# SAFETY DATA SHEET

**Preparation Date:** 6/26/15  
**Revision Date:** 5/9/2017  
**Revision Number:** G2

## 1. IDENTIFICATION

**Product code:** B1973  
**Product Name:** BISMUTH CITRATE, POWDER, USP

**Other means of identification**

- **Synonyms:** 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, bismuth (3+) salt (1:1)
- **CAS #:** 813-93-4  
- **RTECS #:** Not available  
- **Cl#:** Not available

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

- **Recommended use:** No information available.
- **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](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 by 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**

- **Not available**

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Product code:** B1973  
**Product name:** BISMUTH CITRATE, POWDER, USP
## Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
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</thead>
<tbody>
<tr>
<td>Bismuth Citrate</td>
<td>813-93-4</td>
<td>100</td>
</tr>
</tbody>
</table>

## 4. FIRST AID MEASURES

### First aid measures

#### General Advice:
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.

#### Skin Contact:
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.

#### Eye Contact:
Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

#### Inhalation:
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### Ingestion:
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

#### Symptoms:
May cause eye/skin irritation. Dark line in the gums may also be produced in cases of chronic Bismuth poisoning. Chronic exposure to large amounts of Bismuth and Bismuth salts/compounds may also cause Bismuth encephalopathy which is characterized by mental confusion, ataxia, myoclonus (myoclonic jerks), and dysarthria. It may affect the kidneys.

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

#### Notes to Physician:
Treat symptomatically.

### 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:
Dry powder. Carbon dioxide (CO2). Water spray mist or foam.

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

### Specific hazards arising from the chemical

#### Hazardous Combustion Products:
Carbon Dioxide, Carbon Monoxide. bismuth oxides.

#### 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.

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.

Incompatible Materials: Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<td>None</td>
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Canada

<table>
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<th>Canada - British Columbia</th>
<th>Canada - Ontario</th>
<th>Canada - Quebec</th>
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<tbody>
<tr>
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<td>813-93-4</td>
<td>None</td>
<td>None</td>
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</table>

Product code: B1973 Product name: BISMUTH CITRATE, POWDER, USP
### Australia and Mexico

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Australia</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Bismuth Citrate</td>
<td>813-93-4</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Appropriate engineering controls

**Engineering measures to reduce exposure:**

Ensure adequate ventilation, especially in confined areas. 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:** Goggles or Safety glasses with side-shields
- **Skin and body protection:** Long sleeved clothing, Chemical resistant apron, 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

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<thead>
<tr>
<th>Property</th>
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<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td><strong>Physical state:</strong></td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
<td>Crystalline powder.</td>
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<tr>
<td><strong>Color:</strong></td>
<td>White.</td>
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<tr>
<td><strong>Odor:</strong></td>
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<tr>
<td><strong>Taste:</strong></td>
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<tr>
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<td></td>
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<td><strong>Autoignition Temperature (°C/°F):</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Lower Explosion Limit (%):</strong></td>
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<td><strong>Upper Explosion Limit (%):</strong></td>
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<tr>
<td><strong>Melting point/range(°C/°F):</strong></td>
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<td><strong>Decomposition temperature(°C/°F):</strong></td>
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<tr>
<td><strong>Specific gravity:</strong></td>
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<td><strong>pH:</strong></td>
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<tr>
<td><strong>Vapor pressure @ 20°C (kPa):</strong></td>
<td>No information available</td>
<td></td>
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</tbody>
</table>

**Product code:** B1973  
**Product name:** BISMUTH CITRATE, POWDER, USP
10. STABILITY AND REACTIVITY

Reactivity:
Reactive with oxidizing agents

Chemical stability

Stability:
Stable under recommended storage conditions.

Possibility of Hazardous Reactions:
Hazardous polymerization does not occur

Conditions to avoid:

Incompatible Materials:
Strong oxidizing agents

Hazardous decomposition products:

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:
Ingestion. Inhalation.

