SAFETY DATA SHEET

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

1.1. Product identifier
   Zinc Picolinate
   Chemical Abstracts Registry No: 17949-65-4

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Pharmaceutical Component
   Nutritional Supplement

1.3. Details of the supplier of the safety data sheet
   Vertellus LLC
   201 North Illinois Street, Suite 1800
   Indianapolis, Indiana 46204 USA
   1-800-223-0453
   e-mail Address: sds@vertellus.com

1.4. Emergency telephone number
   Vertellus: 1-800-223-0453
   CHEMTREC (USA): +1-800-424-9300 (collect calls accepted)
   CHEMTREC (International): +1-703-527-3887 (collect calls accepted)
   NRCC (China): +86 25 85477110

SECTION 2: Hazards identification

   Not classified as hazardous under this directive.

2.2. Label elements
   Signal Word: Not required.
   Hazard Precautions: Not classified as hazardous under this directive.
   Prevention Precautionary Statements: Note: These precautionary statements are not prescribed by directive 1272/2008 as this product is not classified as hazardous under this directive. Wash hands thoroughly after handling with soap and water. Wear protective gloves, protective clothing, eye protection and face protection. If swallowed, in eyes, on skin or inhaled call a poison center or doctor/physician if you feel unwell. If inhaled, remove victim to fresh air and keep at rest in a comfortable position for breathing. Take off contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed.
   First Aid Precautionary Statements: Not required.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures
   Ingredient | CAS Number | Concentration (weight %) | EC Number | CLP Inventory/Annex VI | EU CLP Classification (1272/2008)
---

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NOTE: See Section 8 for exposure limit data for these ingredients.  See Section 15 for trade secret information (where applicable).

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

Eye Contact: Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. Get medical attention if irritation or other symptoms exist.

Inhalation: Remove from exposure. If not breathing, give artificial respiration and call a physician.

Ingestion: If swallowed, do not induce vomiting. Get prompt medical attention. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Acute: Not expected to be irritating to skin or eyes. Not toxic by oral, dermal or inhalation routes. Not a sensitizer.

Delayed Effects: None known.

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

Note to Physician: No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Water spray, water fog, alcohol-resistant foam, carbon dioxide, dry chemical.

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: Combustion will produce carbon monoxide, carbon dioxide and oxides of nitrogen.

Potential for Dust Explosion: No data available -- handle in a manner that prevents generation of potentially explosive dust.

Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: Wear self-contained breathing apparatus and full protective clothing (i.e., Bunker gear). Skin and eye contact should be avoided. Normal fire fighting procedures may be used.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Evacuation Procedures:  Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions:  See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers and waterways.

6.3. Methods and material for containment and cleaning up

Wear protective equipment during clean-up. Remove all ignition sources. Ventilate the area of spill or leak. Isolate the spill area, preventing entry by unauthorized persons. Carefully scoop up and place into appropriate disposal container. After collection of material, flush area with water. Dispose of contents & container in accordance with local, regional, national or international regulations.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards:  Not applicable.

Practices to Minimize Risk:  Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds.

Special Handling Equipment:  Avoid contact with eyes and skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations:  Keep away from heat, sparks, and flame. Keep container closed when not in use. Keep away from strong oxidizing agents.

Dangerous Incompatibility Reactions:  Oxidizing Agents

Incompatibilities with Materials of Construction:  None known

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Country</th>
<th>Occupational Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada - Quebec, Singapore, S. Korea</td>
<td>10 mg/m³ as an 8-hour time-weighted average</td>
</tr>
<tr>
<td>Belgium, New Zealand</td>
<td>10 mg/cubic meter (inhalable); 3 mg/cubic meter (respirable fraction)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>US OSHA</th>
<th>15 mg/cubic meter (total dust); 5 mg/cubic meter (respirable fraction)</th>
</tr>
</thead>
</table>

Air Monitoring Method: Gravimetric analysis for total particulate and respirable fraction (<10 microns).

