

## SAFETY DATA SHEET

Preparation Date: 01/29/2015

Revision Date: 8/17/2018

Revision Number: G3

### 1. IDENTIFICATION

#### Product identifier

**Product code:** AS102  
**Product Name:** ASCORBIC ACID, GRANULAR, USP

#### Other means of identification

**Synonyms:** 3-Keto-L-gulofuranolactone;  
3-Oxo-L-gulofuranolactone;  
Vitamin C  
Ácido ascórbico (Spanish)  
Acide ascorbique (French)

**CAS #:** 50-81-7  
**RTECS #** CI7650000  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** Antioxidant. Dietary supplement.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300

**Contact Person:** Martin LaBenz (West Coast)

**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is not considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Label elements

Not classified

#### Hazards not otherwise classified (HNOC)

Not Applicable

#### Other hazards

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Not available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Ascorbic Acid	50-81-7	100

### 4. FIRST AID MEASURES

#### First aid measures

<b>General Advice:</b>	National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
<b>Eye Contact:</b>	Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
<b>Inhalation:</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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

<b>Symptoms</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea May cause eye/skin irritation
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#### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician:</b>	Treat symptomatically.
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#### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

#### Specific hazards arising from the chemical

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide.

**Specific hazards:** May be combustible at high temperatures.

#### Special Protective Actions for Firefighters

**Specific Methods:** No information available.

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

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Sensitive to light. Store in light-resistant containers. Air sensitive. Oxygen sensitive.

**Incompatible Materials:**

Oxidizing agents

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Ascorbic Acid	50-81-7	None	None	None	None

**Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Ascorbic Acid	50-81-7	None	None	None	None

### Australia and Mexico

Components	CAS-No.	Australia	Mexico
Ascorbic Acid	50-81-7	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Safety glasses with side-shields or Goggles
- Skin and body protection:** Chemical resistant apron  
Long sleeved clothing  
Gloves
- Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid	<b>Appearance:</b> Crystals. Crystalline powder. Powder. Granular.	<b>Color:</b> White. Slightly yellow.
<b>Odor:</b> Odorless.	<b>Taste</b> Acid. Sharp. Pleasant.	<b>Formula:</b> C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>
<b>Molecular/Formula weight (g/mole):</b> 176.13	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> 660°C/1220°F	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 190.0°-192.0°C/374.0°-377.6°F (some decomposition)	<b>Decomposition temperature(°C/°F):</b> 190.0°-192.0°C/374.0°-377.6°F
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> 1.65 @ 25 deg. C

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**Specific gravity:**  
1.65

**pH:**  
No information available

**Vapor pressure @ 20°C (kPa):**  
No information available

**Evaporation rate:**  
No information available

**Vapor density:**  
No information available

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
-1.64  
-1.85  
-2.15

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Insoluble in diethyl ether  
Insoluble in Chloroform  
Insoluble in Benzene  
Insoluble in Petroleum ether  
Insoluble in oils  
Insoluble in fats  
Solubility in Alcohol: 2 g/mL @ 20°C  
Solubility in Absolute Alcohol: 1g/50ml  
Solubility in Glycerol: 1g/2.5ml  
Solubility in Propylene Glycol: 1g/20mL  
Soluble in Water  
Solubility in Water: 1g/3ml, 80% @  
100°C; 45% @ 45°C

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

**Stability:** Sensitive to air. Sensitive to light. Exposure to light accelerates decomposition. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Avoid dust formation. Incompatible materials. Exposure to light. Exposure to air.

**Incompatible Materials:** Oxidizing agents

**Hazardous decomposition products:** Carbon oxides.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**

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Ingestion. Inhalation.