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>LD50/oral/rat</th>
<th>LD50/oral/mouse</th>
<th>LD50/dermal/rabbit</th>
<th>LD50/dermal/rat</th>
<th>LC50/inhalation/rat</th>
<th>LC50/inhalation/mouse</th>
<th>Other LD50 or LC50 information</th>
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</thead>
<tbody>
<tr>
<td>Bismuth Citrate</td>
<td>813-93-4</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
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</table>

Product Information

Product code: B1973
Product name: BISMUTH CITRATE, POWDER, USP
LD50/oral/rat = VALUE- Acute Tox Oral = No information available
LD50/oral/mouse = Value - Acute Tox Oral = No information available
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 No information available. Health injuries are not known or expected under normal use.
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 may affect the kidneys. Chronic exposures to large amounts of Bismuth or Bismuth salts/compounds are associated with Bismuth lines (a blue-black lines) on the gums, foul breath (halitosis), gastric irritation, diarrhea, gingivitis, ulcerative stomatitis, nausea, decrease or loss of appetite and weight, headache, joint pains (rheumatic pain), diarrhea, and liver and kidney damage. The kidneys are the site of highest concentration with the liver being considerably lower. There may also be mental changes (memory loss, confusion, delirium, disorientation, delusions, psychosis, depression), insomnia, difficulty in concentration, tremor, abnormal coordination, nervousness), blood changes (lymphocytosis, agranulocytosis, aplastic anemia) and bone marrow depression. It may also cause Bismuth encephalopathy which is characterized by mental confusion, ataxia (disordered gait), myoclonus (myoclonic jerks), and dysarthria.
Sensitization: No information available.
Mutagenic Effects: No information available
Carcinogenic effects: Not considered carcinogenic.
Product code: B1973 Product name: BISMUTH CITRATE, POWDER, USP
Components | CAS-No. | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances
--- | --- | --- | --- | --- | --- | --- | ---
Bismuth Citrate | 813-93-4 | 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:
No information available

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:
No information available.

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

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Bismuth Citrate</td>
<td>813-93-4</td>
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<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated

Proper Shipping Name: No information available

Product code: B1973

Product name: BISMUTH CITRATE, POWDER, USP
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
Subsidiary Risk: No information available
Packing Group: 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

Product code: B1973
Product name: BISMUTH CITRATE, POWDER, USP
International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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</thead>
<tbody>
<tr>
<td>Bismuth Citrate</td>
<td>813-93-4</td>
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<td>Not present</td>
<td>Present (2)-1324</td>
<td>Not present</td>
<td>Present</td>
<td>Present 212-390-1</td>
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</tbody>
</table>

U.S. Regulations


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)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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</thead>
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<tr>
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</table>

CERCLA/SARA

<table>
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<th>Components</th>
<th>CAS-No.</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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U.S. TSCA

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<th>Components</th>
<th>CAS-No.</th>
<th>TSCA Section 5(a)(2) - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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<td>Bismuth Citrate</td>
<td>813-93-4</td>
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<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

WHIMIS 2015 - GHS Classifications

WHIMIS 2015 Hazard Classification Information:
Not a dangerous product according to HPR classification criteria.

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

WHIMIS 1988 Hazard Class
Non-controlled

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

Product code: B1973
Product name: BISMUTH CITRATE, POWDER, USP
### Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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### EU Classification

**EU GHS - SV - CLP 172/2008**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
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<tbody>
<tr>
<td>Bismuth Citrate</td>
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<td>EU GHS - SV - CLP (172/2008)</td>
<td>No information</td>
<td>none</td>
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</table>

**EU - CLP (1272/2008)**

- **R-phrase(s)**
  - not determined (not applicable)

- **S-phrase(s)**
  - none

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

### Indication of danger:

None.

### 16. OTHER INFORMATION

- **Preparation Date:** 6/26/15
- **Revision Date:** 5/9/2017
- **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