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

1.1. Product identifier

Product form: Substance
Trade name: Zinc Lactate Dihydrate
Chemical name: Zinc Lactate Dihydrate
CAS No: 536709-46-3
Product code: 2963, 2964, 2966 & 2977
Formula: Zn(C₆H₁₀O₆)·2H₂O

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

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

Emergency number: CHEMTREC 800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Acute Tox. 4 (Oral) H302
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US): !

Signal word (GHS-US): Warning
Hazard statements (GHS-US): H302 - Harmful if swallowed
Precautionary statements (GHS-US):
P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P301+P312 - If swallowed: Call a doctor if you feel unwell
P330 - Rinse mouth
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

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc Lactate Dihydrate</td>
<td>(CAS No) 536709-46-3</td>
<td>100</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable
### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<table>
<thead>
<tr>
<th>First-aid measures after inhalation</th>
<th>Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Respiratory problems: consult a doctor/medical service.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-aid measures after skin contact</td>
<td>Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td>First-aid measures after eye contact</td>
<td>Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Obtain medical attention if pain, blinking or redness persist.</td>
</tr>
<tr>
<td>First-aid measures after ingestion</td>
<td>Rinse mouth with water. If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink. If you feel unwell, seek medical advice. Rinse mouth.</td>
</tr>
</tbody>
</table>

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

No additional information available

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Adapt extinguishing media to the environment.</th>
</tr>
</thead>
</table>

#### 5.2. Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Fire hazard</th>
<th>Combustible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>To our knowledge, the product does not present any particular risk, under normal conditions of use.</td>
</tr>
</tbody>
</table>

#### 5.3. Advice for firefighters

<table>
<thead>
<tr>
<th>Firefighting instructions</th>
<th>Contain the extinguishing fluids by bunding (the product is hazardous for the environment).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection during firefighting</td>
<td>Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.</td>
</tr>
</tbody>
</table>

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th>Ventilate spillage area. Avoid contact with skin and eyes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For emergency responders</td>
<td>Do not attempt to take action without suitable protective equipment.</td>
</tr>
</tbody>
</table>

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

<table>
<thead>
<tr>
<th>For containment</th>
<th>Sweep up or vacuum up the product. Collect all waste in suitable and labeled containers and dispose according to local legislation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for cleaning up</td>
<td>Carefully collect the spill/leftovers. Dispose of contaminated materials in accordance with current regulations.</td>
</tr>
</tbody>
</table>

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

<table>
<thead>
<tr>
<th>Precautions for safe handling</th>
<th>Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid the formation or spread of dust in the atmosphere.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene measures</td>
<td>Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.</td>
</tr>
</tbody>
</table>

#### 7.2. Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Technical measures</th>
<th>Ensure that there is a suitable ventilation system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage conditions</td>
<td>Keep container tightly closed and dry. Store in a cool, well-ventilated place.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Strong oxidizing agents.</td>
</tr>
</tbody>
</table>
Zinc Lactate Dihydrate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Zinc Lactate Dihydrate (536709-46-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>OSHA</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Ensure good ventilation of the work station. Eye fountain.

Personal protective equipment:
- Hand protection: nitrile rubber gloves.
- Eye protection: safety glasses with side-shields.
- 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.
- Color: White
- Odor: Odourless.
- Odor threshold: No data available
- pH: No data available
- Melting point: > 200 °C
- Freezing point: No data available
- Boiling point: No data available
- Flash point: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Flammability (solid, gas): No data available
- Explosion limits: No data available
- Explosive properties: No data available
- Oxidizing properties: No data available
- Vapor pressure: No data available
- Relative density: No data available
- Relative vapor density at 20 °C: No data available
- Specific gravity / density: 1.65 g/cm³
- Molecular mass: 279.53 g/mol
- Solubility: Water: 55 g/l
- Log Pow: No data available
- Log Kow: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: No data available
- Viscosity: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
Zinc Lactate Dihydrate
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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
None under normal conditions.

10.4. Conditions to avoid
None to our knowledge.

10.5. Incompatible materials
Strong oxidizing agents.

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Harmful if swallowed.

<table>
<thead>
<tr>
<th>Zinc Lactate Dihydrate (536709-46-3)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>500 - 2000 mg/kg OECD 401</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg Lactic Acid (EPA OPP 81-2)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 7.94 mg/l/4h OECD 403</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>500.000 mg/kg body weight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Zinc Lactate Dihydrate (536709-46-3)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>100 mg/l Brachydanio rerio OECD 201</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>8.9 mg/l Daphnia magna OECD 202</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>1.2 mg/l Selenastrum capricornutum OECD 201</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

06/08/2015 EN (English US) 4/6
12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

Additional information
Other information : Dangerous for the environment.

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Zinc Lactate Dihydrate (536709-46-3)
SARA Section 313 - Emission Reporting 23.75 % Report under Zinc Compounds N982
This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Zinc Lactate Dihydrate (536709-46-3)
SARA Section 313 - Emission Reporting 23.75 % Report under Zinc Compounds N982

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

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

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

Indication of changes : Initial SDS.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Full text</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H302</td>
<td></td>
</tr>
</tbody>
</table>
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NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard: 1 - Must be preheated before ignition can occur.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIb)
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.

Personal Protection: E
E - Safety glasses, Gloves, Dust respirator

SDS US Custom (-ADR)

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.