## **Acute Toxicity**

### **Component Information**

Ascorbic Acid	
CAS-No.	50-81-7

**LD50/oral/rat** = 11900 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 3367 mg/kg  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 643 mg/kg, intraperitoneal, mouse;  
518 mg/kg, intravenous, mouse;  
>10 g/kg, subcutaneous, rat

### **Product Information**

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = 11900 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 3367 mg/kg

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**  
**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

### **Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause irritation of respiratory tract.

**Ingestion** Ingestion of small amounts during normal industrial handling is a low hazard. Ingestion of large amounts may cause flushing of face, gastrointestinal tract irritation, abdominal cramps, heartburn, nausea, vomiting, hypermotility, diarrhea, acidosis, acidification of the urine which may cause kidney stones in the urinary tract and may cause renal failure . May also affect behavior (decreased reaction time and psychomotor coordination, somnolence, headache, fatigue, disturbed sleep, muscle contraction or spasticity), liver.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** Prolonged or repeated ingestion of high amounts may cause gastrointestinal tract irritation, abdominal cramps, heartburn, nausea, vomiting, hypermotility, diarrhea. It may also affect the liver, urinary system (formation of kidney stones due to acidification of the urine, acute renal failure), blood (changes in serum composition, changes in red blood cell count).

**Sensitization:** No information available.

**Mutagenic Effects:** Mutations in microorganisms  
Experiments with bacteria and/or yeast have shown mutagenic effects  
Cytogenic analysis - hamster ovary  
Sister Chromatid Exchange - Hamster ovary

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ascorbic Acid	50-81-7	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** In animal studies, high doses of Ascorbic acid showed no adult toxic or fetotoxic effects and was not teratogenic. Excessive intake of ascorbic acid during pregnancy has been associated in guinea pigs with increased catabolism (breakdown) of the vitamin. A human parallel to this observation was seen in 2 reported human cases of infantile scurvy. Ascorbic acid is passively transferred across the placenta. Ascorbic acid is excreted into human milk in varying amounts.

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** Kidneys. Blood.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ascorbic Acid	50-81-7	None	None	None	None

### 14. TRANSPORT INFORMATION

#### DOT

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Class:** No information available  
**Packing group:** No information available  
**Emergency Response Guide Number:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions:** No Information available  
**Symbol(s):** No information available  
**Description:** No information available

#### TDG (Canada)

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant:** No Information available  
**Description:** No information available

#### ADR

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available

#### IMO / IMDG

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available



Marine Pollutant No information available

**RID**

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available

**ICAO**

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available

**IATA**

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
ERG Code: No information available  
Special Provisions No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ascorbic Acid	50-81-7	PresentACTIV E	Present KE-01947	Present	Present (5)-62	Present [34899]	Present	Present 200-066-2

**U.S. Regulations**

*Ascorbic Acid*

**FDA - Food Additives Generally Recognized as Safe (GRAS):** 21 CFR 182.3013,21 CFR 182.8013

**FDA - 21 CFR - Total Food Additives** 101.14, 101.9, 107.100, 137.105, 137.200, 145.110, 145.115, 145.135, 145.170, 146.185, 146.187, 150.141, 150.161, 155.200, 155.201, 161.175, 172.280, 182.3013, 182.8013

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ascorbic Acid	50-81-7	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis

Ascorbic Acid	50-81-7	None	None	None	None	None
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## U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ascorbic Acid	50-81-7	Not Applicable	Not Applicable

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component  
Ascorbic Acid  
50-81-7 ( 100 )

WHMIS 2015 Hazard Classification  
Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

### WHMIS 1988 Hazard Class

Non-controlled

### Components

Ascorbic Acid

WHMIS 1988

Uncontrolled product according to WHMIS classification criteria

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

## Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Ascorbic Acid	50-81-7	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Ascorbic Acid	50-81-7	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ascorbic Acid	50-81-7	Not listed

## EU Classification

### EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Ascorbic Acid	50-81-7	No information

### EU - CLP (1272/2008)

### R-phrases

not determined (not applicable)

### S -phrases

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none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Ascorbic Acid	50-81-7		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

**Indication of danger:**

None.

**16. OTHER INFORMATION**

**Preparation Date:** 01/29/2015  
**Revision Date:** 8/17/2018  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**