8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Other Engineering Controls: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Personal Protective Equipment: Wear impervious gloves (i.e., latex rubber), boots, work uniform and safety glasses. Where overexposures are a concern, use NIOSH-approved dust/mist respirator as necessary.


Thermal Hazards: Not applicable.

Environmental Exposure Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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>Appearance, State &amp; Odor (ambient temperature)</td>
<td>White to off-white powder</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.00083625 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Specific Gravity or Density</td>
<td>0.5-0.6 g/mL</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point and Method</td>
<td>267.2°F (130.7°C) TCC</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density (air = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing / Melting Point</td>
<td>446 - 473 °F</td>
</tr>
<tr>
<td>Octanol / Water Coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not an oxidizer.</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Not classified as dangerously reactive.

10.2. Chemical stability

Stable
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10.3. Possibility of hazardous reactions
Polymerization is not expected to occur

10.4. Conditions to avoid
There are no known unusual fire or explosion hazards associated with this material.

10.5. Incompatible materials
Oxidizing Agents

10.6. Hazardous decomposition products
Products of incomplete combustion may include carbon monoxide, carbon dioxide, nitrogen oxides, and dense smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute Oral LD₅₀: (rat) 3731 mg/kg  Picolinic acid
Acute Dermal LD₅₀: No data available.
Acute Inhalation LC₅₀: No data available.
Skin Irritation: Non-irritating to skin.
Eye Irritation: Non-irritating to eyes.
Skin Sensitization: Not a sensitizer
Mutagenicity: Picolinic acid was negative in Ames mutagenesis assay.
Reproductive / Developmental Toxicity: No evidence of reproductive effects Limited data availability; no evidence
Carcinogenicity: No evidence of carcinogenic effects
Target Organs: None known
Aspiration Hazard: Based on physical properties, not likely to be an aspiration hazard.
Primary Route(s) of Exposure: Skin contact and absorption, eye contact, and inhalation. Ingestion is not likely to be a primary route of exposure.
Most important symptoms and effects, both acute and delayed
Not expected to be irritating to skin or eyes. Not toxic by oral, dermal or inhalation routes. Not a sensitizer. Delayed Effects: None known.
Additive or Synergistic effects: None known.

SECTION 12: Ecological information

12.1. Toxicity
No data available.

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
No data available

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12.6. Other adverse effects
No data available. No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
US EPA Waste Number: Non-Hazardous
Waste Classification: (per US regulations)
The waste may be classified as "special" or hazardous per State regulations.
Waste Disposal: NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:

14.1. UN number
Non-hazardous
14.2. UN proper shipping name
Chemicals, n.o.s. (Zinc Picolinate)
14.3. Transport hazard class(es)
Not applicable
14.4. Packing group
Not applicable
14.5. Environmental hazards
Not applicable
14.6. Special precautions for user
Not applicable

NA Emergency Guidebook Numbers:
Not applicable
IMDG EMS:
Not applicable; Not applicable
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Inventory Lists:

USA TSCA: Not Listed
Canada(DSL/NDSL): Not Listed
Korea: Not Listed
China: Not Listed
Taiwan: Not Listed
German Water Hazard Classification: Not listed
SARA 313: Not listed.

EU EINECS: Listed (605-860-6)
Japan: Not Listed
Australia: Not Listed
Philippines: Not Listed
New Zealand: Listed

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15.2. Chemical safety assessment
Not applicable.

SECTION 16: Other information

Classification Method: Bridging principle - similar substance
Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EINECS = European Inventory of Existing Commercial Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal Concentration.
LD = Lethal Dose.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicology Program.
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit.
RQ = Reportable Quantity.
TLV = Threshold Limit Value.
WHMIS = Workplace Hazardous Materials Information System.

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Revision Date: 10 Aug 2015
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Email: SDS@Vertellus.com
Revision Details: Updated sections for GHS format

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