data available.
- **Explosive properties**: No data available.
- **Oxidising properties**: Non oxidizing material according to EC criteria.
- **Explosive limits**: Not applicable.

## 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
High temperature. Open flame.

10.5. Incompatible materials
None to our knowledge.

10.6. Hazardous decomposition products
On thermal decomposition (pyrolysis), releases: Carbon oxides (CO, CO2), Metallic oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Iron fumarate (141-01-5)
LD50 oral rat : 3850 mg/kg
Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
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 (Not applicable)

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : No information available, however this product is not considered to present any particular risk for the aquatic environment.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
MICROENCAPSULATED FERROUS FUMARATE
Log Pow : Not applicable
Bioaccumulative potential : No data 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 : 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
14.1. **UN number**
Not regulated for transport

14.2. **UN proper shipping name**
Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. **Transport hazard class(es)**

**ADR**
Transport hazard class(es) (ADR) : Not applicable

**IMDG**
Transport hazard class(es) (IMDG) : Not applicable

**IATA**
Transport hazard class(es) (IATA) : Not applicable

14.4. **Packing group**

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. **Environmental hazards**

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. **Special precautions for user**

14.6.1. Overland transport

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

14.6.5. Rail transport

14.6.6. **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**
Contains no substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

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) : 1-9-11-12-15.

Data sources : TOXNET (Toxicology Data Network) (United States National Library of Medicine).
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