1. Identification

Product Name  
L-Ascorbic acid

Cat No. :  

Synonyms  
Vitamin C; 3-Keto-L-glucofuranolactone; Ascorbic acid

Recommended Use  
Laboratory chemicals

Uses advised against  
No Information available

2. Hazard(s) identification

Classification  

Label Elements  
None required

Hazards not otherwise classified (HNOC)  
Sensitivity to light

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L-Ascorbic acid</td>
<td>50-81-7</td>
<td>99</td>
</tr>
</tbody>
</table>
4. First-aid measures

Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact  Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation  Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion  Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects  No information available

Notes to Physician  Treat symptomatically.

5. Fire-fighting measures

Unsuitable Extinguishing Media  No information available.

Flash Point  No information available.
Method -  No information available

Autoignition Temperature  660°C

Explosion Limits
Upper  No data available
Lower  No data available

Sensitivity to Mechanical Impact
Sensitivity to Static Discharge  No information available

Specific Hazards Arising from the Chemical  Keep product and empty container away from heat and sources of ignition

Hazardous Combustion Products  None known

Protective Equipment and Precautions for Firefighters  As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions  Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions  Should not be released into the environment

Methods for Containment and Clean Up  Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling  Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation.
Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from light. Store under an inert atmosphere.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

9. 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>Light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>(5 % Solution)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>190°C</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Relative Density</td>
<td>1.65</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>660°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C6H8O6</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>176.13</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactive Hazard

None known, based on information available.

Stability

Stable under normal conditions. Air sensitive. Light sensitive.

Conditions to Avoid

Incompatible products
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: None under normal use conditions.
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

11. Toxicological information

Acute Toxicity

<table>
<thead>
<tr>
<th>Component Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
</tr>
<tr>
<td>L-Ascorbic acid</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation: No information available.
Sensitization: No information available.
Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Ascorbic acid</td>
<td>50-81-7</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects: No information available.
Reproductive Effects: No information available.
Developmental Effects: No information available.
Teratogenicity: No information available.
STOT - single exposure: None known.
STOT - repeated exposure: None known.
Aspiration hazard: No information available.
Symptoms / effects, both acute and delayed: No information available.
Endocrine Disruptor Information: No information available
Other Adverse Effects: The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

Persistence and Degradability: No information available.
Bioaccumulation/ Accumulation: No information available.
### 13. Disposal considerations

#### Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

- **DOT**: Not regulated
- **TDG**: Not regulated
- **IATA**: Not regulated
- **IMDG/IMO**: Not regulated

### 15. Regulatory information

#### International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Ascorbic acid</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-066-2</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

#### U.S. Federal Regulations

- **TSCA 12(b)**: Not applicable
- **SARA 313**: Not applicable

#### SARA 311/312 Hazardous Categorization

- **Acute Health Hazard**: No
- **Chronic Health Hazard**: No
- **Fire Hazard**: No
- **Sudden Release of Pressure Hazard**: No
- **Reactive Hazard**: No

#### Clean Water Act

Not applicable

#### Clean Air Act

Not applicable
OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
Not Applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know
Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Non-controlled

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
23-Sep-2009

Revision Date
10-Apr-2014

Print Date
10-Apr-2014

Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS