SECTION 1: Identification

1.1. Identification
Product form : Substance
Trade name : Zinc Gluconate
CAS No : 4468-02-4
Product code : 2956, 2957, 2958, 2959, 2960, 2962, 2967, 2968, 2969 & 2974
Formula : C12H22ZnO14
Other means of identification : Bis (D-gluconato-O1,O2) zinc

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Food Additives in Nutrients
Food industry: supplement

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
justin.kuehnel@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number
Emergency number : CHEMTREC 800-424-9300

SECTION 2: Hazard(s) identification

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

2.2. Label elements
GHS-US labeling
No labeling applicable

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
Substance type : Mono-constituent
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
First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air.
First-aid measures after skin contact : Immediately remove contaminated clothing or footwear. Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Consult an ophthalmologist if irritation persists. Immediately rinse with water for a prolonged period while holding the eyelids wide open.
First-aid measures after ingestion : Drink plenty of water. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries after inhalation : 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: Combustible.

5.3. Advice for firefighters
Firefighting instructions: Contain the extinguishing fluids by bunding.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. 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
Protective equipment: Gloves. Protective clothing. See "Material-Handling" to select protective clothing.
Emergency procedures: Avoid contact with skin and eyes.

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up
For containment: Collect all waste in suitable and labeled containers and dispose according to local legislation.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Use personal protective equipment as required. Provide local exhaust or general room ventilation. Observe normal hygiene standards. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not discharge the waste into the drain. Avoid contact with skin and eyes.
Hygiene measures: Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations. 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. Protect from moisture. Store in a well-ventilated place. Keep cool.
Packaging materials: plastics. polyethylene.

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

Materials for protective clothing: Wear suitable protective clothing, gloves and eye/face protection.
Hand protection: Impermeable protective gloves.
Eye protection: Chemical goggles or safety glasses.
Respiratory protection: Dust production: dust mask with filter type P1.

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 white powder</td>
</tr>
<tr>
<td>Color</td>
<td>White Off-white</td>
</tr>
<tr>
<td>Odor</td>
<td>slight Sweet</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>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
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<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
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<tr>
<td>Relative vapor density at 20 °C</td>
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</tr>
<tr>
<td>Molecular mass</td>
<td>455.685 g/mol</td>
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<tr>
<td>Solubility</td>
<td>Moderately soluble in water</td>
</tr>
<tr>
<td>Log Pow</td>
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</tr>
<tr>
<td>Auto-ignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity


10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified
   (Based on available data, the classification criteria are not met)

Skin corrosion/irritation : Not classified
   (Lack of data)

Serious eye damage/irritation : Not classified
   (Lack of data)

Respiratory or skin sensitization : Not classified
   (Lack of data)

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)

Symptoms/injuries after inhalation : Metal fume fever.


SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : Toxic to aquatic life.

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. 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 disposal recommendations : 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

TDG
No additional information available

Transport by sea
UN-No. (IMDG) : 3077
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class (IMDG) : 9 - Miscellaneous dangerous compounds
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Packing group (IMDG) : III - substances presenting low danger

Air transport
UN-No. (IATA) : 3077
Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger

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
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.

15.2. International regulations
CANADA
Zinc Gluconate (4468-02-4)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
Zinc Gluconate (4468-02-4)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemicals Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on INCS (Mexican national Inventory of Chemical Substances)

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

SECTION 16: Other information

Indication of changes : This sheet was updated (refer to the date at the top of this page).
Revision date : 10/28/2015

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 IIB)
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 (GHS 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